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WASTE RESOURCE MANAGEMENT



FUSION STUDENTS AND ATRI7 6 LIMITED

WHITWORTH STREET WEST

ENVIRONMENTAL STATEMENT

MAY 2026

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CONTENTS

Chapter 1	Introduction	1-1
Chapter 2	Site and Development Description	2-1
Chapter 3	Construction Management	3-1
Chapter 4	Approach and Scope of the EIA	4-1
Chapter 5	Consideration of Alternatives	5-1
Chapter 6	Air Quality	6-1
Chapter 7	Noise and Vibration	7-1
Chapter 8	Built Heritage, Townscape and Visual Impact Assessment	8-1
Chapter 9	Daylight, Sunlight & Overshadowing	9-1
Chapter 10	Wind Microclimate	10-1
Chapter 11	Socio-economic	11-1
Chapter 12	Climate Change	12-1
Chapter 13	Solar Glare	13-1
Chapter 14	Summary of Residual and Cumulative Effects	14-1

STATEMENT OF EXPERTISE

REFERENCE LIST

GLOSSARY

NEXT STEPS

APPENDICES, DRAWINGS & FIGURES

Introduction

Appendix 1.1 Proposed Block Plan

Site and Development Description

Appendix 2.1 Development Plans

Construction Management

Appendix 3.1 Initial logistics strategy

Approach and Scope

Appendix 4.1 Scoping Report
Appendix 4.2 Scoping Opinion
Appendix 4.3 Cumulative Scheme Plan

Air Quality

Appendix 6.1	Legislation, Policy and Guidance
Appendix 6.2	Baseline
Appendix 6.3	Construction Phase Methodology
Appendix 6.4	Air Quality Figures

Noise and Vibration

Appendix 7.1	Legislation, Planning Policy and Other Relevant Standards and Guidance
Appendix 7.2	Summary of construction plant assumptions
Appendix 7.3	Noise and vibration planning report
Appendix 7.4	Construction AADT Traffic Flows

Built Heritage, Townscape and Visual Impact Assessment

Appendix 8.1	Built Heritage, Townscape and Visual Impact Assessment
Appendix 8.2	Supporting Plans

Daylight, Sunlight & Overshadowing

Appendix 9.1	Drawings
Appendix 9.2	Daylight & Sunlight Results
Appendix 9.3	Overshadowing Results
Appendix 9.4	Characterisation Study

Wind Microclimate

Appendix 10.1	Legislation, Policy and Guidance
Appendix 10.2	Wind Microclimate Detailed Methodology
Appendix 10.3	CFD Context for Entrance Locations
Appendix 10.4	Impact of Reduced Embedded Wind Mitigation
Appendix 10.5	Wind Microclimate Figures

Socio-economic

Appendix 11.1	Legislation, Policy and Guidance

Climate Change

Appendix 12.1	Legislation Policy and Guidance
Appendix 12.2	UKCP18 UK Climate Projection Graphs
Appendix 12.3	Climate Change Adaptation Report
Appendix 12.4	MET Office Data UK Climate Projection Graphs

Solar Glare

Appendix 13.1	Solar Glare Methodology
Appendix 13.2	Solar Glare Assessment

1 INTRODUCTION

1.1 Background

1.1.1 This Environmental Statement (ES) has been prepared on behalf of Fusion Students and ATRI7 6 Limited (the Applicant) in support of a full planning application for a proposed 39 storey purpose built student accommodation building development (the 'Proposed Development') at 10-12 Whitworth Street West, Manchester, M1 5NZ. The Site is located within the administrative area of Manchester City Council (MCC).

1.1.2 The Site is centred at National Grid Reference (NGR) SJ 83611 97506. The land included within the application redline boundary, to which the planning application relates and as illustrated on Figure 1.1 below and Appendix 1.1, is hereafter referred to as 'the Site'.

1.1.3 The Site measures approximately 0.12 hectares (ha) in size and currently comprises turfed ground and a 2.4m high metal perimeter fence.

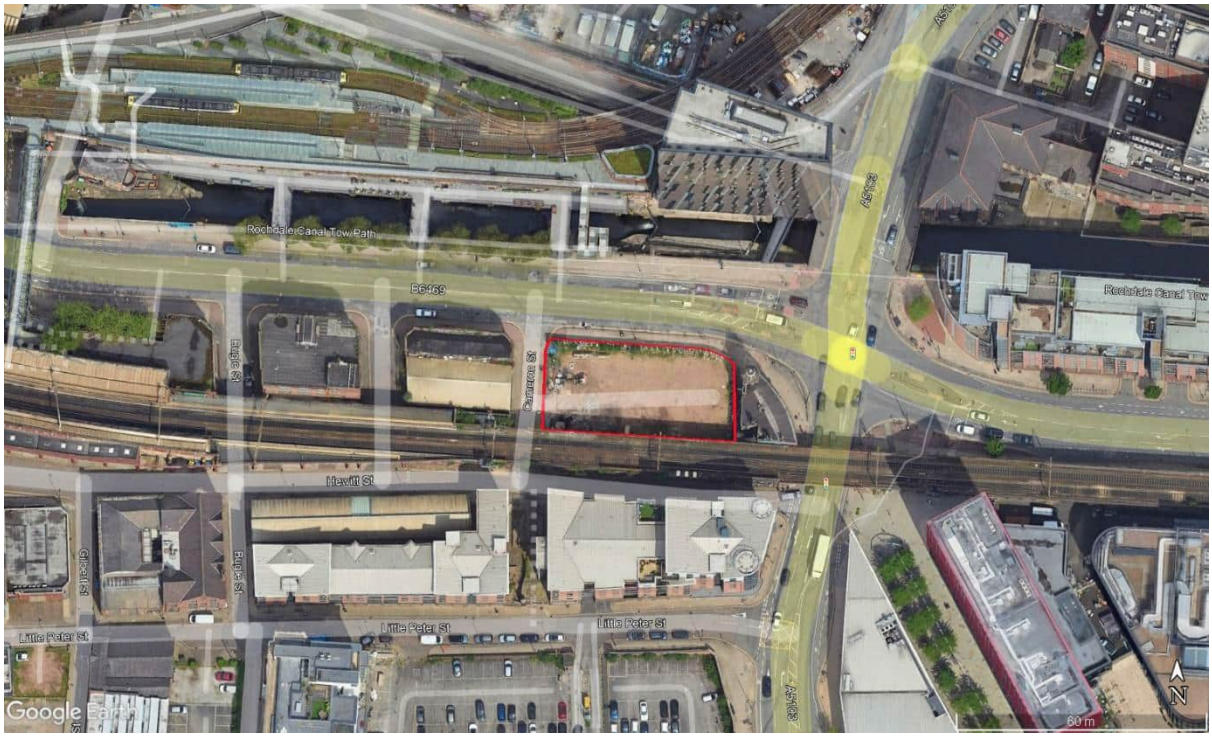


Figure 1.1 Site Location

1.1.4 The Proposed Development is illustrated on the Proposed Block Plan, included in Appendix 1.1.

1.1.5 This ES reports the findings of an Environmental Impact Assessment (EIA) that has been undertaken in accordance with the Town and Country Planning (Environmental

Impact Assessment) Regulations 2017 (the 'EIA Regulations') in respect of the Proposed Development.

1.1.6 A Non-Technical Summary (NTS) has been prepared as a separate, stand-alone document that provides a summary of this ES in non-technical language.

2 SITE AND DEVELOPMENT DESCRIPTION

2.1 Introduction

2.1.1 This Chapter of the ES provides an overview of the Site location and a description of the Site and the surrounding area, with the intention of providing a general appreciation of the Site's setting; and a description of the Proposed Development.

2.1.2 The technical assessments set out in Chapters 6 to 13, each contain a detailed description of the baseline environmental conditions of the Site and its environs, relevant to the scope and nature of the topic area under consideration.

2.1.3 All distances and areas within this chapter are approximates.

2.2 Site Location

2.2.1 The Site is centred at National Grid Reference (NGR) SJ 83611 97506 and is located at 10-12 Whitworth Street West, Manchester, M1 5NZ. The Site is located within the Deansgate Ward.

2.2.2 The location of the Site and the application redline boundary is illustrated on the Proposed Block Plan at Appendix 1.1.

2.3 Site Description

2.3.1 The Site extends to approximately 0.12 ha and currently comprises turfed ground and a 2.4m high metal perimeter fence in accordance with the discharge of planning condition 1 (time frames and restoring of land) attached to planning permission 135272/JO/2022 (see Planning Background within Section 2.6 below).

2.3.2 The Site is bound by:

- Whitworth Street West and roadside footpath to the north;
- City Road Inn to the east;
- An elevated railway line to the south that runs between Deansgate and Manchester Oxford Road stations; and
- Cameron Street to the west.

2.4 Description of the Surrounding Area

2.4.1 The area surrounding the Site predominantly comprises built development, due to the Site being located on the southern edge of Manchester City Centre. The majority of this development comprises apartment buildings, hotels (including the Hilton Manchester Deansgate 0.14 kilometres (km) to the northwest), bars and nightclubs, a music venue (Rebellion Manchester 0.08 km west) and restaurants.

2.4.2 The Site lies adjacent to the railway line that connects Deansgate (0.09 km west) and Manchester Oxford Road (0.40 km east). Rochdale Canal, Castlefield Metrolink tram stop and AXIS Manchester apartment building are located immediately opposite the Site off Whitworth Street West/B6469. The canal runs in an east to west orientation whereas the tram line runs in a northeast to west orientation.

2.4.3 Castlefield Art Gallery is located 0.14 km to the west. Car parks can be found to the 0.07 km south and 0.19 km west of the Site.

2.4.4 To the west of the Site, at 2 – 4 Whitworth Street West, an application has been submitted and has been minded to approve at committee for the Demolition of buildings and the construction of a residential building (Class C3) with associated servicing arrangements, landscaping, and associated works.

2.5 Environmental Designations

2.5.1 The Site located within close proximity to a number of heritage assets, the closest being the Grade II Rochdale Canal Lock No. 90 (located approximately 23m north), 13-17, Albion Street (located approximately 57m north-east), Manchester South Junction and Altrincham Railway Viaduct (located approximately 35m north), the Britons Protection Public House (located approximately 112m north-east) Rochdale Canal Lock Keepers Cottage at Lock No. 91, next to Gaythorn Tunnel, and Rochdale Canal Lock No. 91 at East End of Gaythorn Tunnel (located approximately 93m north-west) and Deansgate Station (located approximately 79m west). Further details on these can be found in Chapter 8 (Built Heritage, Townscape and Visual Impact Assessment) and Sections 3 to 7 of the Built Heritage, Townscape and Visual Impact Assessment (BHTVIA) at Appendix 8.1.

2.5.2 The closest ecological designations to the Site include the Non-Statutory Designated Ashton Canal West Site of Biological Importance (SBI) and Rochdale Canal: Stott's Lane to Ducie St Basin SBI, both located 1.40 km northeast of the Site. The closest statutory designation comprises the Rochdale Canal Special Area of Conservation (SAC), located 6.45 km northeast of the Site.

2.5.3 The Site is located within Flood Zone 1.

2.5.4 The Site is located within the Manchester Air Quality Management Area (AQMA), which covers the entirety of Manchester City Centre.

2.6 Planning Background

2.6.1 In 2009, permission was granted (ref. 089876/FO/2009/C1) for an 18-storey hotel building.

2.6.2 In April 2016 permission was granted for the demolition of the existing building and the subsequent erection of a 35-storey residential building with associated residential services, facilities and communal spaces (application ref. 111003/FO/2016/C1). This was later amended via permission ref. 135272/JO/2022, which was itself subject to various non-material amendments to amend development timescales.

2.6.3 Condition 1 of permission ref. 135272/JO/2022 required the submission of a contract for the building's construction by October 2024, or otherwise a restoration and landscaping scheme by November 2024 which shall be maintained thereafter.

2.6.4 Accordingly, the condition was discharged in February 2025 via the submission of a landscaping scheme (application ref. CDN/24/1102). The Site was thereafter turfed and metal railings erected around the site's perimeter.

2.6.5 For further information of the planning background of the Site reference should be made to the supporting Planning Statement.

2.7 The Proposed Development

2.7.1 The development description is as follows:

"Full planning permission for a 39 storey purpose built student accommodation building."

2.7.2 The Proposed Development Parameters are set out in Table 2.1.

Table 2.1: Maximum Development Parameters

Site Area	0.12ha
Height	121.6m
Student beds	818
Parking	No car parking is proposed. 139 cycle parking spaces.
Amenity floorspace	790 sqm
Ancillary floorspace	914 sqm

2.7.3 The Proposed Development is illustrated on the Proposed Block Plan at Appendix 1.1 and the suite of development plans included at Appendix 2.1.

2.7.4 Further details of the Proposed Development are provided below.

2.7.5 The Proposed Development is for a 39-storey purpose-built student accommodation (PBSA) building, providing a total of 818 student beds arranged across a mix of studios and cluster apartments. At this stage the split is anticipated that the PBSA mix will be as follows:

- 17% ensuites.
- 17% twodios.
- 66% studios.

2.7.6 The building will extend to 121.6m in height (156m AOD).

2.7.7 Accommodation will be provided on the 3rd to 37th floors, with amenity and plant space across the 1st, 2nd and the 39th floors. Plant space is also proposed on the 20th and 21st floors.

2.7.8 790 sqm of private amenity space is proposed at a ratio of 0.97 sqm/ bed, and at this stage is anticipated to include a rooftop gym, a wellness area, lounge, bars, study areas and external terrace spaces. A further 914 sqm of ancillary floorspace is proposed within the building and will comprise the following:

- An LV switch room;
- A Generator;
- A LSSR;
- A Sub Station;
- A bin store;
- A bike store;
- Sprinkler system including sprinkler tank rooms and sprinkler pump rooms;
- Wet riser tanks;
- Potable water rooms;
- Plant rooms;
- Mechanical risers;
- Including Communications;
- Electrical risers; and
- Cleaning storage.

2.7.9 The Proposed Development is car free and thus includes no car parking. A drop off bay is proposed on Cameron Street for deliveries and taxi drop offs.

2.7.10 Approximately nine entrances / exits will be included on the ground floor. These will be located on the northern, eastern and western extents of the building. The main entrance to the building will be located at the north-east corner of the Site on Whitworth Street West. 139 cycle parking spaces will be securely located on the ground level. A dedicated entrance to the cycle store will be via the west of the Site. The entrance doors will be well lit for security purposes.

2.7.11 To facilitate circulation throughout the Proposed Development two internal staircases and four lifts are proposed.

2.7.12 Externally the Proposed Development will comprise a limited amount of panel types. It is proposed that the majority of the external material palette will be earth toned bronze metal.

2.7.13 The Proposed Development includes two external terraces at the rooftop level of the building. The terraces include opportunities for planting.

2.7.14 Planting is also proposed in stall risers at street level on Whitworth Street West.

2.7.15 In addition, the Proposed Development will create an active frontage with passive surveillance to Whitworth Street West.

2.8 Mitigation and Design

2.8.1 The EIA process has served to shape and refine the design proposals by identifying potential adverse effects, issues or constraints that could be 'designed out' of the proposals at an early stage. The design parameters have evolved in response to external engagement with MCC, public consultation feedback and the results of technical assessments. The design proposals have undergone various iterations to either avoid or incorporate measures to mitigate adverse environmental impacts, or (where possible) to enhance the environmental benefits, such as the use of bronze cladding that responds appropriately to Manchester's prevailing red toned character.

2.9 Indicative Development Timetable

2.9.1 The Proposed Development will be delivered in a single phase.

2.9.2 This ES is based upon construction commencing in Q3 2027 and completed (fully occupied) in Q3 2030. This is considered a reasonable assumption at the time of writing.

3 CONSTRUCTION MANAGEMENT

3.1 Introduction

3.1.1 This chapter has been prepared by Domis Construction to outline the approach to managing the risk and impact associated with the works to construct the Fusion WSW and associated amenity and all associated landscaping elements of the Proposed Development. It provides an overview of the anticipated site and construction activities, including:

- Site access and logistics.
- Site establishment.
- Construction operations.
- Control and management of construction activities.
- Waste management.

3.1.2 The Contractors will fulfil the obligations as Principal Designer and Principal Contractor for the works associated with the Proposed Development as described in Chapters 1 and 4 of this ES, comprising the Fusion WSW Place, and all associated landscaping elements of the Proposed Development.

3.1.3 Assessments of suitable sub-contractors for the project will be undertaken to establish capability/ suitability, ability to work within confined sites and management procedures to be implemented to ensure successful project delivery. In executing the works, the appointed sub-contractors will implement the appropriate Risk Assessments and Method Statements (RAMS) to ensure the works are executed in a safe and suitable manner and in accordance with the CDM 2015 regulations.

3.1.4 Whilst defining the obligations and limitations placed on the Contractor when executing the works, this will form the basis for the Construction Phase Health & Safety Plan (CPHSP). The CPHSP will identify key project specific risks associated with the execution of the works and measures implemented place to reduce or mitigate these risks.

3.1.5 Further detailed CMPs will be prepared by the appointed Contractors in due course and updated as appropriate to reflect comments received and the wording of any planning conditions attached to any future permissions. These documents will form a primary mechanism for maintaining the communicative relationship with Manchester City Council and other third parties in understanding the nature of the Proposed Development and the associated construction activities. Where comments or third-

party approvals affect the CMPs, the plan will be reviewed and updated as appropriate prior to submission to the Local Planning Authority.

3.1.6 The CMPs would be periodically updated as required advising of any proposed changes / improvements to the construction methodology.

3.2 Overview of the Works

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

- Construction of the Proposed Development, comprising Fusion WSW Place.
- Public Realm and associated landscaping works.

3.3 Programme

Key Dates

3.3.1 The current master programme is a development-based programme with the following key dates:

- Planning Submission end of October
- Contract Award
- Site Mobilisation 3rd Qr 2027
- Completion Circa 3rd Qr 2030.

3.3.2 A detailed programme of construction activities and sequencing will be provided by the Contractors as part of the detailed CMP.

Enabling Works

3.3.3 The enabling works element of the Proposed Development are to remediate the site to enable the sub-structure solution to commence.

Substructure

3.3.4 The substructure is proposed to be a piled foundation solution, with the piled foundations founding at weathered sandstone level. The Contractor's preferred build methodology and design will dictate the quantity of waste from these activities; therefore, this cannot be quantified at this stage. The quantity of material will be calculated by the Contractor and addressed as part of the Contractors' Site Waste Management Plan.

Superstructure all phases

3.3.5 The superstructure will be a concrete framed solution, with concrete cores, columns, and flat slab construction above to level 40 at the maximum height.

Building Façade

3.3.6 A unitised glazed façade has been proposed. Further development of the design will inform the choices of materials and systems for the façade.

Health and Safety

3.3.7 Health and Safety in connection with the Proposed Development is of paramount importance to ensure safe working conditions for site operatives. Activities pertaining to the works will be reviewed and assessed at every stage of the construction process ensuring the appropriate RAMS are in place and always adhered to.

3.3.8 The Contractors will undertake the Principal Designer and Principal Contactor roles for the duration of the works. A Principal Designer role will be retained by the Employer to assist in compliance with duties under CDM 2015.

3.3.9 The development will follow the full Building Safety Act gateway 1-3 process.

3.3.10 Work will be undertaken in accordance with Health and Safety at Work Act 1974 and other legislative requirements including (but not limited to) the Manual Handling Operations Regulations 1992 and the working at Height Regulations 2005. Designer's risk assessments will be provided to the Contractor to provide a greater understanding of any design considerations or assumptions in the preparation of the RAMS.

5.18. Trained first aid personnel will be available and clearly identifiable on Site. The Contractor will develop a site fire plan, identifying evacuation procedures and muster points. Trained fire marshals will be clearly identifiable.

3.4 Construction Activities

Site Access

3.4.1 Vehicles accessing the Site from outside the city centre will utilise the motorway network to access the M60 Manchester circular. Appropriate delivery routes will be established to limit the duration of vehicles occupy the network. Diverse routes will be managed by the Contractors to distribute vehicle movements across the network. Where possible, deliveries will be scheduled outside of peak traffic flow times to minimise the impact on the surrounding areas.

3.4.2 Deliveries to Site made from the M60 Manchester circular will utilise the M60 as far as reasonably practical to reduce the impact on traffic within the city centre. Where this is not practical, the use of main A road routes will be prioritised.

3.4.3 An initial logistics strategy has been produced and is attached as an appendix (Appendix 3.1), this has been shared with MCC Highways team and TfGM who are initially comfortable with this approach, final agreement will be required once planning has been concluded.

Deliveries and Removals

3.4.4 All delivery access to the Site will be made via Whitworth Street West, as indicated within appendix 5.1 the draft logistics strategy.

3.4.5 Where practical, off-site construction and 'just in time' deliveries will be promoted. Deliveries and waste removal will be managed by the Contractor. No off-site stacking of deliveries will be permitted.

3.4.6 Materials and components will be locally sourced where practical to minimise transportation distances.

3.4.7 An initial assessment of the delivery volumes, are stated below:

- Information on construction vehicle routing and anticipated vehicles. Approximate 5100 in Total.
- Substructure Works 25 Concrete Wagons per day.
- Concrete pours for the main frame this could be up to 25 wagons per day.
- During the Main Construction Phase, we would be looking at Approximately 31 deliveries a week Average 6 per day Internal Works.

Contractor Parking

3.4.8 The Contractors will provide and maintain a Construction Travel Plan for all Contractor and Subcontractor employees for the duration of the works promoting public transport reduce the vehicular movement associated with the works and promote the projects suitability approach to construction.

Plant and Equipment

3.4.9 Tower cranes, MEWP's, Mast climbers and mobile cranes will be utilised for the construction of the Proposed Development. Where practical, construction techniques and the associated plant and equipment will be selected to minimise acoustic intrusions on surrounding areas.

3.4.10 The Contractors will develop a detailed schedule of plant and equipment to confirm these assumptions in due course.

Operating Hours

3.4.11 Site operating hours will adhere with Manchester City Council's (MCC) 'Environmental Protection Information for Developers':

- Monday – Friday 07:30 – 18:00hrs
- Saturday 08:00 – 14:00hrs
- Sunday/ Bank Holidays No works permitted

3.4.12 To reduce the impact on the existing transport and public transport infrastructure of operatives attending site, arrival of the workforce on Site 30 minutes prior to the permitted operating hours for setting up will be encouraged.

3.4.13 No works will commence outside of the above permitted times without prior agreement by Manchester City Council.

3.5 Site Setup and Operations

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

Site Establishment

3.5.2 The Site compound will be located within the confines of the Site boundary. The following will be provided for the works as temporary facilities:

- Project offices.
- Meeting and conference facilities.
- Induction and training centre.
- Canteen and rest area.
- Toilets and washroom facilities.

3.5.3 Material storage and waste segregation will be managed by the Contractors to prevent cross contamination of materials whilst promoting recycling and reducing waste to landfill. All flammables waste streams and those with potential environmentally adverse impacts will be appropriately contained and managed by the Contractors.

3.5.4 Fuel and oil will be stored in accordance with the Control of Substances Hazardous to Health (England) Regulations with refuelling and transfer of fuel oils undertaken in

designated areas of hardstanding by trained personnel, equipped with the appropriate spill kits and emergency action plans.

3.5.5 Lighting associated with the Site and site establishment will be designed to minimise light spillage to limit the impact on adjacent properties, highways, and canals.

Site and Boundary Fencing

3.5.6 The Site is secured to all site boundaries by a full hoarding, the strategy for this is when on a public highway a bespoke design system is to be utilised, such as "Hoard-it" in areas away from this water filled tubs with metal panels above will be utilised. This will be retained throughout the development to maintain segregation of the works and the protection of the public.

3.5.7 This hoarding will be used to the perimeter of the Site and sealed to the ground to further reduce dust arising and further prevent materials and debris leaving the Site and potentially entering water bodies.

3.5.8 Site hoardings will be utilised to inform others of the Proposed Development and coloured as appropriate.

Access Routes and Points

3.5.9 The method of delivery for plant and materials, and removal of waste from the Site will be defined by the Contractors using key access roads into the Site and surrounding areas.

3.5.10 Turnstiles to secure the Site from unauthorised access will be in place at all pedestrian access points. Banksman will be present at all vehicular access points.

3.5.11 Details of the proposed site access arrangements are identified on the Site Logistics Plan within Appendix 5.1.

Housekeeping

3.5.12 The Contractors will maintain a high level of site cleanliness to:

- Reduce potential Health and Safety issues arising from poor working conditions.
- Improve working conditions and operational productivity.
- Reduce waste material on Site.
- Remove the potential for waste material inadvertently leaving the Site (wind conditions etc.).

3.5.13 In maintaining the cleanliness of the Site, the Contractor will also ensure:

- The appropriate behaviour of the works force (including subcontractors) is appropriate both on- and off-site.
- Waste is removed from the Site at regular intervals to prevent local wildlife being attracted onto the Site and the potential for fire hazards on Site.
- Cleanliness of adjacent roads affected by the works are maintained (wheel washing, road sweepers etc.).
- No fires are permitted on Site.

Pollution Control measures/ Sediment control measures

3.5.14 The removal of any hazardous materials identified prior to or during, demolition will be removed from Site in a controlled manner according to the identified hazardous material and its specified treatment.

3.5.15 During the groundworks phase, Domis will comply fully with the guidance and recommendations of the Piling and Penetrative ground improvement methods on land affected by contamination; Pollution prevention May 2001 published for the Environmental Agency and the National Groundwater & Contaminated land centre, piling into Contaminated sites guidance notes for the Environmental Agency and shall also be in accordance with current best practice.

3.5.16 Further information on pollution and sediment control measures will be clear once a Phase II Site Investigation and remediation strategy has been completed. And more particularly for the Development the areas of storage of contaminants will be confirmed once a CEMP is completed detailing how we will ensure no contamination into the surface water drainage areas and the River Irwell.

3.5.17 Over and above the plan below, emergency spill kits are kept on Site and the areas below will be monitored on a daily frequency.

Wheel Wash Facilities and Road Sweeping

3.5.18 A road sweeping regime will be implemented and tailored to suit on site activities on an appropriate basis where required.

Lighting of the Site

3.5.19 To minimise light spill from the Site and reduce the impact of the localised townscape and ecology, directional lighting will be used to illuminate the Site. Localised task lighting will be provided as required by the Contractor to execute the Proposed Development.

3.5.20 In line with the UK National Energy Efficiency Action Plan, the Contractor will implement, where possible, greener sources and more energy efficient plant to assist in cutting carbon dioxide emissions by:

- Monitoring and reducing energy consumption during construction.
- Maximising plant and equipment fuel / energy usage efficiency.
- Maximising renewable energy sources.
- Reducing workforce travel and promoting sustainable modes of transport.
- Utilising localised supply chains to reduce transportation.

Materials

3.5.21 In the selection of material, consideration will be given to the embodied carbon footprint, its recyclability and recycled values / content. The Contractor will employ procurement procedures, ensuring the environmental impact of materials are considered in their selection.

3.5.22 The use of local supply chains will be promoted to reduce the transportation impact of materials to and from Site, whilst investing capital into the local economy and supply chains.

3.5.23 All timber used on site will be FSC or PEFC compliant and obtained from sustainable sources.

Waste

3.5.24 Prior to commencing the works, the Contractors will establish a Construction Waste Management Plan (CWMP). The CWMP will identify:

- The various waste streams generated by the construction of the Proposed Development.
- Methods of waste segregation.
- Estimated quantity of each waste type.

3.5.25 The waste management action for eradicating waste in the first case and, where not possible, implementing the re-use, reduce, recycle, and disposal for each waste type.

3.5.26 The Contractor will:

- Review the CWMP.
- Record quantities and types of waste produced.

- Record the types and quantities of waste that have been:
- Reused (on or off site).
- Recycled (on or off site).
- Sent of other forms of recovery (on or off site).
- Sent to landfill.
- Otherwise disposed of.
- Update the plan to reflect the progress of the project.

3.5.27 Where practical, off-site modular construction will be promoted to reduce waste material going off site.

3.6 Construction Methodology

3.6.1 At this stage of design development, the structure of the Proposed Development can be summarised as follows:

- Piled foundations with pile assisted raft and concrete core base.
- Structural works to the top of upper ground floor level.
- Construction of the remainder of the development.

3.6.2 Following site preparation completed as part of the enabling works, the outline construction programme and methodology can be summarised as follows:

Table 5.1 – Programme of Works

Part of Development	Duration per block
Block A	170 weeks

3.6.3 The above is an indicative construction timeline and construction methodology. A detailed programme of construction activities and sequencing will be provided by the Contractor.

3.7 Control Measures

Personnel Protection

3.7.1 In maintaining a safe site, the Contractor will implement a Health & Safety regime for all site operatives and site visitors to ensure a standardised ethos to safety through the implementation of appropriate PPE. The Principal Contractors will review operation specific Risk Assessments and Method Statements (RAMS), ensuring process specific measures are implemented as appropriate.

Protection of Environmental Features

3.7.2 Measures for protection will be identified during completion of our Environmental Risk Assessment.

Noise and Vibration

3.7.3 Noise and vibration of site activities will be kept to a minimum as far as reasonably practical for the duration of the works and particularly during the first operating hour of the Site. Where the Contractor is required to operate the Site outside of these times, this will only be permitted following consultation and agreement with Manchester City Council's Environmental Health Officer. The Contractors will prepare a specific Management Plans for the control and monitoring of noise and vibration relating to the works, identify noise generating plant and equipment used on site (including type, size and quantity).

3.7.4 The Contractor makes the necessary Section 61 Control of Pollution Act 1974 applications to the local authority at least 28 days prior to the works, obtaining the relevant consents prior to undertaking the works. Works will be executed in accordance said consents.

3.7.5 In addition to any restrictions, limitation and or obligations imposed by the Section 61 consent, the Contractor complies with the requirements of the statutory code of practise BS: 5228.

Air Quality

3.7.6 Prior to the commencement of the works, the Contractor undertakes an air quality assessment and management plan identifying the management and monitoring of dust, smoke, and other airborne pollutants.

3.7.7 Following completion of the air quality assessment, the Contractor makes all necessary applications pertaining to the works, seeking consent from the relevant Pollution Control Authority (Local Authority and/or Environment Agency) in accordance with the Environmental Protection Act 1990 and Pollution Prevention Control Act 1999.

Site Deliveries

3.7.8 Selection of appropriate vehicles sizes relative to the delivery load will be managed by the Contractor to minimise vehicle pollutants. Where possible these will be co-ordinated with deliveries to nearby sites to minimise vehicles mileage to and from distribution centres.

3.7.9 Vehicles carrying loose material to and from Site will be sheeted to prevent spillage and reduce dusty emissions during transit.

3.7.10 Implementation of these measures is the responsibility of the Contractor. The Contractor records and reports activities in relation to these measures and any subsequent corrective measures employed, ensuring records are available at all times.

Construction Vehicles

3.7.11 All vehicles regularly used on Site will comply with the relevant emissions standards/ legislation and will be serviced in accordance with the manufacturer's recommendations. Vehicles also using public highways will comply with all MOT requirements. The Contractor shall provide all MOT and service documentation for Local Authority inspection upon request and a running log of:

- Any complaints relating to emissions alleged because of construction activities, received from either a resident or local business;
- The date and vehicle identification number of any construction vehicle observed to be carrying material that has the potential to release dust and does not have the appropriate sheeting measures in place; and
- The date and location of any cleaning of paved areas and roads.

3.7.12 The Contractor ensures no construction plant or vehicle engines are left running when not in use except when the Employer's Project Manager considers there is a valid operational reasoning or justification. The Contractor is encouraged to use low pollutant vehicles or 'green' vehicles in the execution of the works.

3.7.13 All construction vehicles tracking the Site will adhere to the Site speed limit and route controls.

Dust Suppression

3.7.14 The Contractor employs dust suppression systems as appropriate during the works to reduce the quantity of airborne pollutants, providing suitable water bowsers and/or sprays for the task. To limit the generation of dust on and off Site, the Contractor will employ appropriate dampening and wheel wash measures for all vehicles trafficking Site. Unloading of loose material (spoil) will adhere to the control drop height to control dust release. Smaller handheld tools will be fitted with localised dust collectors or dust suppression systems.

3.7.15 To reduce any windblown dust arising from stacked materials, the Contractor ensures stacked materials are profiled to minimise wind and rain impact and subsequent

erosion. Earth mounds will be kept sufficiently damp to further limit wind impact. Where appropriate, seeding of earth mounds will be encouraged. Where possible, stacked materials with the potential to create dust emissions will be located away from Site boundaries.

Hard Standings

3.7.16 The use of existing hard standings will be promoted to reduce site churn and airborne dust during site operations. Extensions of existing hardstanding will promoted in favour of new hardstanding. Hardstanding will be incorporated within the permanent works where practical.

Water Quality and Drainage

3.7.17 In executing the works, the Contractor will adopt good construction management practices to reduce the risk of accidental discharge and contamination of rivers, streams, ponds and ground water. These practises will be incorporated into the CMP and include:

- The extent and status of all ground water to the land below the works and any temporary works and land use for the removal of material from Site.
- Comply with the 'Policy and Practice for the Protection of Groundwater Environment Agency TSO 1998'.
- Control of sediment and loads to surface water systems.
- The Pollution Control and contingency plan to identify the requirements for pollution control and emergency procedures for the works.
- Measures for minimising water consumption during the construction process.
- Details of the construction phase drainage strategy during the works (using permanent drainage systems where possible).

Flood Risk

3.7.18 A Flood Risk Assessment & Drainage Strategy has been prepared by Shear Design Ltd in support of the planning application. The Flood Risk Assessment reviewed the risk of flooding from all known sources of flooding and found that there is no significant risk of flooding to the Site. The Site is located wholly within Flood Zone 1, and all flood risk is either low or very low.

3.7.19 Furthermore, there are a range of attenuation features designed in, though the reduced rate of run-off is yet to be confirmed but is anticipated to be a 50% reduction compared to the existing run-off rate.

Unexploded Ordinance

3.7.20 The 'Detailed Unexploded Ordnance (UXO) Threat and Risk assessment study for the Site has been deemed as low risk for the presence of UxO. There have been no risk mitigation measures recommended on the Site.

Vapour/ Ground Gases

3.7.21 Prior to execution of the Works, an assessment of the potential and extent of any ground gasses associated with the Works will be undertaken. If deemed necessary, the design will ensure appropriate gas protection measures are implemented to protect the building and its occupants and are addressed in connection with undertaking the Works to ensure safety of all Site operatives. The control measures implemented for entering and working within confined spaces will be clearly identified within all RAMS.

Archaeology and Cultural Heritage

3.7.22 All archaeological works have been carried out and completed by the University of Salford during the enabling works phase of the previously consented Viadux phase 2.

3.8 Pollution Control and Contingency Plan

3.8.1 An environmental emergency plan will be developed by the Contractor to reflect construction activities and will form part of the Environmental Management Plan.

3.8.2 Measures will be developed by the Contractor to minimise and control site runoff to prevent contamination. These measures will take account of the Environment Pollution Prevention Guidelines:

- PPG1 General guide to the prevention of pollution
- PPG5 Works and maintenance in or near water
- PPG6 Working at construction and demolition site
- PPG18 Managing fire-water and major spillages
- PPG21 Pollution incident response planning
- PPG22 Dealing with spillages on highways

Definition of a Pollutant

3.8.3 Pollutants are substances that pollute the environment which renders the air, soil, water, or other natural resource harmful or unsuitable for a specific purpose. Environmental incidents occur when an activity or event causes or has the potential to cause harm to people or damage to property and or the environment.

Pollution Prevention

3.8.4 Works will be undertaken in close proximity to the Ashton Canal and existing drainage networks. Works may also affect the existing ground water table. Appropriate prevention methods will be implemented throughout the duration of these works.

Concrete and Cementitious Materials

3.8.5 Concrete and cementitious based materials are alkaline and are potential pollutants. To reduce the risk of any runoff entering watercourse, mixing will be undertaken a minimum of 10 meters away from watercourses. Wash from concrete and cement works is not discharged into a watercourse.

Oils and fuels

3.8.6 All oil and fuel will be stored in accordance with the Control of Pollution (Oil Storage) (England) Regulations 2001, ensuring safe storage of material and controlled access at all times and:

- Storage areas are not located within 10 meters of a watercourse or highway gully.
- Mobile bowsers are bunded and comply with the requirements of Control of Pollution (Oil Storage) (England) Regulations 2001.
- Storage drums are contained within bunded areas with a minimum of 25% of the total volume of the volume contained within the bund or, 110% of the largest container, whichever is the greater.
- Refuelling of plant and equipment is undertaken by trained operatives.
- Plant is regularly checked for leaks and is regularly maintained.
- Drip trays are placed below any standing plant and equipment.
- Static combustion engine plant (e.g. compressors etc.) are fully integrally bunded or placed on drip trays.

- Spill kits are provided within close proximity to oil and fuel storage areas, ensuring operatives are trained in their use.
- The use of non-toxic biodegradable fluids and oils is encouraged and must be used in all sensitive locations or areas of increased pollution risk.

Plant Maintenance

3.8.7 Maintenance of any plant will be undertaken at least 10 meters from any watercourse or drain. Spill kits must be available and on hand during all maintenance operations with drip trays to contain any leakage of oil or fuels.

3.8.8 Any plant or equipment considered a pollutant risk will be repaired or removed from Site.

Ground Material and Control of Sedimentation

3.8.9 Disturbance and handling of soils (particularly in wet weather) can lead to the transfer of particles by running water into watercourses. Potential sedimentation of watercourse as a result of these works includes Ashton Canal and highway gullies. The Contractor will employer soils management ensuring:

- Activities likely to give rise to sedimentation of watercourses are located away from water courses.
- Silt fencing is in place to suspend particles from running water.
- Settlement tanks or silt tanks are utilised to suspend particles prior to its release into any watercourse.

Excavated Spoil

3.8.10 Excavated spoil will be removed from site as works progress. Where practical materials will be reused on site. Removed materials will be treated off site or disposed of as appropriate.

Construction Waste Materials

3.8.11 Waste materials will be controlled in line CWMP and secured to prevent cross contamination of waste streams or pollution of any water courses. Any liquid waste will be secured in a suitably lined container within a bunded area.

Trade Effluent

3.8.12 Trade effluent (toilets etc.) will be connected to a foul water drainage system for the duration of the works. Where temporary chemical recirculating toilets are used, their

use will be limited as far as reasonably practical and appropriately secured/ weighted to prevent spills. Emptying and refilling will be undertaken by a licensed contractor.

Notification Procedures

3.8.13 Procedures for the notification and reporting of spillages, pollutants or environmental incidents will be clearly set out within the Contractor's CMP and reinforced through Site inductions and toolbox talks.

3.8.14 The procedure will include details of the recording and reporting process of incidents and details of those notified.

3.8.15 Contact details for key on site personnel and emergency response persons responsible for environmental protection will be displayed in key locations around the Site and include details of:

- Contractor's Project Manger
- Construction Site Manger
- Contractor's Environmental Manager
- Employer's Project Manager
- Community Liaison Officer
- Emergency Services
- Environment Agency

3.8.16 The Contractor will promote a system of good working practices, actively encouraging suggestions from operatives to improve operational procedures to reduce the risk of environmental incidents, and anonymous reporting of works not being undertaken in accordance with the CMP.

3.9 Communications

Project Communications

3.9.1 To ensure the Health and Safety, Operational and Environmental requirements of the project are communicated effectively and efficiently, this CMP will be distributed to all members of the project team (incl. sub-contractors). Control and mitigation measures associated with key activities or potentially environmentally sensitive operations will be agreed and regularly reviewed between the Contractor and Employer. The Contractor will ensure copies of the following are available on Site for review at all times:

- the CMP.
- the project, Employer and any company environmental policies.
- the list of key contacts associated with the works.

3.9.2 During the construction phase of the works, regular internal meetings will occur to identify:

- Progress over the period.
- Works planned over the next period.
- Inductions and training undertaken over the period.
- Health and safety issues incurred (incl. near misses etc.)
- Records on inspections and audits, with a schedule of non-conformances issued.
- Feedback from Community liaisons, copes of any complaints received and mitigation measures implemented.
- Visits and inspections by third parties, including statutory bodies and H&S monitoring officers.
- Records and compliance with the environmental performance and objectives.

3.9.3 Internal and external communication methods will be defined by the Contractor, maintaining dialogue through the Community Liaison Officer as appropriate. External communications will be coordinated with the Employer's Project Manager to ensure effective and appropriate communications.

Community Liaisons

3.9.4 Community liaisons will be coordinated with the Employer's CLO during the construction process, providing the community with regular updates on the works.

3.10 Compliance

3.10.1 Successful implementation of this CMP relies on regular review and updates in response to evolving site conditions. The Contractor will define appropriate measures and procedures to review activities against the CMP and legal/ statutory requirements and any measures implemented in response to CCIs.

Recording

3.10.2 The Contractor maintains a register of compliance issuing Non-Conformance Reports (NCR's) identifying actions or works not undertaken in accordance with the CMP,

method statements or legislative requirements and obligations. The NCR will be accompanied with the appropriate Corrective Action Report (CAR) detailing:

- Action owner(s).
- Corrective measures required.
- Monitoring/ inspection and signoff procedures to be implemented.
- Timescales for close out.
- 3rd party approvals upon completion of the corrective measures.

3.10.3 As part of the CAR process, a lessons learnt workshop will be conducted to prevent reoccurrence of the event.

Monitoring

3.10.4 Environmental monitoring of the works will be undertaken during the construction phase to evaluate the environmental impact of the works. This information will be assessed in conjunction with the CMP and improvements/ revisions to the CMP made where appropriate.

3.10.5 A programme of environmental monitoring will be established by the Construction Environmental Manager to suit the construction programme and works on site. Monitoring will be undertaken and assessed against the legal/ legislative requirements, consents and project targets/ requirements.

Review Process

3.10.6 Records of waste management and environmental aspects pertaining to the works will be mainlined in accordance with the CMP or respective organisational requirements (which ever is the greater). Records are to be maintained in both digital and hard copies to protect against damage, deterioration or loss and made available to the Employer's Project Manager upon request. Disposal will be upon express consent of the Employer's Project Manager.

3.11 Complaints, Compliments and Inquires

Procedures

3.11.1 A complaints, compliments and inquiries procedure (CCI) will be implemented to ensure members of the public wishing to complain, provide feedback or make inquiries can do so. Contact details will be published for use by members of the public with the public actively encouraged to engage as part of the Community Liaison. Liaisons with local councillors, Town/ Parish Councils and the local authority (incl.

environmental health) will be undertaken to address any concerns or issues raised directly to councillors by the general public.

3.11.2 Any CCI's received will be recorded and reported to the Employer's Project Manager and include:

- Parties affected/ reporting
- Timing
- Location
- On site activities being undertaken
- All complete with details of any reactive measures implemented where appropriate.

Reporting

3.11.3 Any CCIs raised will be reported at internal progress meetings to ensure appropriate measures are being implemented, improving the impact on the community during the construction phase.

3.11.4 The Environmental Health Team at MCC may be the first contact for residents affected by the works. Ongoing dialogue will be undertaken with the Environmental Health Team to ensure responses to any complaints can be provided swiftly.

3.11.5 Due to the nature of the proposals and proximity of adjacent residents, the works may be subject to a Section 61 application under the Control of Pollution Act 1974 prior to commencing the works. The Contractor will agree any mitigation measures in connection with this application with the Local Authority, obtaining the required permits/ licenses prior to commencing the works.

Feedback

3.11.6 To validate the CCI process, feedback on any CCIs raised will be provided as part of the community liaison process. Feedback sessions will identify:

- Details of the CCI.
- Assessment undertaken.
- Mitigation measures implemented.

3.11.7 Any additional beneficiary measures and options will be discussed with the community to further improve the impact of the community during the construction phase.

Network Rail interface

3.11.8 As the development is adjacent to the NR Viaduct, a full BAPA process is required and the Contractor will follow the NR Guidance and process, including items such as:

3.11.9 Development and completion of all necessary Form A, B and C submissions, once the BAPA is in place.

3.11.10 Monitoring to the Viaduct which will be proposed in line with adjacent developments.

4 APPROACH AND SCOPE

4.1 Introduction

4.1.1 This Chapter of the Environmental Statement (ES) is intended to outline the legislative context of the EIA, including the statutory requirement for an EIA and the scope of the EIA.

4.1.2 UK law, via the Town and Country Planning (EIA) Regulations 2017, hereafter referred to as the 'EIA Regulations', requires an EIA to be produced to assess the impacts that the Proposed Development will have on the environment.

4.1.3 An EIA is a process, intended to aid decision-making by identifying and assessing the significance of likely adverse effects that may arise because of a proposed development in an objective and systematic manner, thereby permitting appropriate mitigation measures to be designed and incorporated in order to remove or reduce the severity of the adverse effect. An ES informs decision-making during the determination of a planning application by presenting the key findings of the EIA.

4.2 Planning Policy

4.2.1 In addition to the EIA Regulations, the main policy documents of relevance to this ES are the 2024 National Planning Policy Framework (NPPF); and The Manchester Local Plan which guides development within Manchester. The key document of the Manchester Local Plan is Manchester's Core Strategy adopted on the 11th July 2012 which guides development up to 2027. An addendum was published in 2024 following the adoption of the Places for Everyone Plan and partial replacement of some policies.

4.2.2 Policies relevant to the issues contained in this ES are summarised below, with further details set out within each of the technical chapters. Further details of the relevant planning policies (to this application) are provided within the accompanying Planning & tall Building Statement.

National Planning Policy Framework

4.2.3 The NPPF was originally published in March 2012 and replaced all Planning Policy Statements (PPS) and Planning Policy Guidance (PPG) Notes. The current version comprises the December 2024 NPPF, with minor clarifications made in February 2025. The National Planning Practice Guidance (NPPG) website was first published in March 2014 and updated regularly thereafter in order to assist local authorities with interpreting and applying the NPPF, locally. The NPPG should be read in conjunction with the 2024 NPPF.

4.2.4 Each technical chapter within the ES details the relevant aspects of the NPPF and NPPG in relation to the Proposed Development and topic area under consideration.

Local Planning Policy

4.2.5 The current relevant local planning policy includes Manchester's adopted development plan. This includes the Manchester Core Strategy (2012), remaining saved policies of the Unitary Development Plan (1995) and Greater Manchester Combined Authority Places for Everyone Plan (2024).

4.2.6 The Core Strategy was adopted in 2012 and covers the period to 2027. The Core Strategy is the key document within Manchester's Development Plan. An addendum was published in 2024 following the adoption of the Places for Everyone Plan and partial replacement of some policies.

4.2.7 The site is unallocated within the adopted Proposals Map whilst the site is located within the City Centre and Regional Centre.

4.2.8 The Unitary Development Plan was adopted in 1995. Whilst the Core Strategy replaced a large number of the policies, a number of policies were 'saved' and remain relevant considerations.

4.2.9 The Greater Manchester Combined Authority Places for Everyone (PfE) Plan is a long-term plan for jobs, new homes, and sustainable growth prepared between 9 of the 10 Greater Manchester local authorities (Stockport not included). The plan was adopted and came into force in March 2024. Whilst PfE does not contain any specific PBSA policy it does seek to support the continued growth and success of the university sector.

4.3 Requirement for an EIA

4.3.1 Schedule 2 of the EIA Regulations lists all development types for which EIA is not mandatory but may be required depending upon the characteristics and location of the development, and the potential impacts. The Proposed Development falls under Schedule 2, Category 10(b) urban development projects, including the construction of shopping centres and car parks, sports stadiums, leisure centres and multiplex cinemas. Under this category, the thresholds for which an EIA may be required are:

I) The development includes more than 1 hectare of urban development which is not dwellinghouse development; or

II) The development includes more than 150 dwellings; or

III) The overall area of the development exceeds 5 hectares.

4.3.2 Whilst the Proposed Development does not exceed thresholds I and III, it will provide more than 150 dwellings.

4.3.3 Whilst no formal screening request was submitted to MCC, it has been considered that in order to demonstrate the thoroughness of the approach to the application, the Applicant has committed to undertake this EIA on a voluntary basis.

4.4 Scope of the EIA

4.4.1 In accordance with Schedule 4, likely significant effects of the development on the environment have been considered, in particular effects on: population, human health, biodiversity (e.g. fauna and flora), land, soil, water, air, climate, material assets, cultural heritage, landscape, and the interrelationship between them.

4.4.2 A Scoping Report was submitted to MCC in June 2025 (Appendix 4.1). A Scoping Opinion from MCC was adopted on 23rd July 2025 (Appendix 4.2).

4.4.3 In accordance with the Scoping Opinion, the following topic areas have been considered within this EIA, and are included as technical chapters within this ES:

- Air Quality;
- Noise and Vibration;
- Built Heritage, Townscape and Visual Impact Assessment;
- Daylight, Sunlight and Overshadowing;
- Wind Microclimate;
- Socio-economic;
- Climate Change; and
- Solar Glare.

4.4.4 Where relevant, further consultation has been undertaken directly with the relevant bodies for the above, to refine the scope of assessment required. Details of correspondence are included in the relevant chapters of this ES.

4.4.5 The following standalone reports have also been produced and have been submitted as part of the planning application:

- Planning and Tall Buildings Statement
- Archaeological Assessment

- BNG Report and Completed Metric
- BREEAM Pre-Assessment
- Broadband Connectivity Assessment
- Building / Student Management Plan
- Circular Economy Statement
- Crime Impact Statement
- Design and Access Statement (including Waste Management Strategy and Completed Proforma)
- Preliminary Ecological Appraisal
- Bat Survey
- Energy Strategy Report
- Environmental Standards Statement
- Fire Statement
- Flood Risk Assessment and Drainage Strategy
- Green and Blue Infrastructure Statement
- Outline Construction Management Plan
- Outline Travel Plan
- Statement of Community Involvement
- Student Need Assessment
- Transport Assessment
- TV Baseline Survey

4.5 Topics Outside the Scope of the EIA

4.5.1 Specific chapters have not been included for the following topics, as it is considered that these will be addressed sufficiently elsewhere within the planning application, and / or the Proposed Development is unlikely to result in significant effects relevant to these topics.

Transport

4.5.2 A Transport Statement (TS) has been prepared by Stantec in support of the planning application.

4.5.3 The proposals comprise a car-free development, supported by cycle parking provision and access to shared bikes. Servicing and delivery arrangements, including student move-in and move-out procedures, have been appropriately considered and accommodated within the local highway network.

4.5.4 A review of the baseline conditions was undertaken in preparation of the TS and this found that '*there are no existing highway safety concerns in the vicinity of the site that would be exacerbated by the development. The surrounding network already operates within an urban, multimodal context prioritising sustainable travel*'.

4.5.5 A Construction Traffic Management Plan (CTMP) will be secured by condition to manage contractor movements, deliveries, and pedestrian safety during the construction period.

4.5.6 A Travel Plan (TP) will be implemented and operated as part of the proposed development with the objective of maximising the use of sustainable, non-motorised modes of travel and discouraging reliance on private car trips.

4.5.7 Annual monitoring of residents' travel patterns will be undertaken for the first five years following initial occupation. Following each survey, a monitoring report will be submitted to MCC for review and approval. The findings will be used to refine and tailor measures to address site specific challenges and maximise opportunities for further mode shift.

4.5.8 In summary trip generation associated with the construction and operational phases of the Proposed Development will be extremely limited and fall well below the thresholds for assessment set out in IEMA Guidelines for Transport in ES. During operation trips will primarily be associated with walking, cycling and public transport movements, which can be readily accommodated within the existing network.

4.5.9 The TS concluded that the Proposed Development '*is appropriately located within a highly accessible city centre environment and is consistent with national and local transport planning policy, including the National Planning Policy Framework, which promotes sustainable travel and reduced reliance on private vehicles*.

The car free nature of the scheme, combined with strong accessibility by walking, cycling and public transport, ensures that the development will not result in any material impact on the operation or capacity of the surrounding highway network.

The assessment demonstrates that the development would not give rise to any unacceptable highway safety impacts, nor would it result in residual cumulative impacts that could be considered severe.

On this basis, there are no transport-related reasons why planning permission should be withheld, and the proposals are considered acceptable in transport terms.'.

4.5.10 Accordingly, there is no reasonable likelihood of significant environmental effects from transport, and the topic has been scoped out of the ES.

Ecology

4.5.11 A Preliminary Ecological Appraisal (PEA) has been undertaken to identify ecological receptors which could be impacted by the Proposed Development.

4.5.12 The PEA identified the following conservation sites, habitats, and species (receptors) that may be subject to potential adverse effects:

- Non-statutory Conservation Sites; Ashton Canal West SBI and Rochdale Canal: Stott's Lane to Ducie St Basin SBI
- Roosting bats
- Birds

4.5.13 The Ashton Canal West SBI and Rochdale Canal: Stott's Lane to Ducie St Basin SBI are both located 1.40km northeast of the Site. These sites are designated for their aquatic flora and habitats. There is potential for these habitats to be indirectly impacted by dust produced during construction works. During construction pollution and dust control measures will be put in place as appropriate (such as dust suppression systems and a Construction Environmental Management Plan (CEMP) (reference should be made to chapter 3 for further details)), thereby reducing any pollution or dust creation arising from the Proposed Development to none or very minimal. This will ensure no significant adverse effects occur upon the SBIs.

4.5.14 No further effects are anticipated upon designated sites due to the distances between the designated sites and the Proposed Development, intervening development, mitigation measures to be put in place, and the anticipated amount of dust to be produced by the Proposed Development will be low.

4.5.15 Black redstart, a WCA Schedule 1 and Greater Manchester BAP species, have been recorded within 300m of the Site in the last 10 years. The adjacent railway bridge is considered to provide nesting habitat, but there is limited foraging habitat in the surrounding area and none on Site. Impacts to this species are restricted to limited disturbance. Standard mitigation measures of initial works avoiding the nesting bird season or a pre-works nesting bird check will avoid significant adverse effects.

4.5.16 The railway bridge wall to the south of the Site has been assessed as having 'Low' potential for roosting bats. Any works that are directly on the bridge would result in potential adverse impacts to roosting bats, however the proposals do not propose works on this bridge. As such significant adverse effects will not occur.

4.5.17 It is considered that if the mitigation mentioned above is put in place, then the already limited impacts from the Proposed Development upon any ecological receptor is likely to be negligible to minimal and would not result in a significant effect. There were no other ecological receptors that were identified as subject to potential impacts as a result of the development.

Water Resources & Flood Risk

4.5.18 A Flood Risk Assessment & Drainage Strategy has been prepared by Shear Design Ltd in support of the planning application.

4.5.19 The Site is located wholly within Flood Zone 1.

4.5.20 The Flood Risk Assessment reviewed the risk of flooding from all known sources of flooding and found that there is no significant risk of flooding to the Site. All flood risk to the Site is either low or very low.

4.5.21 To control environmental issues during the construction process, good environmental practice will be followed, and a CEMP will be developed. The CEMP will form part of the project management plan, which will integrate the core arrangements for health and safety, quality and environmental management for the construction phase. This integrated approach ensures that environmental aspects are considered at all stages of the design and construction process.

4.5.22 The Proposed Development will include for standard industry practice, including the implementation of SuDS prior to occupation, to reduce the potential for impacts on flood risk, hydrology and water quality. The proposed SuDS solutions are to use attenuation with restricted discharge. Surface water discharge will be restricted to a flow rate that has been approved by Manchester Council as the Lead Local Flood

Authority and United Utilities. The proposed surface water drainage strategy has been designed to attenuate surface water flows up to the 1 in 100-year storm event, with a 40% allowance for climate change.

4.5.23 Drainage systems and wastewater discharge will be designed in line with best practice guidance, to eliminate any pollution risks for watercourses and underground water.

4.5.24 United Utilities have confirmed that foul flows from the Proposed Development will be allowed to drain into the public combined sewer system.

4.5.25 It is anticipated that suitably worded conditions can be applied to the grant of planning permission to control the delivery of the development.

4.5.26 Considering the above, significant effects are not anticipated in relation to water resources and flood risk and this aspect has been scoped out of the ES.

Ground Conditions and Contamination

4.5.27 A number of site investigations have been carried out on the Site. A Phase I Geo-Environmental Assessment Report (December 2024) concluded that the Site '*has had previous uses of residential dwellings and more recently a warehouse, based on the proposed residential development, the overall risk to human health from on site soils contamination is considered to be moderate to low*'. The report also concluded that the risk from off-site sources of contamination is considered to be moderate to low; permanent ground gases is considered to be moderate to low; radon is not considered to pose a risk; and the overall risk to controlled waters is considered to be low.

4.5.28 A Phase II Geo-Environmental Assessment Report (December 2024) has also been prepared. As the Proposed Development does not propose any soft landscaping, the risk is considered to be low and no remedial measures in respect to human health are required. The assessment confirmed that '*the overall risk to controlled waters is considered to be low and no further action is required*'.

4.5.29 The report also states that '*Based on the gas monitoring the site is classified as Characteristic Situation 1 and ground gas protection measures are not required*'. It is proposed to undertake a ground gas monitoring programme prior to construction, following which this will be re-assessed.

4.5.30 During construction standard protocols and best practice will be implemented to ensure there is no risk of contamination. If required a Materials Management Plan will be prepared.

4.5.31 Further site investigations and a Risk Assessment will be undertaken prior to any development work on the Site.

4.5.32 Considering the above, the Site has been determined as a relatively low risk with respect to ground quality. Therefore, Ground Conditions has been scoped out of the ES.

Waste

4.5.33 A Phase II Geo-Environmental Assessment Report (December 2024) has been prepared in support of the Proposed Development. The report concluded that '*Waste classification for the made ground at the site has revealed the majority of the soils to be non-hazardous with some soils suitable for disposal at an inert landfill and some at a non-hazardous landfill*'. Further testing of waste arisings will be undertaken where necessary to determine the most appropriate accepting landfill.

4.5.34 During both the construction and operational phases, the Proposed Development will be managed to integrate the core principles of the waste hierarchy circular economy to enable resources and waste to be managed sustainably and to their highest value for as long as possible.

4.5.35 During construction a Site Waste Management Plan will be prepared which will detail the design measures towards optimum use of materials, set specific targets for construction waste generation and appropriate mechanisms/protocols for segregating waste on-site and monitoring overall waste management. Areas designated for the safe storage of waste will be provided during construction. All storage areas will be appropriately designed for environmental protection and will be organised so that they can be safely accessed by construction staff. Staff will be appropriately trained in the use of waste storage facilities on Site and clear labelling and signage will be employed to ensure that materials are handled and stored in-line with legislative requirements. Wastes will only be removed from the Site by registered waste carriers, and the movements will be accompanied by a Waste Transfer Note (and a Waste Consignment Note, if appropriate) in accordance with Duty of Care. Copies of these will be stored on the Site. Wastes will only be sent to Site appropriately permitted for the treatment, recycling and/or disposal of the specific waste stream.

4.5.36 During the operational phase of the Proposed Development, suitable waste storage and recycling facilities will be provided in accordance with the regulations and policy set out by MCC, who will collect the waste from the Site under their statutory duties, and as part of MCC's existing waste collection scheme. The facilities will facilitate the

separation of waste, promoting the diversion of waste from landfill in line with the Waste Hierarchy.

4.5.37 The design of the Proposed Development would provide appropriate access for refuse collection vehicles and ensure safe access and manoeuvrability for collection crews.

4.5.38 It is not anticipated that the construction or operation of the Proposed Development will generate hazardous waste.

4.5.39 With implementation of an appropriate design features to facilitate waste collection, it is considered that there is limited potential for significant waste effects to arise as a result of the Proposed Development. Consequently, waste has been scoped out of further assessment within the ES.

Human Health

4.5.40 Impacts of the Proposed Development on human health are likely to relate to noise, air quality, and transport, which have been considered within the relevant ES chapters and reports supporting the Planning Application.

4.5.41 During the construction phase, health and safety regulations, will be adhered to reduce the likelihood of any impacts occurring to human health.

4.5.42 The construction of the Proposed Development will create direct and indirect employment opportunities in the short term which will likely have a beneficial effect upon the local population through increased employment opportunities and contribution to the economy through expenditure.

4.5.43 The risk to human health from events such as major pollution and fires will be controlled through adherence to the relevant environmental permits and regulations during both construction and operation.

4.5.44 Owing to the nature of the Proposed Development no adverse effects on human health are expected to be introduced by the Proposed Development during the operational phase. The Proposed Development will provide a beneficial effect through increased housing provision; employment opportunities; to the economy through productivity and expenditure; and will also promote healthy travel through the provision of cycle parking.

4.5.45 In conclusion, it is not considered that the proposals are likely to result in significant adverse effects on population and human health, beyond those already being considered elsewhere within the ES.

Risks of Major Accidents and/or Disasters

4.5.46 The EIA Regulations state that an EIA should consider the vulnerability of a development to risks of major accidents and/or disasters, relevant to the project concerned.

4.5.47 '*Risk*' can be defined as the '*likelihood of an impact occurring, combined with effect or consequence(s) of the impact on a receptor, if it does occur'*; a '*Major Accident'* can be defined as *'an event which threatens immediate or delayed serious environmental effects to human health, welfare and/or the environment, and requires the use of resources beyond those of the client or its appointed representatives (i.e. contractors) to manage*'; and a '*Disaster*' can be defined as '*naturally occurring extreme weather events (e.g. storm/flood) or ground-related hazard events (e.g. subsidence, landslide, earthquake) with the potential to cause an event or situation'*. Disaster and natural disaster are often used interchangeably.

4.5.48 The proposals will be designed to ensure that the likelihood of it resulting in or causing an event to occur that threatens serious damage to human health, welfare and/or the environment is low. The vulnerability of the Proposed Development to naturally occurring extreme weather events (i.e. flooding, storms and extreme temperature beyond that of weather events experienced in the UK) and/or ground related hazard events, (e.g. subsidence, earthquakes and ground contamination) that could lead to an event or situation is low.

4.5.49 For the purpose of this ES, a '*significant adverse effect'* is considered to be one which results in the loss of life or permanent injury, and/or permanent or long-lasting damage to an environmental receptor.

4.5.50 Table 4.1 below sets out the accidents and disasters of relevance to the Proposed Development (based on the location of the Site and proposed land uses), and how these will be mitigated.

Table 4.1: Consideration of major accidents and/or disasters to the Proposed Development

Major accident/disaster type	Description
Extreme weather events	The Proposed Development could be damaged by extreme weather events (exacerbated by climate change), including storms, snow, ice and heatwaves. Resilience to extreme weather events will be incorporated within the design process, and the building will be constructed in accordance with relevant building and fire regulations.

Table 4.1: Consideration of major accidents and/or disasters to the Proposed Development	
Major accident/disaster type	**Description**
Flooding	The Site is wholly located within Flood Zone 1 with a low risk of flooding. The Flood Risk Assessment prepared in support of the planning application reviewed the risk of flooding from all known sources of flooding and found that '*there is no significant risk of flooding to the proposed development site. All flood risk to the development site is either low or very low*'. The development will incorporate suitable sustainable drainage systems (SuDS) to reduce the volume of water run-off over the building's lifecycle.
Electricity, gas, water supply or sewerage system failures	Users of the Proposed Development could be at risk of utilities system failures. However, it is assumed that this risk will be mitigated through standard protocols implemented by the utilities providers, including emergency call and response procedures.
Ground contamination / Pollution incidents	There is a risk of contamination to ground during operation of the scheme. Initial assessments have determined the Site to be of relatively low risk with respect to ground quality. Further assessment of this risk will be undertaken, and mitigation measures will be recommended where required. Appropriate site investigations will also be undertaken to determine the current baseline contamination levels.
Transport accidents	The Proposed Development could affect traffic flows on the local highway network, which could increase the risk of transport accidents. An assessment has been undertaken within a Transport Statement prepared by Stantec This stated that '*A review of baseline conditions demonstrates that there are no existing highway safety concerns in the vicinity of the site that would be exacerbated by the development. The surrounding network already operates within an urban, multimodal context prioritising sustainable travel*' and demonstrated '*that the development would not give rise to any unacceptable highway safety impacts, nor would it result in residual cumulative impacts that could be considered severe*'.
Rail accident	The Site is located adjacent to a railway line. Impacts from an associated accident will be controlled by existing best practice and safety measures implemented by the rail operators.
Major fire	Construction of the Proposed Development will follow standard good practice and a suitable fire risk assessment and fire precautions will be adhered to. The risk assessment will take account of relevant guidance. Once the building is in use the requirements of the Regulatory Reform (Fire Safety) Order 2005 (FSO) will be in force. This will require those responsible for the building to take precautions to safeguard other persons who may be affected by a fire in a building. The management of the Proposed Development will comply with the FSO and a fire management strategy will be enforced by those managing the building. The Proposed Development will include the use of linings, materials and finishes that limit the release of heat. Good design will reduce the risk of fire significantly.

4.5.51 Based on the above, it is not considered that the Proposed Development will result in any significant adverse effects on the environment deriving from the vulnerability of the Proposed Development to the risk of major accidents and/or disasters (relevant to the Proposed Development).

Lighting

4.5.52 The lighting design of the Proposed Development intended to be efficient and in excess of Building Standards requirements.

4.5.53 Temporary lighting implemented during the construction phase, such as on-site temporary light fittings, construction compounds and on-Site security lighting has the potential to result in sky glow and light trespass or '*spill*' impacting sensitive local and ecological receptors. The level of light will be dependent on the location of the construction activities on a daily basis and the equipment being used, with light levels being attenuated as the distance between the source and receptor increases. Any impacts would be temporary.

4.5.54 Lighting associated with the operation of the Proposed Development will be designed in accordance with the most relevant lighting standards and will be assessed in relation to sensitive receptors. An appropriate lighting strategy will be implemented, as such, no significant operational effects are anticipated.

4.5.55 It is therefore considered that it is not necessary to assess lighting further within the ES.

Aviation

4.5.56 The Site is located in the Manchester control zone airspace, which extends from the ground to 3,500 feet above mean sea level.

4.5.57 The Proposed Development is unlikely to result in an adverse effect upon the operations of Manchester Airport due to the scale of the Proposed Development and the location of the Site relative to the number of existing high-rise buildings in the surrounding area.

4.5.58 The proposed building and cranes used during construction will be lit in accordance with external lighting requirements. No effects upon helicopters are anticipated.

4.5.59 In summary, it is unlikely that significant effects would occur with respect to aviation. This discipline can therefore be scoped out of the EIA.

TV, Radio, and Broadband Connectivity

4.5.60 A Television and Radio Reception Impact Assessment and a Broadband Connectivity Assessment have been undertaken by GTech Surveys Limited.

4.5.61 The Television and Radio Reception Impact Assessment concluded that '*the Proposed Development has the potential to cause limited interference to the reception of satellite television services up to 292 m north-west from the base of the proposed structure, only if satellite dishes are in use in these areas. In these areas, clear views of the southeastern skies could be obscured, resulting in interference. If interference does occur, the repositioning of satellite dishes to new locations without an obscured line-of-sight view to the serving satellites should restore reception. If satellite dish relocations are not possible, the use of DTT or TV over cable / fibre receiving equipment would also offer any affected viewer an alternative source of digital television broadcasts, removing the need for a satellite dish altogether*'.

4.5.62 The Broadband Connectivity Assessment states that 'existing broadband infrastructure and good connectivity is already available in the study area, with existing fibre installed along roads and public highways adjacent to each Site and into each Site. Fast download speeds are likely to be experienced in the locality'. The applicant will commit to enable the Proposed Development for robust connectivity and future-proof upgrading by following the statutory guidance, Approved Document R volume 1: Physical infrastructure and network connection for new dwellings (2022 edition).

4.5.63 In summary, it is not anticipated that there will be significant effects on coverage in the area as a result of the Proposed Development.

4.6 Consultation

4.6.1 The planning application for the Proposed Development has been informed and guided by a programme of consultation with MCC and other stakeholders.

4.6.2 The Applicant has also undertaken a process of community engagement with the local community and key stakeholders. This process involved meetings and corresponded with MCC, the Places Matter Design Review Panel (DRP), Deansgate Ward Members, and local businesses. A 40-day consultation process was also undertaken, between August and September 2025, for the local community. This included; a virtual exhibition with an online feedback form; a leaflet drop to 1903 local addresses; letters being posted and emails to local councillors, businesses and community stakeholders;

a press release to raise awareness of the consultation; social media advertisements; and an in-person meeting and virtual meetings with interested parties. For further details reference should be made to the Statement of Community Involvement submitted in support of the planning application.

4.6.3 Consultation specific to the EIA has also been undertaken, in the form of a request for a Scoping Opinion as detailed above.

4.6.4 Additional consultation undertaken specific to an environmental topic is detailed in the technical chapters and appendices where relevant.

4.7 Assessment Methodology

4.7.1 The technical assessments provide a detailed examination of the key environmental impacts associated with the Proposed Development. Baseline data was obtained from published information sources, non-confidential data supplied by the various organisations consulted, previous site work undertaken by others and additional fieldwork. The methodologies for predicting the nature, extent, magnitude and significance of environmental effects vary according to the topic area being considered. As such, the methodology for predicting impacts is included within each assessment chapter.

4.7.2 Quantitative methods refer to thresholds and indicative criteria set out within industry regulations and guidelines (where available). Where quantitative criteria are not available or not appropriate, qualitative methods have been adopted, relying on previous experience and professional judgement.

4.7.3 The objective of each assessment is to identify the '*magnitude of change*' to the existing baseline environment arising as a result of the Proposed Development. The magnitude of change that could affect a receptor as a result of the Proposed Development would be identified on a scale of change from minor alterations to major change or loss of a receptor. For some environmental topics, guidance on levels of acceptability means such change is based on quantitative parameters whilst for other topics this can be informed by professional judgement using qualitative parameters.

4.7.4 The level of effect is a function of impact magnitude and the importance/sensitivity of the resources or receptors. Whilst the methods for determining the level of an effect can vary according to the environmental discipline, this underlying principle remains the same.

4.7.5 The sensitivity or value of a receptor may be classified by its proximity to the Proposed Development, its use, or its importance, as informed by legislation, policy, and guidance, and qualified by professional judgement.

4.7.6 To evaluate the significance of effects, consideration of the sensitivity of a receptor and the magnitude of change that could affect that receptor is required. For each environmental receptor the following factors are considered:

- Geographical extent;
- Rate of change;
- Reversibility of the effect;
- Probability of the effect;
- Duration of the effect;
- Size and magnitude of the effect; and
- Sensitivity/importance/substitutability of the receptor.

4.7.7 Criteria are then used to determine whether an effect is '*significant*' or '*not significant*'. The criteria for the assessment of effects that has been adopted within each assessment chapter is in accordance with current published guidance specific to the discipline to which it relates. The published guidance documentation used is referenced within each chapter. Where published guidance or criteria is unavailable, the chosen method for assessing impacts and their significance is explained in detail to ensure transparency. Where likely significant adverse effects have been identified, mitigation measures have been proposed to avoid, reduce or remove such effects. The mitigation measures include refinements to the scheme design and/or the introduction of best practice methodology and specific safeguards. As an EIA is an iterative process, the assessment methodology was used to refine the mitigation measures and then adjusted to take them into account during the assessment.

4.7.8 Via the incorporation of appropriate mitigation measures, identified adverse effects have been reduced to the lowest practicable level, consistent with the overall objectives. Any residual effects, during either construction and/or operation are identified and the significance of these residual effects, assessed.

4.8 Assessment Scenarios

4.8.1 The EIA considers the likely significant effects of the Proposed Development during construction and upon completion / operation of the development, assuming a realistic 'worst case' scenario for the purposes of assessment.

4.8.2 Unless otherwise stated within each technical chapter the ES has considered a baseline scenario of 2026, with construction work anticipated to commence in 2027. It is anticipated the Proposed Development will be constructed in a single phase.

4.8.3 The Proposed Development as set out in Chapter 2 is anticipated to have an opening year of 2030 and this fully operational scenario is considered within the EIA.

4.8.4 There will be no intermediate year scenario whereby earlier phases of the Proposed Development are occupied, and later phases are under construction.

4.9 Cumulative Effects Assessment

4.9.1 Schedule 4 of the EIA Regulations states an ES must include a description of the likely significant effects of the Proposed Development, including reference to possible cumulative effects.

4.9.2 Within the assessment of cumulative impacts, there are two aspects to consider:

- Intra-cumulative effects (i.e. multiple effects occurring as a result of the Proposed Development on a single receptor e.g. air quality and noise impacts on the same household); and
- Inter-cumulative effects (i.e. those occurring as a result of the Proposed Development in combination with another development or developments).

4.9.3 Chapter 14 summarises both the significance of any residual effects detailed within the technical ES chapters, and any likely significant cumulative effects.

Intra-cumulative Effects

4.9.4 The EIA has considered where a significant residual cumulative impact is expected to occur on a particular receptor as a consequence of collective actions, aspects or effects of the Proposed Development. Chapter 14 summarises the residual impacts likely to be experienced for each type of receptor and assesses the significance of these effects in cumulation.

Inter-cumulative Effects

4.9.5 Schedule 4 states that an ES should include a '*description of the likely significant effects of the development on the environment, resulting from… 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'.*

4.9.6 The schemes to be considered comprise committed developments in the area surrounding the Site and are set out below within Table 4.2 and are illustrated on the Cumulative Scheme Plan at Appendix 4.3. This list has been agreed with MCC via adoption of a Scoping Opinion. Due to the time has elapsed since MCC adopted their Scoping Opinion a review was undertaken in April 2026 of the schemes for consideration. An updated list of schemes to be considered was sent to Manchester for comment and no response has been received at the time of submission

4.9.7 To ensure the scope of the technical assessment is proportionate the list of committed developments has been reviewed within each of the technical chapters.

Table 4.2: Schemes for consideration within cumulative impact assessment			
Map Ref (see Appendix 4.3)	**Scheme**	**Description**	**Status**
1	141773/FO/2024 2-4 Whitworth Street West, Manchester, M1 5WY.	Demolition of buildings at 2 and 4 Whitworth Street West and the construction of a residential building (Class C3) with associated servicing arrangements, landscaping, and associated works.	Minded to Approve Validated 18th December 2024
2	EIASCO/25/001 Manchester Oxford Road Station, Remodelling Manchester M1 6FU.	Request for Scoping opinion under Part 4, Regulation 15 of The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended). (The Proposed Development is a Network Rail enhancement scheme)	Opinion issued 10.03.2025 Validated 20th January 2025
3	129273/FO/2021 34 Great Jackson Street, Manchester, M15 4NG.	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.	Approved 20th November 2024
4	137227/FO/2023 Plot D, Great Jackson Street, Manchester, M15 4NP.	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	Approved at planning committee 29th August 2024 Validated 26th June 2023

Table 4.2: Schemes for consideration within cumulative impact assessment			
Map Ref (see Appendix 4.3)	**Scheme**	**Description**	**Status**
		parking, landscaping and public realm, servicing and access arrangements, highways alterations and associated works.	
5	137226/FO/2023 Part Of Plot C And Plot E, Great Jackson Street, Manchester, M15 4NP.	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 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.	Approved at planning committee 29th August 2024 Validated 26th June 2023
6	132199/FO/2021 Plot F, Great Jackson Street, Manchester, M15 4AX. (including subsequent applications (Discharge of Conditions and Non-material amendments))	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.	Approved 1st July 2022
7	139715/FO/2024 Viadux Phase 2 Land Bounded By Albion Street, Great Bridgewater Street, And Trafford Street, Manchester, M60 2AT.	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.	Approved at planning committee 29th May 2024 Validated 19th April 2024

Table 4.2: Schemes for consideration within cumulative impact assessment			
Map Ref (see Appendix 4.3)	**Scheme**	**Description**	**Status**
8	133172/FO/2022 Land Bounded By Trumpet Street, Albion Street & Great Bridgewater Street, Manchester, M1 5LE.	Erection of a 26 storey residential tower for 72 apartments (Use Class C3) with associated car parking, cycle parking, servicing, and associated landscaping works.	Awaiting decision Validated 9th March 2022
9	133176/FO/2022 50-56 Great Bridgewater Street, Manchester, M1 5LE.	Erection of a 7-storey building with commercial floorspace (Use Class E/Sui Generis) to first and second floors and residential use to floors three to six containing 4 no. apartments (Use Class C3) with associated parking and servicing.	Awaiting decision Validated 9th March 2022
10	141786/FO/2024 Plot 9B, First Street, Manchester. (including subsequent applications (Discharge of Conditions and Non-material amendment))	Erection of part 12, part 33 storey purpose-built student accommodation (PBSA) building (Sui Generis), alongside ancillary amenity space, landscaping, secure cycle parking and other associated works; and use of land east of River Street as a construction compound (Plot 9B).	Approved 18th July 2025.
11	138831/FO/2023 Plot 11, Block C, First Street, South Manchester, M15 6JE.	Erection of a ground plus 28-storey building plus plant level, comprising purpose-built student accommodation (PBSA -Sui Generis) and other associated works including public realm, secure cycle parking and servicing arrangements.	Awaiting decision Validated 18th December 2023
12	114664/FO/2016 Land Bounded By Jacksons Row, Bootle Street, Southmill Street & 201, Deansgate, Manchester, M2 5GU.	Partial demolition of existing buildings. Development up to 171.6m AOD comprising residential (Use Class C3), offices (Use Class B1), hotels (Use Class C1), place of worship (Use Class D1) and leisure/food and drink uses (Classes A1, A3, A4, A5 and D2). Creation of public spaces and new public realm, provision of	Approved 20th June 2018 Under construction

Table 4.2: Schemes for consideration within cumulative impact assessment			
Map Ref (see Appendix 4.3)	**Scheme**	**Description**	**Status**
	Varied by 125549/JO/2019 137873/JO/2023 (Amendment App) Varied by 141519/JO/2024 (including subsequent Partial Discharge of Conditions and Discharge of Conditions applications)	basement car parking, highway alterations, landscaping and associated works. Variation of planning conditions 2 and 7 attached to planning permission 135827/JO/2022 to allow increase in height of building by two floors to facilitate the increase in the number of residential apartments from 213 to 229, reconfiguration of level 6 hotel, amendment to basement cycle store and other associated elevational alterations.	
13	125804/FO/2019 325 - 327 Deansgate, Manchester, M3 4LQ. Varied by 139059/JO/2024 (including subsequent applications (Discharge of Conditions and Non-material amendment))	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.	Approved 26th June 2020 Under construction
14	129406/FO/2021 Land At Deansgate South Manchester	Full planning permission for a 28-storey purpose built student accommodation building (Sui Generis).	Appeal Allowed 4th June 2021 Under construction

Table 4.2: Schemes for consideration within cumulative impact assessment			
Map Ref (see Appendix 4.3)	**Scheme**	**Description**	**Status**
	(including subsequent applications (Discharge of Conditions, re-discharge condition, and Non-material amendments))		
15	134694/FO/2022 Bridgewater House, Great Jackson Street, Manchester, M15 4WG. (including subsequent applications (Discharge of Conditions))	Restoration and conversion of the Grade II listed Bridgewater House and redevelopment of car park area to create a ground plus three storey apartment building; overall providing 53 residential units, including landscaping to courtyard, bike storage and associated works.	Approved 6th February 2023
16	128002/FO/2020 One City Road, East Manchester,M15 4PN. (including subsequent applications (Discharge of Conditions and Non-material amendment))	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.	Approved 26th January 2021
17	135565/FO/2022	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	Approved at planning committee 16th February 2023 Validated 24th November 2022

Table 4.2: Schemes for consideration within cumulative impact assessment			
Map Ref (see Appendix 4.3)	**Scheme**	**Description**	**Status**
	Land Bounded By Deansgate, Great Bridgewater Street, Watson Street & Peter Street Manchester M3 4EN.	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 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	

Table 4.2: Schemes for consideration within cumulative impact assessment			
Map Ref (see Appendix 4.3)	**Scheme**	**Description**	**Status**
		takeaway / live music venue), along with delivery of associated public realm, highways works, plant, and associated works.	
18	135419/FO/2022 One Medlock Street, Manchester, M15 5FJ. (including subsequent applications (Discharge of Conditions and Non-material amendment))	Demolition of the existing hotel building and structures and redevelopment of the site to comprise two separate buildings: one 13 storey office building with commercial unit (Use Class E) at ground floor; a part 11, part 38 storey building comprising 1,014 purpose built student accommodation units (sui generis) with ground floor office/community uses (Use Class E, F1 or F2); and associated ancillary internal and external amenity space, hard and soft landscaping and associated highway works.	Approved 7th November 2023
19	136043/FO/2023 Land Bounded By River Street To The North, Plot 10B To The East, Hulme Street To The South And The Development Plot 9A To The West Manchester. (including subsequent Discharge of Conditions application)	Erection of 13-storey office building (Use Class E) with associated public realm, external roof terraces (floors 11 and 12) and other associated works including external amenity spaces (Plot 10A).	Approved 12th May 2023

Table 4.2: Schemes for consideration within cumulative impact assessment			
Map Ref (see Appendix 4.3)	**Scheme**	**Description**	**Status**
20	138805/FO/2023 2 Gloucester Street, Manchester, M1 5QR.	Demolition of the former Hotspur Press Complex (Medlock Mill) and partial rebuilding 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 36-storey (plus plant level and parapet) associated ancillary internal and external amenity space, public realm (including a new public square), hard and soft landscaping, and associated highway works.	Approved at planning committee 29th May 2024 Validated 13th Dec 2023
21	144697/FO/2025 All Saints Campus Oxford Road Manchester M15 6BH	Erection of new part 7-storey and part 9-storey library building (Use Class F1), with associated public realm, access and servicing arrangements, and other associated works.	Validated 30 Jan 2026 Awaiting decision
22	142888/FO/2025 Cambridge Halls Of Residence Cavendish Street Manchester M15 6TT	Demolition of existing halls of residence and erection of two buildings of 30 and 24 storeys above ground, plus basement and rooftop plant levels, comprising: purpose-built student accommodation with internal and external rooftop communal amenity space (Sui Generis); ground floor commercial and community uses (Flexible Use Classes E, F1(a) or F2(b)); hard and soft landscaping; and associated highway works.	Approved 12th December 2025
23	144791/FO/2025 Weston Student Halls And Pendulum	Phased development comprising: (a) Partial removal of existing structures and erection of two buildings comprising purpose-built student accommodation (sui	Validated 16th December 2025

Table 4.2: Schemes for consideration within cumulative impact assessment			
Map Ref (see Appendix 4.3)	**Scheme**	**Description**	**Status**
	Hotel 78 Sackville Street Manchester M1 3B	generis), one of 50 storeys and one of 17 storeys with an 8-storey link, together with associated amenity space, external landscaping, highways works, and change of use of the Pendulum Hotel to purpose-built student accommodation; and (b) Removal of remaining existing structures and erection of two buildings comprising purpose-built student accommodation (sui generis), one of 33 storeys and one of part-24 and part-8 storeys with a 1-storey link, together with associated amenity space, external landscaping, and highways works.	Awaiting decision
24	143741/FO/2025 Charles Street Multi Storey Car Park (Plot H Sister) Charles Street Manchester M1 7AR	Demolition of existing multi-storey car park and associated commercial units (retail and sui generis bar uses) to prepare site for future development.	Approved 4th December 2025
25	EIASCO/25/013 Plot H Sister Land Bounded By Charles Street to the South, Manchester South Junction and Altrincham Railway Viaduct and Granby Row To The North, Sackville Street to the East and	Request for Scoping opinion under Part 4, Regulation 15 of The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended)	Scoping Opinion Issued 30th December 2025

Table 4.2: Schemes for consideration within cumulative impact assessment			
Map Ref (see Appendix 4.3)	**Scheme**	**Description**	**Status**
	Princess Street to the West Manchester		
26	143164/FO/2025 Albert Bridge House Bridge Street Manchester M3 5AH	Creation of a mixed use development comprising three separate components: an office building of up to 18 storeys (Use Class E (g)) with ground floor commercial, leisure, food and drink uses (All Use Class E (g)) and/ or drinking establishment (Sui Generis) with rooftop plant and roof top amenity; a residential building up to 37 storeys (Use Class C3a) with roof top plant level, basement car and cycle parking; and a residential building up to 49 storeys (Use Class C3) with ground floor commercial, leisure, food and drink uses (Use Class E) and/ or drinking establishment (Sui Generis), roof top plant level, basement cycle parking, together with landscaping and public realm, drainage, sub-station, servicing and access arrangements, surface car parking for 7 cars, highway alterations and other associated works following demolition of the existing building complex.	Awaiting decision Validated 19th June 2025
27	143024/FO/2025 Sister Plot C Former UMIST Campus Altrincham Street Manchester M1 7JA	Phased development comprising: Phase A - demolition of existing buildings and structures, erection of a basement (C1 Building and C2 Building) and a podium across lower ground and upper ground floors comprising flexible commercial space (Class E and/or Sui	Awaiting decision Validated 23rd May 2025

Table 4.2: Schemes for consideration within cumulative impact assessment			
Map Ref (see Appendix 4.3)	**Scheme**	**Description**	**Status**
		Generis drinking establishment), erection of a building (C1 Building) to form offices (Class E), landscaping works, highways, access, servicing, infrastructure and other associated works; Phase B: erection of a podium across lower ground and upper ground floors and a new building (C2 Building) to form offices (Class E) and flexible commercial and community uses (Class E, F2 and/ or Sui Generis drinking establishment), alterations to the existing Sculptural Wall (Hollaway Wall), relocation of existing art work, landscaping works, highways, access, servicing, infrastructure and other associated works; Phase C - change of use and associated works to railway Viaduct arches to form flexible commercial units (Class E, and/ or Sui Generis - drinking establishment) including highways, access and servicing arrangements, and other associated works.	
28	144334/FO/2025 Ground Surface Temporary Car Park Bounded By Commercial Street, Constance Street And The Back Line Of The Building And Land Fronting Little Peter Street Manchester	Erection of eight townhouses (Use Class C3a).	Awaiting decision Validated 22nd October 2025

Table 4.2: Schemes for consideration within cumulative impact assessment			
Map Ref (see Appendix 4.3)	**Scheme**	**Description**	**Status**
29	143678/FO/2025 6 Little Peter Street Manchester	Erection of five storey building to form 9 no. residential apartments (Use Class C3a), with associated cycle parking, refuse storage and plant in the basement.	Awaiting decision Validated 22nd August 2025
30	143061/FO/2025 Holiday Inn Express 2 - 4 Oxford Road Manchester M1 5QA	Installation of 2 storey rooftop extension to creates 24 additional hotel rooms.	Awaiting decision Validated 3rd July 2025

5 CONSIDERATION OF ALTERNATIVES

5.1 Introduction

5.1.1 Schedule 4 of the EIA Regulations state 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 'Do Nothing' Alternative

5.2.1 The first alternative considered is the 'do nothing' scenario. This scenario assumes the Proposed Development would not proceed and that the Site will continue with its current use.

5.2.2 In this scenario the Site will remain as turfed grass surrounded by a metal railed perimeter. Whilst this will eliminate the potential for adverse environmental impacts arising from development, it will also remove the contribution that the Proposed Development will bring to the local population and economy through the provision of the student accommodation.

5.2.3 The Proposed Development presents an opportunity to create temporary jobs during construction and generate an increase in consumer spending in the local economy, supporting local retail and other services, as well as permanent employment opportunities during the operational phase as workers will be required to maintain and facilitate the Proposed Development. These will benefit the local population and economy and would be lost should the Proposed Development not be built out.

5.2.4 The Proposed Development will have community spaces that will provide safe spaces for residents to live and work in.

5.2.5 The Proposed Development will promote sustainable travel through being car-free and the provision of cycle store. This will be of benefit to the health of the residents. The proposed rooftop gym will further encourage residents to be active and focus on their health.

5.2.6 It should be noted however that the Site has an approved application for the erection of a 35-storey residential building with associated residential services, facilities and communal spaces (application ref. 111003/FO/2016/C1 (later amended by permission ref. 135272/JO/2022). In reality the 'Do Nothing' alternative is unlikely to occur owing to the continual development of Deansgate and Manchester City Centre.

Alternative Design

5.2.7 The proposals have been through an iterative design process in conjunction with the assessment of environmental impacts and the production of the ES. The design process has also been informed by consultation with MCC and other relevant consultees. This process of engagement and public consultation included pre-application meetings, a design review panel meeting, a meeting with ward councillors, a virtual exhibition, a leaflet drop to local address and engagement with local businesses (including the nearby Rebellion music venue).

5.2.8 As far as possible, potential significant adverse environmental impacts have been 'designed out' of the scheme at an early stage. Measures have also been incorporated into the proposals to mitigate any impacts that cannot be adequately addressed through design, or (where possible) to enhance the environmental benefits of the Proposed Development. Further information on the specific mitigation measures proposed are set out within the relevant technical chapters of this ES.

5.2.9 For example, the chosen material palette (bronze cladding) has been informed by material testing and consultation with to the Places Matter Design Review Panel (DRP), with the selected bronze tone chosen to reflect the generally red character of the surrounding context.

5.2.10 In addition, mitigation measures have been identified and incorporated into the proposals in order to avoid, remove or reduce adverse effects that cannot be adequately addressed through design. Further information on the specific mitigation measures proposed are set out within the relevant technical chapters of this ES.

5.2.11 For example, suitable low-reflectance glazing will be incorporated into the Proposed Development to reduce the potential for solar glare. The extent and specification of the glazing will be determined through detailed testing.

5.2.12 Therefore, of the alternative designs considered, the Proposed Development is considered to be the option that reduces adverse effects as far as possible whilst enhancing the potential benefits off the scheme.

5.3 Alternative Site Locations

5.3.1 The EIA Regulations require only the '*reasonable alternatives... studied by the developer*' to be considered within the ES. The Applicant does not control additional sites within Manchester which could deliver the Proposed Development. However, the suitability of the location of the Site has been considered below.

5.3.2 A Tall Building Statement has been prepared by Cushman & Wakefield. Owing to its extent the Proposed Development Policy EN2 (Tall Buildings) of the Manchester City Core Strategy is considered to be of relevance. Accordingly, the Proposed Development has been assessed, within the Tall Building Statement, against the criteria of Policy EN2.

5.3.3 One of the five criterion under Policy EN2 is 'Be appropriately located'. As stated in the Planning & Tall Building Statement, Policy EN2 '*sets out that suitable locations will include sites within the City Centre, with particular encouragement given to non-conservation areas and sites easily served by public transport nodes*'. It is considered that the Site meets these requirements in that it is within the City Centre boundary, is not within a conservation area and is located within a few minutes' walk of bus, train and Metrolink services.

5.3.4 In addition, the Site is located in an area of emerging and existing tall buildings and is therefore consistent with the surrounding context.

5.3.5 As set out above the Site benefits from an existing consent for the erection of a 35-storey residential building measuring 150.30m AOD. The Proposed Development measures 156m AOD. The Site has therefore been deemed appropriate for the development of a tall building.

5.3.6 On the basis of the above, it is considered that the Site is located in a sustainable and environmentally suitable location.

5.4 Conclusion

5.4.1 In summary, the Proposed Development has been through an iterative design process to reduce the potential environmental effects to the lowest practical level and enhance the potential benefits of the scheme. The current proposals are therefore considered to represent the most suitable option for development of the Site, taking into consideration environmental effects.

6 AIR QUALITY

6.1 Introduction

6.1.1 This Chapter reports the likely significant effects of the Proposed Development in terms of Air Quality in the context of the Site and surrounding area. In particular, the application site is located within Manchester City Centre, subsequently, this ES Chapter considered the potentially significant effects from construction dust at sensitive receptor locations during the construction phase of the development.

6.1.2 This Chapter (and its associated figures and appendices) is not intended to be read as a standalone assessment and reference should be made to the front end of this ES (Chapters 1 – 5), as well as the final chapter, 'Summary of Residual and Cumulative Effects' (Chapter 14).

6.2 Legislation, Policy and Guidance

6.2.1 The relevant legislation, policy and guidance are listed below, with details provided in Appendix 6.1.

Legislative Framework

6.2.2 The applicable legislative framework is summarised as follows:

- European Union (EU) Directive 2008/50/EC;
- The NPPF (December 2024, updated on 7th February 2025);
- The National Planning Practice Guidance (NPPG), relevant chapters produced on 14th February 2024;
- Section 82 of the Environment Act (Part IV), updated 9th November 2021;
- The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, Department for Environment, Food and Rural Affairs (DEFRA), 2007; and
- The Air Quality Standards (Amendment) Regulations (2016).

Planning Policy

6.2.3 The applicable planning policies from the Manchester City Council Core Strategy are summarised as follows:

- Policy EN 7 – Energy Infrastructure opportunities
- Policy EN 16 – Air Quality

- Policy DM 1 – Development Management

Guidance

6.2.4 The applicable guidance is summarised as follows:

- Local Air Quality Management Technical Guidance 2022 LAQM.TG(22), DEFRA, August 2022;
- Guidance on the Assessment of Dust from Demolition and Construction, Institute of Air Quality Management (IAQM), v2.2, January 2024; and
- Land-Use Planning and Development Control: Planning for Air Quality, Environmental Protection UK (EPUK) and IAQM, January 2017.

6.3 Assessment Methodology and Significance Criteria

Scope of the Assessment

6.3.1 The scope of the assessment is in accordance with the Scoping Opinion Request (Appendix 4.1).

6.3.2 This chapters provides a construction phase air quality assessment which considers the potential for air quality impacts as a result of fugitive dust emissions associated with earthworks, construction and track-out activities on the Site.

6.3.3 In accordance with the Scoping Opinion an assessment of the Proposed Development in combination with the existing Manchester Civic Quarter Heat Network is included in Section 6.8.

Effects Not Considered within the Scope

6.3.4 The Proposed Development has the potential to impact on existing air quality as a result of road traffic exhaust emissions, such as NO_2, PM_{10} and $PM_{2.5}$ associated with vehicles travelling to and from the Site. A screening assessment was, therefore, undertaken using the criteria contained within the EPUK and IAQM guidance documents to determine the potential for trips generated by the Proposed Development to affect local air quality.

6.3.5 The EPUK and IAQM guidance document states the following criteria to help establish when an air quality assessment is likely to be considered necessary:

- Proposals that will cause a change in Light Duty Vehicle (LDV) flows of more than 100 AADT within or adjacent to an AQMA, or more than 500 elsewhere; and

- Proposals that will cause a change in Heavy Duty Vehicle (HDV) flows of more than 25 AADT within or adjacent to an AQMA, or more than 100 elsewhere.

6.3.6 Should the above criteria not be met, the EPUK and IAQM guidance document considers air quality impacts associated with the scheme to be not significant and no further assessment is required. Conversely, should the criterion be exceeded it may be deemed necessary that further assessment is required. Any additional vehicle movements associated with the Proposed Development will generate exhaust emissions, such as NO_2, PM_{10} and $PM_{2.5}$ on the local and regional road networks.

6.3.7 It is unlikely that the construction phase of the development will not generated more than 100 AADT trips or 25HDV trips, it is also unlikely to affect average speeds on the local road network. Subsequently, potential air quality impacts associated with construction phase road vehicle exhaust emissions are predicted to be negligible significance in accordance the EPUK and IAQM screening criteria.

6.3.8 The development will also not include any car parking and, as such, trips generated by the development site will be minimal. It is, therefore, expected that there will be far less than 100 AADT trips from the Proposed Development. It is, therefore, not anticipated that the operational phase of the Site would result in a change of AADT flows of more than 100, produce 25 HDV movements per day or affect average speeds on the local road network. Subsequently, potential air quality impacts associated with operational phase road vehicle exhaust emissions are predicted to be negligible significance in accordance the EPUK and IAQM screening criteria. An assessment of exposure across the Site as a result of existing road emission was not included within this ES chapter but can be found within the accompanying Air quality Assessment.

6.3.9 There are no nationally or European designated ecological receptors within 50m of the Site boundary, or within 50m from a route used by construction vehicles on the public highway (up to 250m from the Site entrance). Therefore, the risk of dust effects at a nationally or European designated ecological receptor site from construction impacts have not been considered further in this assessment.

Extent of the Study Area

6.3.10 Human receptors sensitive to potential dust impacts during, demolition, earthworks and construction were identified from a desk-top study of the area up to 250m from the Site.

Consultation Undertaken to Date

6.3.11 Specific consultation was unnecessary as feedback from the scoping document sufficiently covered requirements.

Assessment Methodology

6.3.12 There is the potential for fugitive dust emissions to occur as a result of construction phase activities. These have been assessed in accordance with the methodology outlined within the IAQM Guidance on the assessment of dust from demolition and construction.

6.3.13 Reference should be made to Appendix 6.3 for details of the relevant IAQM construction phase assessment criteria, which were utilised in conjunction with site specific information

6.3.14 Activities on the proposed construction site have been divided into four types to reflect their different potential impacts. These are:

- Demolition;
- Earthworks;
- Construction; and
- Trackout

6.3.15 Demolition is not proposed therefore has not been considered further.

6.3.16 The potential for dust emissions was assessed for each activity that is likely to take place and considered three separate dust effects:

- Annoyance due to dust soiling;
- Harm to ecological receptors; and
- The risk of health effects due to a significant increase in exposure to PM_{10} and $PM_{2.5}$

Dust Emission Magnitude

6.3.17 The indicative criteria for determining the magnitude of dust emissions can be found in Table 6.3.1 within Appendix 6.3. This provides criteria such as volume of materials to be moved/used and height of relevant activities for each of the general activities within the construction phase.

Identification of Sensitive Receptors

6.3.18 A desk top survey has been undertaken to identify human and ecological receptors within the relevant assessment buffers specified by the IAQM guidance. Should sensitive receptors not be present within the relevant distances then negligible impacts would be expected and further assessment is not necessary.

6.3.19 Details of the sensitivity criteria can be found within Table 6.3.2 within Appendix 6.3.

6.3.20 A number of additional factors have been considered when determining the sensitivity of the surrounding area. These are summarised in Table 6.8.

Table 6.8: Additional Area Sensitivity Factors

Guidance	Comment
Whether there is any history of dust generating activities in the area	The Site is located in a commercial and residential area. There is likely to have been a history of dust generating activities due to regeneration processes in the locality.
The likelihood of concurrent dust generating activity on nearby sites.	A review of the MCC Planning Portal indicated that there are several planning applications within 500m of the Proposed Development. As such, there is potential for concurrent dust generation should the construction phases of the aforementioned developments overlap.
Pre-existing screening between the source and the receptors	There is no dense vegetation present along the development boundaries. Hence, there is no level of natural protective screening in any directions.
Conclusions drawn from analysing local meteorological data which accurately represent the area: and if relevant the season during which works will take place	The wind direction is predominantly from the south west of the development. As such, properties to the north east of the Site would be most affected by dust emissions
Conclusions drawn from local topography	The topography of the area appears to be predominantly flat. As such, there are no constraints to dust dispersion.
Duration of the potential impact, as a receptor may become more sensitive over time	Currently the duration of the construction phase is unknown.
Any known specific receptor sensitivities which go beyond the classifications given in the document.	No specific receptor sensitivities identified during the baseline.

Determination of Risk

6.3.21 Following the identification of sensitive receptors and dust emission magnitude, a site is then allocated a risk category which is assigned to each activity, based on the scale and nature of the works, as well as the sensitivity of the area to dust impacts.

6.3.22 The assigned magnitude and sensitivity will then determine the overall risk and appropriate mitigation measures to be employed during construction phase activities.

6.3.23 Reference should be made to Tables 6.3.5 to 6.3.8 in appendix 6.3 for details on the determination of risk.

6.3.24 The risk categories are as follows:

- Negligible
- Low Risk
- Medium Risk
- High Risk

Significance Criteria

6.3.25 Since construction activities are not expected to generate any beneficial air-quality impacts, the following categories have been excluded from the construction dust assessment: Major Beneficial Effect, Moderate Beneficial Effcet, and Minor Beneficial Effect.

6.3.26 Construction activities are anticipated to result in adverse air-quality impacts if no mitigation is implemented. These impacts have been classified as Negligible Effect, Minor Adverse Effect, Moderate Adverse Effect, and Major Adverse Effect as corresponding with unmitigated negligible risk, low risk, medium risk and high risk. As shown in Table 6.5 the level of effect is determined in accordance with the level of unmitigated risk.

Table 6.5: Unmitigated Dust Risk and Effects

Unmitigated Risk of Dust Risk	Effects
No Risk	No Effect
Negligible	Negligible Adverse Effect
Low Risk	Minor Adverse Effect
Medium Risk	Moderate Adverse Effect
High Risk	Major Adverse Effect

6.3.27 Effects are also given descriptors to confirm their nature (i.e. direct or indirect), temporal scale (short-, medium- or long-term), permanence (temporary or permanent), type (adverse or beneficial) and/or spatial scale (site, local, regional, national).

6.3.28 Effects that are deemed to be significant for the purposes of this assessment are considered post mitigation. Suitable implementation of mitigation for the relevant level of effect will result in **not significant** impacts as a result of construction phase dust.

6.4 Baseline Conditions

Existing Baseline

6.4.1 Existing air quality conditions in the vicinity of the Site were identified in order to provide a baseline for assessment, full details can be found within Appendix 6.2 and are summarised in the following sections.

Local Air Quality Management

6.4.2 As required by the Environment Act (2021), MCC, has undertaken review and assessment of air quality within their area of administration. This process has indicated that annual mean concentrations of NO_2 are above the AQO within their administration, as such, 1 AQMA has been declared.

Air Quality Monitoring

6.4.3 Monitoring of pollutant concentrations is undertaken by GMCA using continuous and passive methods throughout their areas of administration. A review of GMCA's most recent Air Quality Monitoring Data indicated that there is currently 1 automatic analyser and 3 diffusion tubes located within the vicinity of the Site.

6.4.4 As indicated in Table 6.2.1 and Table 6.2.2, there were exceedances of annual mean AQOs for NO_2 at three monitoring locations in recent years. Reference should be made to Figure 6.2 within Appendix 6.4 for a graphical representation of the monitoring locations.

Background Pollutant Concentrations

6.4.5 For the purpose of this assessment, background concentrations are summarised in Table 6.4 for the current base year (2024) and the predicted development opening year (2030).

Table 6.4: Predicted Background Pollutant Concentrations		
Pollutant	**Predicted Background Concentration (µg/m³)**	
	2024	**2030**
NOx	31.83	23.17
NO2	21.87 (28.40*)	16.68
PM10	14.37	14.04
PM2.5	8.13	7.75

*Based on local background diffusion tube monitoring

6.4.6 As indicated in Table 6.4, background pollutant concentrations of NO_2, PM_{10} and $PM_{2.5}$ are below the relevant AQOs detailed in Appendix 6.1.

Future Baseline

6.4.7 Future baseline represents the environment at a future assessment year without the Proposed Development. This could be opening year, design year or other future horizon. For this assessment, the future baseline is based on peak construction year with cumulative construction impacts from any cumulative developments.

6.4.8 To ensure a robust assessment, this chapter considers the future baseline scenario to be effectively neutral with no baseline impacts on dust soiling or human health.

Sensitive Receptors

6.4.9 Human receptors sensitive to potential dust impacts during earthworks and construction were identified from a desk-top study of the area up to 250m from the Proposed Development boundary. These are summarised in Table 6.6.

Table 6.6: Earthworks and Construction Dust Sensitive Receptors	
Distance from Site Boundary (m)	**Approximate Number of Human Receptors**
Less than 20	10 - 100
20 – 50	More than 100
50 – 100	More than 100
100 – 350	More than 100

6.4.10 Reference should be made to Figure 6.3 within Appendix 6.4 for a graphical representation of earthworks, and construction dust buffer zones.

6.4.11 Receptors sensitive to potential dust impacts from trackout were identified from a desk-top study of the area up to 50m from the road network within 250m of the site access route. These are summarised in Table 6.7. The exact construction vehicle access routes were not available for the purpose of this assessment as they will depend on

sourcing of materials. This is likely to be decided by the contractor. However, it was assumed that construction traffic would access the Proposed Development via Whitworth Street West, to ensure a worst case trackout assessment is undertaken.

Table 6.7: Trackout Dust Sensitive Receptors	
Distance from Site Boundary (m)	**Approximate Number of Human Receptors**
Less than 20	More than 100
20 – 50	More than 100

6.4.12 Reference should be made to Figure 6.4 within Appendix 6.4 for a graphical representation of trackout dust buffer zones.

6.4.13 In accordance with the IAQM guidance the sensitvity of the identified receptors has been determined in the Assessment of Effects section below.

6.4.14 ***Limitations***

6.4.15 Uncertainty in Dust Risk Assessment predictions can be associated with a variety of factors, including:

- The soil type on site being potentially dusty, to present a worst case;
- The unpaved construction road length being greater than 100m;
- The accuracy of estimates of background pollutant concentrations produced by DEFRA; and
- Variations in meteorological conditions between the Site and observation station.

It is assumed that third party data is correct and accredited by the third parties internal processes and procedures.

6.5 Assessment of Effects

Assumptions

6.5.1 The following assumptions and limitations are relevant to this technical assessment:

- Assumption 1 – third party data used to inform the assessment is accurate;
- Assumption 2 – any embedded mitigation is installed and utilised effectively; and
- Assumption 3 – surrounding land use will remain constant between now and occupation.

Embedded Mitigation

6.5.2 In accordance with the methodology detailed in the IAQM guidance, the construction phase assessment assumes that no mitigation measures are applied, except those required by legislation. Any additional or secondary mitigation deemed necessary to avoid or minimise adverse effects arising from the construction of the Proposed Development is outlined in Section 6.6 'Mitigation & Monitoring'. Those measures are taken into account before reporting the residual (i.e. post-mitigation) construction effects of the Proposed Development.

Assessment of Effects

6.5.3 There is the potential for dust impacts as a result of the construction of the Proposed Development. These are assessed in the following Sections.

Step 1 – Screening

6.5.4 The desk-study detailed above identified a number of receptors with a high classification of sensitivity within 250m of the Site boundary, and within 50m of the anticipated trackout routes. As such, a detailed assessment of potential dust impacts was required, and summarised in the below sections.

Step 2A – Magnitude

6.5.5 The scale and nature of the works was determined to assess the magnitude of dust arising from each construction phase activity. The determination of magnitude was based upon the criteria detailed in Appendix 6.3 with the outcome of Step 2A is summarised below in Table 6.9.

Demolition

6.5.6 There is no scope for demolition in order to prepare the Site for construction. Subsequently, this aspect of the construction phase dust risk assessment has not been considered further.

Earthworks

6.5.7 The Proposed Development is estimated to cover an area of approximately 875m^2. The magnitude of potential dust emissions related to earthwork activities is therefore considered small.

Construction

6.5.8 The proposals comprise the construction of a 39 storey tall building. Given the scale of the Proposed Development the total building and infrastructure volume is greater than 75,000m^3. The magnitude of potential dust emissions related to construction activities is therefore considered large.

Trackout

6.5.9 Information on the exact number of HDV trips to be generated during the construction phase of the Proposed Development was not available however at periods during the construction phase, it is expected to be between 20-50 HDV outwards movements in any one day. The magnitude of potential dust emissions from trackout is therefore considered medium.

Summary of Dust Emission Magnitude

Table 6.9: Dust Emission Magnitude			
Magnitude of Activities			
Demolition	**Earthworks**	**Construction**	**Trackout**
N/A	Small	Large	Medium

Step 2B – Sensitivity

6.5.10 The next step (Step 2B) is to determine the sensitivity of the surrounding area, based on general principles such as amenity and aesthetics, as well as human exposure sensitivity.

Dust Soiling

6.5.11 As shown above, the desk top study indicated are approximately more than 100 sensitive receptors within 250m of the Site and more than 100 within 50m of the anticipated trackout routes.

6.5.12 Based on the assessment criteria detailed in Appendix 6.3, the sensitivity of the receiving environment to potential dust soiling impacts was considered to be high for all construction phase activities. This is because the Site is situated in a predominantly residential area and the people or property would reasonably be expected to be present here for extended periods of time.

Human Health

6.5.13 The annual mean concentration of PM_{10} is 14.37µg/m3 as detailed in Section 4. Based on the receptor counts provided above and Table 6.3.4 in Appendix 6.3, the area is

considered to be of low sensitivity for earthworks and construction and Medium for trackout phase activities.

6.5.14 The sensitivity of the receiving environment to specific potential dust impacts, based on the criteria detailed in Appendix 6.3 is summarised in Table 6.10.

Table 6.10: Sensitivity of the Surrounding Area

Potential Impact	Sensitivity of the Surrounding Area			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	N/A	High	High	High
Human Health	N/A	Low	Low	Medium

Step 2C – Risk

6.5.15 Both the magnitude and sensitivity factors are combined in Step 2C to determine the risk of dust impacts without the application of best practice mitigation measures.

6.5.16 It should be noted that the potential for impacts are highly dependent on the distance between the dust generating activity and receptor location. Risk was predicted based on a worst-case scenario of works being undertaken at the Site boundary closest to each sensitive area. Therefore, actual risk is likely to be lower than that predicted during the majority of the construction phase. A summary of the risk from each dust generating activity is provided in Table 6.11.

Table 6.11: Summary of Potential Unmitigated Dust Risks

Potential Impact	Risk			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	N/A	Low	High	Medium
Human Health	N/A	Negligible	Low	Low

6.6 Mitigation

6.6.1 The IAQM guidance provides a number of potential mitigation measures to reduce impacts during the construction phase. These measures have been adapted for the Proposed Development as summarised in Table 6.12.

Table 6.12: Fugitive Dust Mitigation Measures	
Issue	**Control Measure**
Communication	• Develop and implement a stakeholder communications plan that includes community engagement before work commences on site. • Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager. • Display the head or regional office contact information • Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk, and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site. The DMP may include monitoring of dust deposition, dust flux, realtime PM10 continuous monitoring and/or visual inspections
Site Managment	• Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken. • Make the complaints log available to the local authority when asked • Record any exceptional incidents that cause dust and/or air emissions, either on- or off- site, and the action taken to resolve the situation in the log book. • Hold regular liaison meetings with other high-risk construction sites within 250 m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/ deliveries which might be using the same strategic road network routes.
Monitoring	• Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100 m of site boundary, with cleaning to be provided if necessary. • Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked • Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions. • Agree dust deposition, dust flux, or real-time PM10 continuous monitoring locations with the Local Authority. Where possible commence baseline monitoring at least three months before work commences on site or, if it a large site, before work on a phase commences. Further guidance is provided by IAQM on monitoring during demolition, earthworks and construction.
Preparing and maintaining the site	• Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible. • Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.

Table 6.12: Fugitive Dust Mitigation Measures	
Issue	**Control Measure**
	• Fully enclose site or specific operations where there is a high potential for dust production and the site is actives for an extensive time period • Avoid site runoff of water or mud • Keep site fencing, barriers and scaffolding clean using wet methods. • Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below. • Cover, seed or fence stockpiles to prevent wind whipping.
Operating vehicle/machinery and sustainable travel	• Ensure all vehicles switch off engines when stationary - no idling vehicles. • Avoid the use of diesel- or petrol-powered powered generators and use mains electricity or battery powered equipment where practicable. • Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on un- surfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate) • Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials • Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing)
Operations	• Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems. • Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate. • Use enclosed chutes and conveyors and covered skips. • Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate. • Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.
Waste management	• Avoid bonfires and burning of waste materials
Earthworks and Construction	• Avoid scabbling (roughening of concrete surfaces) if possible • Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place. • Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.

Table 6.12: Fugitive Dust Mitigation Measures	
Issue	**Control Measure**
	• For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.
Trackout	• Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use. • Avoid dry sweeping of large areas. • Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport. • Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable. • Record all inspections of haul routes and any subsequent action in a site log book. • Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned. • Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable). • Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits. • Access gates to be located at least 10 m from receptors where possible.

6.7 Residual Effects

6.7.1 Assuming the relevant mitigation measures outlined in table 6.12 are implemented, the residual effect from all dust generating activities is predicted to be **negligible adverse** and therefore **not significant** in accordance with the IAQM guidance.

6.8 Assessment in combination with the Manchester Civic Quarter Heat Network

6.8.1 The ES produced in support of the nearby Manchester Civic Quarter Heat Network considered the previously proposed development upon the Site. The assessment concluded that impacts would be **not significant** from all pollutants considered. Critically background concentrations have reduced since the Manchester Civic Quarter Heat Network EIA was produced and are predicted to continue reducing, as such actual impacts are likely to be much lower than previously predicted. Cumulative effects in combination with the Manchester Civic Quarter Heat Network are therefore considered to be not significant.

6.9 Assessment of Cumulative Effects

6.9.1 There is potential for concurrent dust generation from the Proposed development in combination with schemes in the surrounding. However, providing each site correctly implements their recommended mitigation measures in addition to good inter-site communication, it is anticipated that cumulative effects would be not significant.

6.10 Summary

6.10.1 The Proposed Development has the potential to cause air quality impacts at sensitive locations. As such, an Air Quality ES Chapter was required to quantify the risk of dust impacts at nearby sensitive receptors.

6.10.2 During the construction phase of the Proposed Development there is the potential for air quality impacts as a result of fugitive dust emissions from the Site. These were assessed in accordance with the IAQM methodology. Assuming good practice dust control measures are implemented, the residual potential air quality effects from dust generated by construction, earthworks and trackout activities was predicted to be not significant.

6.10.3 Based on the assessment results, potential impacts upon air quality are not considered to be a constraint to planning consent and the Proposed Development is considered suitable for residential use.

Table TBC: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Mitigation Measures	Effect	Nature	Significance
		I	N	R	C	D	P	L				
Dust Soiling	Dust Impacts (Earthworks)			Negligible Adverse	Mt	Not significant		X	good practice dust control measures	Negligible Adverse	Mt	N/A
Human Health				Negligible Adverse	Mt	Not significant		X		Negligible Adverse	Mt	N/A
Dust Soiling	Dust Impacts (Construction)			Negligible Adverse	Mt	Not significant		X		Negligible Adverse	Mt	N/A
Human Health				Negligible Adverse	Mt	Not significant		X		Negligible Adverse	Mt	N/A
Dust Soiling	Dust Impacts (Trackout)			Negligible Adverse	Mt	Not significant		X		Negligible Adverse	Mt	N/A
Human Health				Negligible Adverse	Mt	Not significant		X		Negligible Adverse	Mt	N/A

Key:

Geographical Significance: I = International N = National R = Regional C = County D = District P = Parish L = Low to Local

Nature*:* St = Short Term Mt = Medium Term Lt = Long Term R = Reversible Ir = Irreversible

7 NOISE AND VIBRATION

7.1 Introduction

7.1.1 This Chapter has been prepared by Sandy Brown Acoustics and reports the likely significant effects of the Proposed Development in terms of noise and vibration in the context of the Site and surrounding area. In particular it considers the likely significant effects of noise and vibration from construction activities, and operational uses.

7.1.2 This Chapter (and its associated figures and appendices) is not intended to be read as a standalone assessment and reference should be made to the front end of this ES (Chapters 1 – 5), as well as the final chapter, 'Summary of Residual and Cumulative Effects' (Chapter 14).

7.2 Legislation, Policy and Guidance

7.2.1 The relevant legislation, policy and guidance are listed below, with details provided in Appendix 7.1.

Legislative Framework

7.2.2 The applicable legislative framework is summarised as follows:

- Building regulations *Approved Document O;*
- Control of Pollution Act 1974;
- The Health and Safety at Work Act 1974;
- The Environmental Protection Act 1990; and
- The Control of Noise at Work Regulations 2005.

Planning Policy

7.2.3 The applicable planning policy is summarised as follows:

- National Policy Statement for England 2010;
- National Planning Guidance 2019;
- National Planning Policy Framework, December 2024; and
- Manchester City Council *Planning and Noise Technical Guidance* 2022.

Guidance

7.2.4 The applicable guidance is summarised as follows:

- Institute of Environmental Management and Assessment (IEMA) Guidelines for Environmental Noise Impact Assessment, 2014;
- BS 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound;*
- BS 5228-1:2009+A1:2014 *Code of practice for noise and vibration control on construction and open sites – Noise;*
- BS 5228-2:2009+A1:2014 *Code of practice for noise and vibration control on construction and open sites – Vibration;*
- BS 6472-1:2008 *Guide to evaluation of human exposure to vibration in buildings. Vibration sources other than blasting;*
- BS 8233: 2014 *Sound insulation and noise reduction for buildings;*
- ANC *Acoustics, Ventilation and Overheating guide* January 2020 v1.1;
- IEMA Guidelines: *Environmental Assessment of Traffic and Movement* July 2023;
- ANC, Institute of Acoustics, Chartered Institute of Environmental Health *ProPG: Planning & noise – Professional Practice Guidance on Planning & Noise* May 2017; and
- Department of Transport *Calculation of Road Traffic Noise* 1988.

7.3 Assessment Methodology and Significance Criteria

Scope of the Assessment

7.3.1 The scope of this assessment has been agreed with MCC (see Scoping Opinion (Appendix 4.2)) and includes:

- Definition of noise and vibration baseline conditions;
- Identification of relevant noise and vibration receptors;
- Assessment of:
    - The potential for noise and vibration impacts throughout the construction works and resultant noise and vibration effects during operation;
    - The likely significant noise and vibration effects;
    - Mitigation or monitoring requirements to address any likely significant adverse noise and vibration effects; and
    - The potential for residual and cumulative noise and vibration effects.

Effects Not Considered within the Scope

7.3.2 Site suitability assessments have been undertaken as detailed in Appendix 7.3.

7.3.3 Ambient and maximum noise levels have been used to assess building envelope sound insulation requirements to achieve appropriate internal noise levels for residences following standards set in accordance with Manchester City Council guidelines.

7.3.4 Ground-borne vibration levels have been used to assess the degree to which the Proposed Development will be affected by tactile vibration and ground-borne noise.

7.3.5 Both building services plant noise egress and operational noise egress will have to meet limits as set out in MCC Planning and Noise Technical Guidance 2022. In meeting these limits noise egress levels will be controlled such that no significant effects are likely.

7.3.6 Operational road traffic – IEMA guidelines state that a 1 dB increase or less is considered a negligible effect. A 24% increase in the number of vehicles on the local network as a result of the development would be required to exceed this threshold, this increase is highly unlikely as it is understood the scheme will either include limited accessible parking spaces or be car-free. Either scenario is understood to have no significant effect on the surrounding road traffic.

7.3.7 It is noted that a nearby energy centre has been identified as a potential noise source within the planning consultation period. The energy centre is part of the existing baseline and would have been captured within the environmental noise survey which forms the basis of the site suitability assessment. Therefore, mitigation requirements will be embedded within the design of the Proposed Development.

Extent of the Study Area

7.3.8 The Site is on the southwest corner of the intersection between Whitworth Street West and Albion Street. The elevated mainline railway between Manchester Oxford Road station and Deansgate station forms the southern boundary of the site.

7.3.9 A mark-up of the Site (outlined in red) is provided in Figure 7 1



Figure 7.1 Mark-up of the site in relation to the elevated railway (Image courtesy of Google Earth Pro)

Consultation Undertaken to Date

7.3.10 A Scoping Opinion Request was submitted to MCC in June 2025 (Appendix 4.1). A Scoping Opinion from MCC was adopted on 23rd July 2025 (Appendix 4.2). Relevant responses have been implemented within the assessment.

Assessment Methodology

7.3.11 The method of baseline data collection and assessment has been agreed with the local planning authority as part of the EIA scoping opinion (Appendix 4.2) and is in accordance with current guidance and industry best practice. Full details are provided in Appendix 7.3.

Construction programme and phasing

7.3.12 The construction programme is anticipated to be undertaken over the course of approximately 34 months. The noise and vibration assessment has been undertaken in line with the details and on-site works as set out in [Chapter 3 (Construction Methodology) and Appendix 7.2 (summary of construction plant assumptions).

7.3.13 While the construction programme is not divided into distinct phases, two main time slices have been identified, which have been assessed. These represent activity peaks throughout the programme and are summarised in Table 7.1

Table 7.1: Construction time slices	
Date	**Summary of works**
Week 1 to Week 21	Substructure and piling works
Week 49 to Week 101	Superstructure works (main frame and envelope)

Works noise

7.3.14 A 3D noise model has been created to determine the predicted noise level associated with the construction works at the surrounding noise sensitive receptors.

7.3.15 The predicted noise levels have been presented at each of the noise sensitive receptors and these levels have been compared with the criteria to determine the magnitude of impact. This has been referenced against the sensitivity of each receptor (see section '*Receptors and receptor sensitivity*' of this ES chapter) to determine the scale of effect.

Traffic noise

7.3.16 The assessment of construction traffic effects is based on the Department of Transport Office Calculation of Roat Traffic Noise 1988 (CRTN) and the Design Manual for Roads and Bridges (DMRB) using traffic data generated by the Applicant's Transport Consultant.

7.3.17 The provided construction traffic figures (formatted as AADT traffic flows (24 hours) have been used to assess the likely change in ambient noise levels at receptors external to the Site, when compared to the baseline traffic flows.

7.3.18 These have been modelled as 18 hour AAWT traffic flows due to calculation limitation, however this is not expected to have a significant impact on the assessment results.

Works vibration

7.3.19 The assessment of construction vibration impacts considers absolute levels experienced within adjacent buildings in general accordance with BS 5228-2.

7.3.20 Vibration levels have been predicted at sensitive receptors in the area surrounding the Site using historical data of construction activities and the methodology provided in BS 5228-2.

7.3.21 Predictions of vibration levels at the receptor locations have been made in terms of the Peak Particle Velocity (PPV) experienced within the working day (for the construction site) during piling works.

7.3.22 The assessment of vibration generated by construction activities has concentrated on perceptible levels of vibration levels, as per the guidance in BS 5228-2 on potential annoyance thresholds. In addition to the human effects, BS 5228-2 also provides vibration thresholds for cosmetic damage within buildings with reference to BS 7385-2. Levels of vibration required for cosmetic damage are far higher than those that would result in an acceptable impact in terms of annoyance. As such, the assessments have only concentrated on the potential for annoyance, which will inherently also provide an assessment in terms of the potential to cause cosmetic damage within buildings, as vibration thresholds for annoyance are much lower than for cosmetic damage. A specific focus on an assessment for cosmetic damage is therefore not required.

Receptors and receptor sensitivity

7.3.23 Table 7.2 summarises the sensitivity of various receptors, including use types relevant to the Proposed Development, and other uses for context, which is based on a mixture of professional experience and industry standards.

Table 7.2: Receptor sensitivity

Sensitivity of receptor	Description
High	Residential properties, hotels
Medium	Offices
Low	Retail and Drinking establishments

7.3.24 Although there are other noise sensitive receptors located at greater distance, it is considered that controlling noise egress at the closest properties will result in acceptable noise levels at all other noise sensitive receptors.

Magnitude of impact

Construction noise and vibration

7.3.25 BS 5228-1 and BS 5228-2 provide practical information on construction noise and vibration reduction measures and promotes a 'Best Practicable Means' approach to control noise and vibration. The calculation method provided in BS 5228-1 is based on

the number and types of equipment operating, their associated Sound Power Level ('SWL'), and the distance to receptors, together with the effects of any screening.

7.3.26 Magnitude of impact for construction plant noise are based on the 'ABC' methodology set out in BS 5228-1, which aligns thresholds of significant construction noise with respect to the existing ambient noise levels. These thresholds are presented in Table 7.3. These levels are external noise levels measured at the facade of the building.

Table 7.3: Construction works noise magnitude of impact	
Magnitude of impact	**Daytime construction noise levels**
Very low	≤ $L_{Aeq,10hr}$ 60 dB
Low	$L_{Aeq,10hr}$ 61–65 dB
Medium	$L_{Aeq,10hr}$ 66–70 dB
High	> $L_{Aeq,10hr}$ 70 dB

7.3.27 It is noted that these levels are based on the ambient noise levels at each receptor, with each receptor subject to ambient noise levels of $L_{Aeq,12hr}$ 65 dB or equivalent. The 'ABC' method in BS 5228-1 states that significant effects at residential properties (High sensitivity) would be expected once the ambient noise level exceeds $L_{Aeq,10hr}$ 65 dB. Significant adverse effects would therefore occur at residential properties when a Medium or High magnitude of impact is predicted.

Construction traffic

7.3.28 Significance criteria for determining the traffic impacts, construction are presented in Table 7.4. The criteria are based on the Institute of Acoustics (IOA) / Institute of Environmental Management and Assessment (IEMA) *Guidelines for Noise impact assessment.*

Table 7.4: Magnitude of impact – Road traffic noise		
Magnitude of impact	***Increase in noise level (dBA)***	***Description***
Very low	< 1.0	Noise increase is unlikely to be discernible
Low	1.0–2.9	A slight increase in noise levels may be perceived in affected buildings and outdoor recreational areas

Table 7.4: Magnitude of impact – Road traffic noise		
Medium	3.0–4.9	Increase in noise levels is likely to be noticeable in affected buildings and outdoor recreational areas
High	>5.0	Increase in noise levels is likely to be clearly perceptible and could have a significant effect on the continued use of the building.

Vibration

7.3.29 BS 5228-2 provides guidance on the perception of vibration within occupied buildings. This provides a simple method of assessing annoyance associated with vibration.

7.3.30 Table 7.5 details Peak Particle Velocity ('PPV') levels and their potential effect on humans and provides a semantic scale for description of construction vibration impacts on human receptors.

Table 7.5: Peak Particle Velocity (PPV) Levels – Impact on Humans (annoyance)		
Magnitude of impact	***Peak Particle Velocity Level***	***Description***
Very low	< 0.14 mm/s	Vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction. As lower frequencies people are less sensitive to vibration
Low	0.14 – 1.0 mm/s	Vibration might be just perceptible in residential environments
Medium	1.0 – 10.0 mm/s	It is likely that vibration of this level in residential environments will cause complaint but can be tolerated if prior warning and explanation has been given to residents
High	> 10.0 mm/s	Vibration is likely to be intolerable for more than a very brief exposure to this level

Site suitability

7.3.31 Site suitability has been assessed in line with the requirements and documentation referenced in Appendix 7.3 (noise and vibration planning report). This report sets out the criteria.

Significance Criteria

7.3.32 Table 7.6 relates the scale of effects in relation to the sensitivity of the receptor and the magnitude of the impact, based on the IOA / IEMA 'Guidelines for Noise Impact Assessment'

Table 7.6: Scale of effect

Sensitivity of receptor	***Magnitude of impact***			
	High	***Medium***	***Low***	***Very low***
High	Major	Moderate	Minor	Negligible
Medium	Moderate	Minor	Negligible	Negligible
Low	Minor	Negligible	Negligible	Negligible

7.3.33 The scale of effects assessment has been based on the IOA / IEMA Guidelines for Noise Impact Assessment and Planning Practice Guidance (PPG).

7.3.34 The scale of effects is based on the magnitude/scale of predicted change in noise level exposure and the sensitivity of the receptor being assessed.

7.3.35 The assessments of noise and vibration have been undertaken to the requirements of Government noise policy as outlined in the Noise Policy Statement for England (NPSE) and Planning Practice Guidance – Noise7 and relevant British Standards. This requires predicted noise levels associated with the Proposed Development to be considered against the Lowest Observed Adverse Effect Level (LOAEL) and Significant Observed Adverse Effect Level (SOAEL) criteria. The LOAEL is the level at which adverse effects on health and quality of life can be detected; the SOAEL is the level above which significant adverse effects on health and quality of life occur.

Scale and Nature of Effect	Description of Effect	Exceeds SOAL?	Exceeds LOAL?	Significance
Major (adverse)	Disruptive, causes a material change in behaviour and/or attitude. Potential for sleep disturbance. Quality of life diminished due to change in character of the area.	Yes	Yes	Significant
Moderate (adverse)	Intrusive, noise can be heard and causes small changes in behaviour and/or attitude. Potential for non-awakening sleep disturbance. Affects the character of an area such that	Yes	Yes	Significant

Scale and Nature of Effect	Description of Effect	Exceeds SOAL?	Exceeds LOAL?	Significance
	there is a perceived change in the quality of life.			
Minor (adverse)	Non-intrusive, can be heard but does not cause any change in behaviour or attitude. Can slightly affect the character of an area but not such that there is a perceived change in the quality of life.	No	Yes	Not significant
Negligible	No discernible effect on the receptor	No	No	Not significant

7.3.36 Effects that are deemed to be significant for the purposes of this assessment are those that are described as being of a moderate or major adverse. All noise and vibration effects are considered either adverse or neutral. Whilst beneficial noise effects can occur, this assumes an improvement from the baseline environment and in practice is unlikely when a new development is being introduced to the local environment.

7.3.37 Effects are also given descriptors to confirm their nature (i.e. direct or indirect), temporal scale (short-, medium- or long-term), permanence (temporary or permanent), type (adverse or beneficial) and/or spatial scale (site, local, regional, national).

7.3.38 For the purposes of the ES, effects that are generated as a result of the construction works (ie those that last for this set period of time) are classed as 'temporary'. Effects that result from the completed and operational proposed development are classed as 'permanent' or 'long-term' effects.

7.3.39 Noise and vibration effects are generally considered to be direct effects (i.e. resulting without any intervening factors).

7.4 Baseline Conditions

Existing Baseline

7.4.1 An environmental noise survey was conducted between 13 January 2023 and 17 January 2023. The ground-borne vibration survey was undertaken on 6 March 2025. These were undertaken to establish the baseline conditions around the site and at key receptor locations surrounding the site (see 'Receptors and Receptor Sensitivity' section of this ES chapter). Baseline conditions are not expected to have changed materially in the year since these surveys were undertaken.

7.4.2 A report detailing the methodology, results and conclusions from this survey is provided in Appendix 7.3 (noise and vibration planning report).

7.4.3 No perceptible vibration was noted at the measurement locations, with the exception of occasional freight train passes.

7.4.4 The dominant noise sources were noted as road traffic from Whitworth Street West, and passenger/freight trains passing on the adjacent railway.

7.4.5 Noise surveys have been undertaken in line with the guidance contained in BS 7445:2003 and BS 4142+A1:2014 .

7.4.6 A summary of the environmental noise survey results is provided in Table 7.7.

Table 7.7: Summary of the long-environmental noise survey results

Time period	***Ambient noise level, $L_{Aeq,15min}$***	***Typical maximum noise level, L_{AFmax} (dB)***	***Representative background noise level, $L_{A90,15min}$***
Daytime (07:00-23:00)	64	83	54
Night-time (23:00-07:00)	63	79	47

Future Baseline

7.4.7 The EIA Regulations require that the likely evolution of baseline is considered in the event that the Proposed Development were not to come forward. In other words, how the existing baseline conditions, such as background noise levels, may naturally evolve into the future, taking into account aspects such as the construction of other development schemes in the surrounding area and if any relevant designations were to come forward in the absence of the proposed development.

7.4.8 The noise climate at the Site is driven by road traffic on Whitworth Street, and rail noise from the adjacent railway. As such any changes to the future baseline scenarios are dependent on railway frequencies and timetables, and traffic behaviour.

7.4.9 No substantial changes would be expected to conditions on or around the Site in the future baseline scenario. In summary the future baseline, without the development in place, would be similar to that set out in the existing baseline section above.

Sensitive Receptors

7.4.10 A number of sensitive receptors have been identified following the baseline review shown on Figure 7.1.

Table 7.8: Sensitive Receptors

Description	Location (Figure 7.1)	Distance from Proposed Development (m)	Sensitivity
Residential receptors (Viadux 1)	1	85	High
Future development (Viadux 2)	2	85	High
Residential premises (Axis Apartments)	3	40	High
Offices/commercial premises (Army Careers)	4	60	Medium
Residential premises (Hacienda)	5	60	High
Drinking establishment (Lock 91)	6	100	Low
Drinking establishments (Deansgate Locks)	7	35	Low
Drinking establishment (Rebellion)	8	85	Low
Office/commercial (2 Whitworth Street)	9	45	Medium
Office/commercial (4 Whitworth Street)	10	10	Medium
Drinking establishment (City Road)	11	5	Low
Office/commercial premises (88 Hewitt Street)	12	30	Medium
Residential premises (Ropeworks Block A)	13	20	High
Residential premises (Ropeworks Block B)	14	20	High
Drinking establishment (Junkyard Golf)	15	50	Low
Hotel (INNSiDE by Melia)	16	60	High

Limitations

7.4.11 The environmental noise survey was carried out in 2023. No substantially large changes are anticipated to the baseline conditions between 2023 and the proposed construction programme. As such, there is not expected to be significant change in daytime and 24-hour ambient noise levels at the Site. A future noise survey would not be expected to be representative of night-club use, as two of the commercial units are not currently operating as nightclubs and would not be considered representative of a potential future baseline.

7.5 Assessment of Effects

Assumptions

Construction

7.5.1 The following assumptions are relevant to this technical assessment.

7.5.2 It is assumed that trade contracts will comply with all legislation relevant to the control of noise and vibration from construction works including:

- The COPA 1974 with particular reference to part III,
- The Environmental Protection Act 1990,
- The Control of Noise at Work Regulations 2005, and
- The Health and Safety at Work Act 1974,

7.5.3 The emphasis of the construction assessment focuses on the noisiest phases of work, which are likely to arise from the use of plant such as excavators, crushers and piling rigs throughout the substructure and superstructure works.

7.5.4 On average, it is anticipated that there will be space for 4 vehicles on site at any given time.

7.5.5 For the purposes of this assessment, predictions have been generally made for the construction plant located at ground level to represent the worst case scenario.

Embedded Mitigation

Construction

7.5.6 In assessing the likely construction impacts, the following mitigation has been assumed as being 'inherent' and is therefore considered within the pre-mitigation assessment:

- The adoption of a minimum 2.4m high perimeter hoarding around the Site;
- Construction plant that is compliant with the sound and vibration levels published within BS 5228-1:2009+A1:2014;
- Stational construction plant, such as concrete crushers, will be adequately screened;
- The piling rigs will be positioned at opposing sides of the site when used; and

- The types of plant/equipment and operating on/off times as set out in Appendix 7.2.

7.5.7 Any additional or secondary mitigation deemed necessary to avoid or minimise adverse effects arising from the construction of the Proposed Development is outlined in Section 7.6 'Mitigation & Monitoring'. Those measures are taken into account before reporting the residual (i.e. post-mitigation) construction effects of the Proposed Development.

Assessment of Effects

Construction

Construction – on site works (noise)

7.5.8 Table 7.9 presents a summary of the results and likely effects for each receptor.

7.5.9 Screenshots showing the predicted noise propagation from construction activities are shown in Figure 7.2 for the substructure time slice and Figure 7.3 for the superstructure time slice.

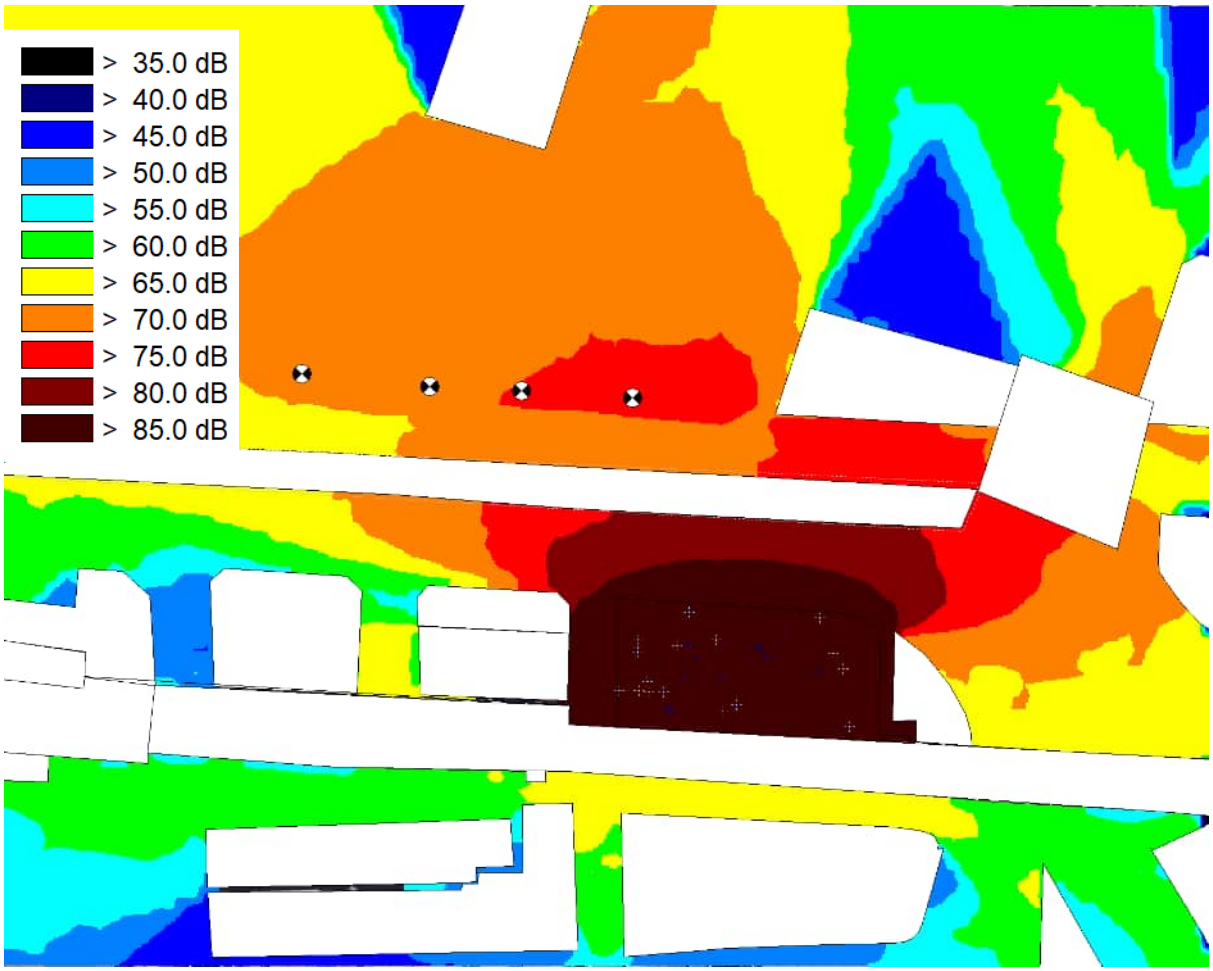


Figure 7.2 Predicted noise propagation grid (substructure)

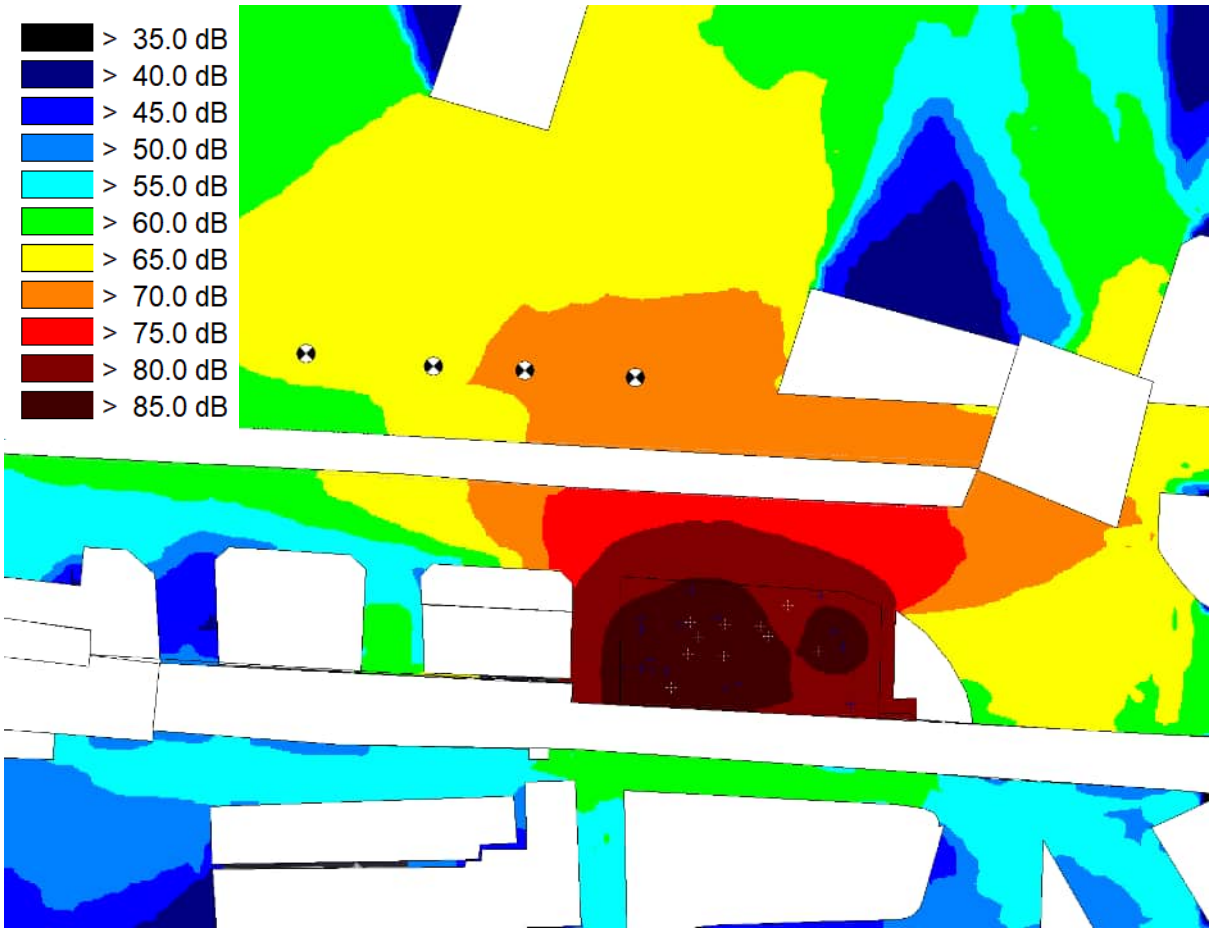


Figure 7.3 Predicted noise propagation grid (superstructure)

Table 7.9: Predicted construction noise levels				
Ref	**Receptor**	**Sensitivity**	**Predicted noise level, $L_{Aeq,12hr}$ (dB)**	
			Substructure	**Superstructure**
1	Residential receptors (Viadux 1)	High	76	71
2	Future development (Viadux 2)	High	77	72
3	Residential premises (Axis Apartments	High	83	77
4	Offices/commercial premises (Army Careers)	Medium	77	72
5	Residential premises (Hacienda)	High	76	72
6	Drinking establishment (Lock 91)	Low	73	66
7	Drinking establishments (Deansgate Locks)	Low	75	72
8	Drinking establishment (Rebellion)	Low	64	60
9	Office/commercial (2 Whitworth Street)	Medium	79	75

Table 7.9: Predicted construction noise levels				
10	Office/commercial (4 Whitworth Street)	Medium	85	82
11	Drinking establishment (City Road)	Low	90	84
12	Office/commercial premises (88 Hewitt Road)	Medium	63	57
13	Residential premises (Ropeworks Block A)	High	79	74
14	Residential premises (Ropeworks Block B)	High	84	77
15	Drinking establishment (Junkyard Golf)	Low	73	69
16	Hotel (INNSiDE by Melia)	High	76	71

Table 7.10: Predicted construction magnitude of impacts			
Receptor	**Sensitivity**	**Classification of magnitude of impact**	
		Substructure	**Superstructure**
Residential receptors (Viadux 1)	High	High	High
Future development (Viadux 2)	High	High	High
Residential premises (Axis Apartments	High	High	High
Offices/commercial premises (Army Careers)	Medium	High	High
Residential premises (Hacienda)	High	High	High
Drinking establishment (Lock 91)	Low	High	Medium
Drinking establishments (Deansgate Locks)	Low	High	High
Drinking establishment (Rebellion)	Low	Low	Very Low
Office/commercial (2 Whitworth Street)	Medium	High	High
Office/commercial (4 Whitworth Street)	Medium	High	High
Drinking establishment (City Road)	Low	High	High
Office/commercial premises (88 Hewitt Road)	Medium	Low	Very Low
Residential premises (Ropeworks Block A)	High	High	High
Residential premises (Ropeworks Block B)	High	High	High
Drinking establishment (Junkyard Golf)	Low	High	Medium
Hotel (INNSiDE by Melia)	High	High	High

7.5.10 Based on the magnitude of impacts and sensitivity receptors presented in Table 7.10, the level of effect on each receptor has been identified using the level of effect matrix

presented in Table 7.11, as outlined in Table 7.6. Where significant effects are predicted (Moderate or Major Adverse), these cells are shaded in grey.

Table 7.11: Predicted construction noise scale and nature of effects

Receptor	**Scale of effect**	
	Substructure	**Superstructure**
Residential receptors (Viadux 1)	Major Adverse	Major Adverse
Future development (Viadux 2)	Major Adverse	Major Adverse
Residential premises (Axis Apartments	Major Adverse	Major Adverse
Offices/commercial premises (Army Careers)	Moderate Adverse	Moderate Adverse
Residential premises (Hacienda)	Major Adverse	Major Adverse
Drinking establishment (Lock 91)	Minor Adverse	Negligible Adverse
Drinking establishments (Deansgate Locks)	Minor Adverse	Minor Adverse
Drinking establishment (Rebellion)	Negligible Adverse	Negligible Adverse
Office/commercial (2 Whitworth Street)	Moderate Adverse	Moderate Adverse
Office/commercial (4 Whitworth Street)	Moderate Adverse	Moderate Adverse
Drinking establishment (City Road)	Minor Adverse	Minor Adverse
Office/commercial premises (88 Hewitt Road)	Negligible Adverse	Negligible Adverse
Residential premises (Ropeworks Block A)	Major Adverse	Major Adverse
Residential premises (Ropeworks Block B)	Major Adverse	Major Adverse
Drinking establishment (Junkyard Golf)	Minor Adverse	Negligible Adverse
Hotel (INNSiDE by Melia)	Major Adverse	Major Adverse

7.5.11 The assessment indicates that adverse effects will be limited in their geographical extent. Significant effects are anticipated to occur at several receptors which are local, temporary and direct.

Construction traffic

7.5.12 The construction programme and provided traffic flows show a peak of 30 vehicle movements per day entering and leaving the Site during the construction works, i.e. a total of 15 trips either entering or leaving the Site. The traffic flows are provided for reference in Appendix 7.4. This corresponds to a 0.3% increase in traffic flow to Whitworth Street West compared to the baseline condition. Based on the calculation method outlined in the Department of Transport Office Calculation of Roat Traffic Noise 1988 (CRTN), the predicted increase to A-weighted 16 hour noise levels are less

than 1.0 dB. On this basis the magnitude of impact experienced at all receptors will be Very Low and so the potential effect to all receptors is expected to be negligible adverse (not significant).

Vibration

7.5.13 Annex C and D of BS 5228-2:2009 provide summaries of case histories of vibration measured during piling operations. Data from previous piling works carried out in London indicate that peak particle velocities of between 0.05 to 0.23 mm/s at 20 m from a site have been recorded during auger boring of 1.05m diameter piles, with soil conditions described as 'fill / dense ballast / clay'. During the removal of pile casings PPVs (at 25 Hz) of between 0.8 to 1.5 mm/s at 30 m and 25 m from piling locations have been recorded. As a worst case, an assessment using the later dataset has been presented.

7.5.14 The historic data indicates a medium magnitude of impact rating for construction vibration to the buildings immediately surrounding the Proposed Development, i.e. any within a 25 m radius of the piling positions.

7.5.15 The historical data does not extend to distances that are representative of receptors outside the 25 m zone. However, it is predicted that the vibration levels will attenuate with distance so that substantially lower levels are experienced further away.

7.5.16 Taking into account the receptors identified within the surrounding area, the following assessment is made based on the receptor's distance from the Proposed Development's anticipated piling locations and site boundary.

Table 7.12: Predicted construction vibration level of effects

Receptor	Distance from piling works	Receptor sensitivity	Predicted vibration levels	Magnitude of impact	Level of effect
Residential receptors (Viadux 1)	85	High	0.6 mm/s	Low	Minor Adverse
Future development (Viadux 2)	85	High	0.6 mm/s	Low	Minor Adverse
Residential premises (Axis Apartments	40	High	0.9 mm/s	Low	Minor Adverse

Table 7.12: Predicted construction vibration level of effects					
Offices/commercial premises (Army Careers)	60	Medium	0.7 mm/s	Low	Negligible Adverse
Residential premises (Hacienda)	60	High	0.7 mm/s	Low	Minor Adverse
Drinking establishment (Lock 91)	100	Low	0.6 mm/s	Low	Negligible Adverse
Drinking establishments (Deansgate Locks)	35	Low	1.0 mm/s	Medium	Negligible Adverse
Drinking establishment (Rebellion)	85	Low	0.6 mm/s	Low	Negligible Adverse
Office/commercial (2 Whitworth Street)	45	Medium	0.9 mm/s	Low	Negligible Adverse
Office/commercial (4 Whitworth Street)	10	Medium	1.8 mm/s	Medium	Minor Adverse
Drinking establishment (City Road)	5	Low	2.6 mm/s	Medium	Negligible Adverse
Office/commercial premises (88 Hewitt Road)	30	Medium	1.0 mm/s	Medium	Minor Adverse
Residential premises (Ropeworks Block A)	20	High	1.3 mm/s	Medium	Moderate Adverse
Residential premises (Ropeworks Block B)	20	High	1.3 mm/s	Medium	Moderate Adverse
Drinking establishment (Junkyard Golf)	50	Low	0.8 mm/s	Low	Negligible Adverse
Hotel (INNSiDE by Melia)	60	High	0.7 mm/s	Low	Minor Adverse

7.5.17 The levels predicted are substantially lower than those required to cause damage to constructions.

7.5.18 Significant (Moderate Adverse effects) are predicted at the following receptors:

- Residential premises (Ropeworks Block A)
- Residential premises (Ropeworks Block B)

7.6 Site suitability

7.6.1 Site suitability assessments have been undertaken as detailed in Appendix 7.3. These assessments have been undertaken to ensure noise does not result in adverse effects to the introduced receptors, primarily noise ingress/transfer. These assessments have been undertaken based on the criteria provided in Appendix 7.3.

7.6.2 An initial assessment has been carried out to determine required acoustic performances for the facades and provide guidance on the ventilation strategy. The required overall facade sound insulation performances range from R'_w+C_{tr} 24 dB to R'_w+C_{tr} 40 dB, with specific low frequency sound insulation performance requirements for spaces affected by entertainment noise ingress. These requirements will be integrated within the design.

7.6.3 Open windows to bedrooms at night can likely not be relied upon as a method to remove excess heat, and the 'dynamic thermal modelling method' will need to be used to demonstrate compliance with the requirements of ADO2021.

7.6.4 For tactile vibration from the nearby railway, the predicted equivalent VDVs, during the day and night periods are lower than the thresholds of the BS 6472 'low probability of adverse comment' categories.

7.6.5 Of the train passes captured during the survey period, all the predicted ground-borne noise levels were lower than criteria proposed by MCC. The predicted values are for worst-case lower-level student accommodation. Noise levels from this source are expected to be lower at upper floor levels.

7.6.6 Building services plant will be designed so that the cumulative level does not exceed 5 dB below the background noise level at all noise sensitive receptors. This will be integrated within the design and secured through a suitably worded Planning Condition attached to the planning consent.

7.6.7 Climate change has the potential to result in an increase in heat during the hotter months of the year and reduce temperatures during the colder months of the year. There is therefore potential for an increased demand on heating and cooling systems, both within the Proposed Development itself and for sensitive receptors.

7.6.8 Increased temperatures during the warmer times of the year (i.e. summer) will potentially result in future residents of the Proposed Development having to rely on comfort cooling for longer periods of time. The detailed design of the residential buildings will consider the implications of overheating.

7.6.9 Ventilation and cooling requirements during the summer, and demand for heating during the cooler months, may require additional or upgraded equipment such as mechanical cooling which, if not appropriately mitigated, would result in greater noise impacts on the surrounding residential receptors. In this scenario, any building services plant will be designed to the same measures that have been outlined in this section and therefore the impacts and effects described within this section will remain the same.

7.7 Mitigation and Monitoring

Construction Mitigation

7.7.1 In order to mitigate the likely significant effects associated with the construction of the Proposed Development, the following secondary mitigation measures are proposed beyond the primary mitigation that has already been considered in the assessment:

- Wherever practicable, the following core working hours shall be maintained:
    - 08:00 to 18:00 weekdays
    - 08:00 to 13:00 Saturdays; and
    - No working on Sunday or Bank Holidays
- Any essential work outside these hours will be subject to prior agreement and / or reasonable notice to Manchester City Council, who may impose certain restrictions with agreement with local stakeholders. Noisy works are taken to be heavy percussive, vibration or severe noise generating work.
- Section 72 of the Control of Pollution Act 1974 describes Best Practicable Means (BPM) as the most feasible measures to be implemented during the design, installation / construction and maintenance of plant, machinery or buildings, with a view to reduce the effect of noise and vibration from these on the worst affected nearby sensitive premises.

7.7.2 Additionally, the following additional mitigation measures shall be adopted in line with Best Practice Measures (BPM):

- Plant shall be properly maintained and operated in accordance with manufacturer's recommendations. Electrically powered plant will be preferred, where practicable, to mechanically powered alternatives;
- When appropriate all mechanically powered plant will be fitted with suitable silencers. Items of plant on site operating intermittently are to be shut down in the intervening periods between use;
- Where feasible, all stationary plant items will be located so that the noise effect at all occupied residential and commercial properties is minimised and, if practicable, every item of static plant when in operation is to be sound attenuated using methods based on the guidance and advice given in BS 5228-1;
- Trade contractors would at all times apply the principle of BPM as defined in Section 72 of the COPA and carry out all work in such a manner as to reduce any disturbance from noise and vibration to a minimum;
- The timing of building operations will be critical in avoiding noise and vibration nuisance to surrounding areas and premises. The contractor will identify particularly sensitive periods in the works so that the potential problems can be minimised and that early and good public relations with the adjacent tenants and occupants of buildings are maintained; and
- Vibration levels will be monitored during key stages of the construction programme. Specific action trigger levels defined and agreed with MCC in advance of works so that significant vibration effects are reduced where practical.
- Where practicable, vehicles will be fitted with effective exhaust silencers and be maintained in good working order;
- Vehicle arrival and departures will be staggered to prevent convoys of vehicles arriving simultaneously, resulting in idling on site;
- Management of vehicle parking will be in place to prevent vehicles idling in the vicinity of noise sensitive receivers; and

- On average, over the course of the different site arrangements throughout the different stages of the construction works, it is anticipated there will be space for 4 vehicles on site at any given time.

7.7.3 Mitigation shall be secured through a detailed CEMP submitted to the local planning authority by the developer. This shall set out details of noise control and management procedures that shall be adopted to minimise noise from all construction activities.

Construction Monitoring

7.7.4 No construction monitoring is proposed.

7.8 Residual Effects

7.8.1 The receptors that are predicted to result in a major or moderate adverse (significant) effect are:

- Residential receptors (Viadux 1) – Construction noise from substructure and superstructure works, Major Adverse
- Future development (Viadux 2) – Construction noise from substructure and superstructure works, Major Adverse
- Residential premises (Axis Apartments) – Construction noise from substructure and superstructure works, Major Adverse
- Offices/commercial premises (Army Careers) – Construction noise from substructure and superstructure works, Moderate Adverse
- Residential premises (Hacienda) – Construction noise from substructure and superstructure works, Major Adverse
- Office/commercial (2 Whitworth Street) – Construction noise from substructure and superstructure works, Moderate Adverse
- Office/commercial (4 Whitworth Street) – Construction noise from substructure and superstructure works, Moderate Adverse
- Residential premises (Ropeworks Block A) – Construction noise from substructure and superstructure works, Major Adverse and construction vibration form piling, Moderate Adverse

- Residential premises (Ropeworks Block B) – Construction noise from substructure and superstructure works, Major Adverse and construction vibration form piling, Moderate Adverse
- Hotel (INNSiDE by Melia) – Construction noise from substructure and superstructure works, Major Adverse

7.8.2 Construction noise is anticipated to have a temporary, medium-term, direct, up to Major Adverse effect (significant) on nearby receptors.

7.8.3 As discussed above, the detailed CEMP will set out details of noise control and management procedures that shall be adopted to minimise noise from all construction activities. The effectiveness of BPM within the detailed construction planning will depend on the specific planning and implementation of mitigation measures.

7.8.4 Until the detailed CEMP, piling strategy and detailed construction planning are identified, it is considered that the effects would remain as reported above as a conservative approach. Likely residual effects would remain as temporary, medium-term, direct, up to major adverse effect (significant).

7.8.5 Construction vibration is anticipated to have a temporary, medium-term, direct, up to Moderate Adverse effect (not significant) on the neighbourhood.

7.8.6 As discussed above, the detailed CEMP will set out details of vibration control and management procedures that shall be adopted to minimise vibration from all construction activities. The effectiveness of BPM within the detailed construction planning will depend on the specific planning and implementation of mitigation measures.

7.8.7 Until the detailed CEMP, piling strategy and detailed construction planning are identified, it is considered that the effects would remain as reported above as a conservative approach. Likely residual effects would remain as temporary, medium-term, direct, up to minor adverse effect (not significant) on the neighbourhood.

7.8.8 A summary of the likely significant residual effects of the Proposed Development on the receptors considered within this Chapter are summarised in Table 7.14.

7.9 Assessment of Cumulative Effects

Intra-cumulative effects

7.9.1 No potential intra-cumulative effects of relevance have been identified.

Inter-cumulative effects

7.9.2 Consideration has also been given to the potential for likely significant inter-development cumulative effects to arise as a result of the Proposed Development alongside other identified cumulative schemes during both the construction and operational phases.

7.9.3 A review of the schemes included in Table 4.2 of Chapter 4 has been undertaken. The cumulative schemes that are considered relevant to this technical assessment are as follows:

- 141773/FO/2024 2-4 Whitworth Street West, Manchester, M1 5WY.
- 139715/FO/2024 Viadux Phase 2 Land Bounded By Albion Street, Great Bridgewater Street, And Trafford Street, Manchester, M60 2AT.
- 133172/FO/2022 Land Bounded By Trumpet Street, Albion Street & Great Bridgewater Street, Manchester, M1 5LE.
- 133176/FO/2022 50-56 Great Bridgewater Street, Manchester, M1 5LE.
- 125804/FO/2019 325 - 327 Deansgate, Manchester, M3 4LQ
- 135565/FO/2022 Land Bounded By Deansgate, Great Bridgewater Street, Watson Street & Peter Street Manchester M3 4EN.
- 135419/FO/2022 One Medlock Street, Manchester, M15 5FJ.
- 138805/FO/2023 2 Gloucester Street, Manchester, M1 5QR.

7.9.4 All other schemes identified in Table 4.2 of Chapter 4 are not considered relevant to this assessment due to a high degree of distance or screening to the Proposed Development. For example, any noise and vibration levels from construction beyond a distance of 400 m are not expected to result in a cumulative effect which could be considered significant during the construction of the Proposed Development due to noise and vibration dispersion.

7.9.5 The assessment of inter-development cumulative effects takes into consideration the residual effects of the Proposed Development during the construction phase along

with any primary and secondary mitigation measures proposed for the cumulative schemes (e.g. that all demolition and construction works are being undertaken in accordance with a CEMP).

7.9.6 Where the Proposed Development was assessed to result in adverse residual effects of 'negligible' significance on the identified receptors it has been assumed that there is no potential for significant inter-development cumulative effects to arise and these are not considered in the sections below.

Construction Phase Cumulative Effects

7.9.7 Construction phasing and programme of proposed works are available for the following developments:

- 135565/FO/2022 Land Bounded By Deansgate, Great Bridgewater Street, Watson Street & Peter Street Manchester M3 4EN.
- 133176/FO/2022 50-56 Great Bridgewater Street, Manchester, M1 5LE. (appears to be outdated)
- 133172/FO/2022 Land Bounded By Trumpet Street, Albion Street & Great Bridgewater Street, Manchester, M1 5LE. (appears to be outdated)

7.9.8 For all other relevant cumulative schemes, proposed construction programmes are not publicly available.

7.9.9 It is noted that 2025 135565/FO/2022 includes allowance for construction noise and vibration monitoring.

7.9.10 A worst-case assessment has assumed that the construction phases of the schemes listed above overlap with the Proposed development.

7.9.11 All receptors identified within Table 7.8 fall within 400 m of the Proposed Development.

7.9.12 An assessment of potential cumulative effects has been undertaken, which assumes that contributions from nearby construction sites will be similar in impact to that of the Proposed Development. Therefore, the predicted noise and vibration levels at nearby noise sensitive receptors would be expected to increase where impacted by one or more construction sites. Where Major Adverse effects have been identified due to construction vibration and noise, the expected effects remain Major Adverse (significant). Due to estimated noise egress levels increasing, the category thresholds

are exceeded at two nearby noise sensitive receptors. It is expected that levels of effect could increase from 'moderate adverse' to 'major adverse' (significant) at Army Careers (commercial), and minor adverse to major adverse (significant) at City Road (drinking establishment).

7.10 Summary

7.10.1 The likely significant effects of the Proposed Development in terms of noise and vibration have been determined in the context of the Site and Surrounding area. Potential effects have been assessed for construction activities, and a site suitability assessment has been undertaken.

7.10.2 A summary of the likely significant residual effects of the Proposed Development on the receptors considered within this Chapter are summarised in Table 7.14 below.

Table 7.14: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Viadux 1, Viadux 2, Axis Apartments, Hacienda, Ropeworks Block A, Ropeworks Block B, INNSiDE by Melia	Construction noise from substructure and superstructure works							X	Major Adverse	ST, T, Di	Significant	Core working hours shall be maintained, Best Practice Measures shall be adopted secured through a detailed CEMP submitted to the local planning authority. Measures include Proper maintenance of plant, fitting of silencers, and suitable location of construction plant items.
Army Careers, 2 Whitworth Street, 4 Whitworth Street	Construction noise from substructure and superstructure works							X	Moderate adverse	ST, T, Di	Significant	Core working hours shall be maintained, Best Practice Measures shall be adopted secured through a detailed CEMP submitted to the local planning authority. Measures include Proper maintenance of plant, fitting of silencers, and suitable location of construction plant items.
Deansgate Locks, Lock 91, City Road, Junkyard Golf	Construction noise from substructure works							X	Minor adverse	ST, T, Di	Not significant	Core working hours shall be maintained, Best Practice Measures shall be adopted secured through a detailed CEMP submitted to the local planning authority. Measures include Proper maintenance of plant, fitting of silencers, and suitable location of construction plant items.

Table 7.14: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Deansgate Locks, City Road	Construction noise from superstructure works							X	Minor adverse	ST, T, Di	Not significant	Core working hours shall be maintained, Best Practice Measures shall be adopted secured through a detailed CEMP submitted to the local planning authority. Measures include Proper maintenance of plant, fitting of silencers, and suitable location of construction plant items.
Rebellion, 88 Hewitt Road	Construction noise from substructure works							X	Negligible	ST, T, Di	Not significant	Core working hours shall be maintained, Best Practice Measures shall be adopted secured through a detailed CEMP submitted to the local planning authority. Measures include Proper maintenance of plant, fitting of silencers, and suitable location of construction plant items.
Lock 91, Rebellion, 88 Hewitt Road, Junkyard Golf	Construction noise from superstructure works							X	Negligible	ST, T, Di	Not significant	Core working hours shall be maintained, Best Practice Measures shall be adopted secured through a detailed CEMP submitted to the local planning authority. Measures include Proper maintenance of plant, fitting of silencers, and suitable location of construction plant items.

Table 7.14: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
All receptors	Noise from construction traffic							X	Negligible	ST, T, Di	Not significant	Core working hours shall be maintained, Best Practice Measures shall be adopted secured through a detailed CEMP submitted to the local planning authority. Measures include staggered vehicle arrival and departures, and management of vehicle parking to prevent idling.
Ropeworks Block A and Ropeworks Block B	Construction vibration from piling								Moderate adverse	Lt, T, Di	Significant	Core working hours shall be maintained, Best Practice Measures shall be adopted secured through a detailed CEMP submitted to the local planning authority. Measures include Proper maintenance of plant, fitting of silencers, and suitable location of construction plant items.
Viadux 1, Viadux 2m, Axis Apartments,, Hacienda, 4 Whitworth Street, 88 Hewitt Road, INNSiDE by Melia	Construction vibration from piling							X	Minor adverse	Lt, T, Di	Not significant	Core working hours shall be maintained, Best Practice Measures shall be adopted secured through a detailed CEMP submitted to the local planning authority. Measures include Proper maintenance of plant, fitting of silencers, and suitable location of construction plant items.

Table 7.14: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Army Careers, Lock 91 , Deansgate Locks, Rebellion, 12 Whitworth Street, City Road, Junkyard Golf	Construction vibration from piling							X	Negligible	Lt, T, Di	Not significant	Core working hours shall be maintained, Best Practice Measures shall be adopted secured through a detailed CEMP submitted to the local planning authority. Measures include Proper maintenance of plant, fitting of silencers, and suitable location of construction plant items.

Key:
Geographical Significance: I = International N = National R = Regional C = County D = District P = Parish L = Low to Local
Nature*:* St = Short Term Mt = Medium Term Lt = Long Term T = Temporary Di = Direct R = Reversible Ir = Irreversible

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8 BUILT HERITAGE, TOWNSCAPE AND VISUAL IMPACT ASSESSMENT

8.1 Introduction

8.1.1 This Chapter reports the outcome of the assessment of likely significant environmental effects arising from the Proposed Development in relation to Built Heritage, Townscape and Visual impacts.

8.1.2 This Chapter (and its associated figures and appendices) is not intended to be read as a standalone assessment and reference should be made to the front end of this ES (Chapters 1 – 5), as well as the final chapter, 'Summary of Residual and Cumulative Effects' (Chapter 14).

8.1.3 Further detail is also provided within **Built Heritage, Townscape and Visual Impact Assessment (BHTVIA)** at **Appendix 8.1**, which should be read in conjunction with the ES. **Appendix 8.1** has been prepared to provide a complete assessment of all possible effects arising from the Proposed Scheme, as well as help establish where any of these effects are significant and therefore require reporting as part of the EIA.

8.2 Legislation, Policy and Guidance

8.2.1 The relevant legislation, policy and guidance are summarised below, with a policy presented in detail provided at **Section 3.0** of the **BHTVIA** at **Appendix 8.1**.

Legislative Framework

8.2.2 The applicable legislative framework is summarised as follows:

- Planning (Listed Buildings and Conservation Areas) Act 1990;
- Compulsory Purchase Act 2004.

Planning Policy

8.2.3 The applicable planning policy is summarised as follows:

- National Planning Policy Framework (NPPF) (December 2024);
- Manchester City Council Core Strategy (2012) and Addendum (2024);
- Saved Unitary Development Plan Policies (1995); and
- Places for Everyone Joint Development Plan Document for Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan 2022 To 2039 (2024).

Guidance

8.2.4 The applicable guidance is summarised as follows:

- National Planning Practice Guidance (online);
- Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA) (2013);
- An Approach to Landscape Character Assessment (2014);
- TGN 06/19 Visual Representation of Development Proposals Technical Guidance Note (2019) prepared by Landscape Institute;
- Historic England, Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment (2015);
- Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (2017);
- Tall Buildings: Historic England Advice Note 4 (2022);
- IEMA, CIfA and IHBC (2021) Principles for Cultural Heritage Impact Assessment;
- Manchester City Council. Whitworth Street West Framework (2008);
- Manchester City Council. Conservation Area Appraisals (Various Dates); and
- Manchester City Council. Conservation Area Regeneration Plans (Various Dates).

8.3 Assessment Methodology and Significance Criteria

Scope of the Assessment

8.3.1 An EIA Scoping Report was submitted to MCC in June 2025 (Planning Ref. EIASCO/25/006). The EIA Scoping Opinion was received on 23rd July 2025. This section details the scope of the assessment presented within this Chapter following adoption of the EIA Scoping Opinion.

8.3.2 **Table 8.1** provides a summary of the key issues to be considered in relation to Built Heritage, Townscape and Visual receptors.

Table 8.1: Summary of Likely Significant Effects	
Receptor	**Potential Effects**
Construction Phase	
Built Heritage	Alterations to the value of heritage receptors within the study area. There is potential for the visual change to impact the contribution setting makes to the value of the heritage receptor. The impact would not be significant for all heritage receptors because construction impacts are local and temporary.
Townscape	Changes to the townscape character and the settings of TCAs within the study area. The impact would not be significant for all townscape receptors because construction impacts are local and temporary.
Visual	Changes to views. The impact would not be significant for all visual receptors because construction impacts are local and temporary.
Operational Phase	
Built Heritage	The Proposed Development would lead to a new single building that will occupy the Site. Based on an assessment of their heritage value, contribution of setting, interrelationship and intervisibility with the Site / Proposed Development (the built heritage assessment as set out in detail within the BHTVIA and professional judgement, during the operational stage of the Proposed Development, there would be no significant likely effects on the value of heritage receptors during the operational stage of the Proposed Development. The assessment will nevertheless assess the impacts to provide a robust analysis.
Townscape	The Proposed Development would optimise the use of the Site, resulting in increased scale. The effects of the operational phase of the Proposed Development would be greatest on TCA 1, in which the Site is located; these are expected to be beneficial in their nature, as a result of the proposed high quality architecture and urban design improvements. TCAs 2, 3 and 4 comprise of the surrounding city centre areas and would experience visual changes beyond their boundaries. Given the existing composition of the city centre, which comprises a diverse built form characterised by buildings of varying age, scale, form, and architectural style, including the presence of tall and large-scale developments within the character area and its setting, it is considered that the Proposed Development would not give rise to any likely significant effects on the value of townscape receptors during its operational stage. TCAs which lie further from the Site are unlikely to experience a material change in their townscape character. Again, it is considered that the Proposed Development would not give rise to any likely significant effects on the value of townscape receptors during its operational stage.
Visual	The operational phase of the Proposed Development would likely result in a change to the visual amenity of receptors in closest proximity to the Site. Significant changes are likely to be local where the development would be experienced as part of the local street scene. The middle- and long-distance views will illustrate that the development would appear as part of a developed skyline and would likely not lead a significant effect on visual amenity.

Effects Not Considered within the Scope

8.3.3 The BHTVIA has been scoped to include only those heritage receptors that are likely to experience a change to their setting, and consequently potentially their heritage significance, as a result of the Proposed Development. Receptors that were considered unlikely to undergo such change were therefore excluded from detailed assessment, in accordance with the agreed EIA Scoping process (Ref: EIASCO/25/006), and are identified in Table 5.1 of the BHTVIA Appendix 8.1. These comprise a range of

designated assets, including conservation areas and listed buildings of varying grades. However, subsequent to the receipt of the Scoping Opinion and the preparation of an updated development model, it was identified that a number of receptors previously scoped out may in fact have potential intervisibility with the Proposed Development. On this basis, these receptors have been brought back into scope and are assessed accordingly within this chapter.

Extent of the Study Area

8.3.4 The study area for the BHTVIA encompasses all heritage receptors, both designated and non-designated, within a 750m radius of the Site, alongside townscape character areas extending up to 500m and visual receptors located within both the local and wider surrounding area.

8.3.5 The definition of the study area has been informed by site observations, a desk-based review of OS mapping, existing characterisation studies and the distribution of heritage receptors, with due consideration given to building heights, topography, prevailing townscape features and the anticipated scale of the Proposed Development. To support this process, a Zone of Theoretical Visibility (ZTV) has been produced to indicate the potential extent of visibility of the Proposed Development up to a distance of 2 km, using topographically referenced three-dimensional modelling within VU.CITY (Map A at **Appendix 8.2**). This ZTV provides a high-level indication of theoretical visibility which has subsequently been tested and refined through fieldwork and detailed review of representative viewpoints.

Consultation Undertaken to Date

8.3.6 **Table 8.2** summarises the consultation comments received from various stakeholders through the pre-application process in respect of the heritage, townscape and visual assessment and the responses to demonstrate where the comments have been addressed within the report.

8.3.7 The BHTVIA at **Appendix 8.1** and this chapter have been prepared in accordance with the EIA Scoping Opinion Report (Appendix 2.1) and MCC's adopted Scoping Opinion (Appendix 2.2). **Table 8.2** includes commentary summarising the relevant comments received from key stakeholders.

8.3.8 The Applicant has undertaken two pre-application discussions with MCC. Key pre-app engagement with MCC is below:

- 18th December 2024 (no written feedback received from MCC)
- 14th January 2026 (written feedback received from MCC dated 22nd January 2026)

8.3.9 The Proposed Development was also presented to MCC's Design Review Panel (DRP) on three separate occasions, the dates are listed below:

- DRP report of formal review meeting dated 24th March 2025
- DRP report of formal review meeting dated 27th October 2025
- DRP report of formal review meeting dated 13th January 2026

8.3.10 During the course of this engagement, relatively few comments were raised in relation to heritage, townscape or visual matters. The table below summarises the limited points that were identified, including those set out by MCC in the EIA Scoping Opinion Report (Appendix 2.2) and from Historic England who were consulted as part of the Scoping Opinion.

Table 8.2: Summary of Consultation

Date	Stakeholder	Summary of the main BHTVIA Matters
14th January 2026 pre-application meeting (verbal feedback)	Manchester City Council	• MCC confirmed they had no issue in the principle of a tall building, but noted that a 5/6m increase in height from the previous design iteration was not insignificant and would need to be properly assessed. • In the meeting it was confirmed that MCC are unlikely to have significant comments
22nd January 2026 (written feedback)	Manchester City Council	• MCC noted that the overall design of the building appears positive due to the quality and finish of the materials, proposed junctions/jointing between materials and different elements of the building, treatment of soffits etc • MCC felt that planters should be avoided and expected street trees and other planting at ground level instead
24th March 2025	Design Review Panel	• The panel were supportive of the design of the Proposed Development, including the chamfered corners and 'weft and warp' façade treatment to create a refined pattern which set the building apart from the other mostly glazed buildings in the surrounding area • The panel were supportive of the additional height and felt the proportions were correct and the context of the existing taller

Table 8.2: Summary of Consultation		
Date	**Stakeholder**	**Summary of the main BHTVIA Matters**
		neighbourhood would take the increase from the consented scheme • Comments were made about ensuring the materiality is accurately depicted in CGIs to ensure the top of the building does not dominate in long range views • The panel felt the crown needed more decorative treatment in its design • The panel thought the scale of the ground floor should be increased to reflect how it will be a place of interaction for residents and passersby
27th October 2025	Design Review Panel	• The panel continued to be supportive of the additional height in the context of existing and proposed taller neighbouring development • The panel felt the elevational approach was strong and the base had good proportions in relation to adjacent buildings • The Panel stressed that the area has a predominantly red-toned urban character, and therefore the scheme needed a warmer colour palette to sit more convincingly within its context. • The shift to silver aluminium cladding from the earlier Corten / terracotta-inspired tones was criticised as a risk to quality and coherence. • Although tall, the building may operate as a background building in future context and thus requires subtle, modest material choices, rather than high-contrast silver cladding proposed • While acknowledging limited space, they encouraged introduction of an entrance canopy to create a clearer threshold sequence
13th January 2026	Design Review Panel	• The panel felt that the updated proposals successfully addressed earlier review comments, supporting the overarching concept of an elegant tall building addition that maintains a restrained visual impact within the tall-building cluster. • The panel supported the return to a warmer, bronze-toned material palette, which they felt better responded to the local terracotta/red brick context • They also felt increasing the façade bay pattern better articulated the original 'weft and weave' concept. • The panel felt the relocation of the main entrance to the eastern end of the Whitworth Street West site worked well and improved legibility and wayfinding • The panel felt the proposed entrance canopy would benefit from clearer architectural definition • The introduction of planting at the base and biophilic cues was welcomed

Table 8.2: Summary of Consultation		
Date	**Stakeholder**	**Summary of the main BHTVIA Matters**
27th June 2025	Historic England	• Historic England were consulted for a Scoping Opinion and agreed that Heritage should be scoped into the EIA, and that the heritage assets identified for inclusion were appropriate.
23th July 2025	MCC Scoping Opinion (Appendix 2.2), (Planning ref. EIASCO/25/006)	• MCC's Scoping Opinion Report confirmed that they noted the comments within the scoping report and considered them acceptable in terms of their consideration within the ES.

Assessment Methodology

8.3.11 The assessment process is in accordance with current guidance and industry best practice. Full details are provided at **Section 2.0**: **Methodology** of the **BHTVIA** at **Appendix 8.1**.

8.3.12 The overarching assessment framework follows a six-step process as outlined below. The assessment framework is applicable to assessments for both the construction and operational phase.

- Baseline assessment of value;
- Assessment of susceptibility;
- Assessment of sensitivity;
- Assessment of magnitude of impact;
- Assessment of likely effects, and;
- Assessment of nature of effect.

8.3.13 The level of effect has been informed by the magnitude of change due to the Proposed Development and the evaluation of the sensitivity of the affected receptor.

Built Heritage Value

8.3.14 **Table 8.3** provides the criteria for defining the value of a built heritage receptor.

Table 8.3 Built Heritage Value Criteria		
Value	**Criteria**	**Examples**
Very High	Building/site/area of international heritage value	World Heritage Sites, Grade I statutorily Listed Buildings and Registered Parks and Gardens, and some Scheduled Monuments, Grade II* statutorily Listed Buildings and Registered Parks and Gardens.
High	Building/site/area of national heritage value	Some Scheduled Monuments, Grade II* and II Registered Parks and Gardens, Grade II* and II statutorily Listed Buildings, and Conservation Areas.
Medium	Building/site/area of lower national or particular local heritage value	Some Grade II Registered Parks and Gardens, Grade II statutorily Listed Buildings and Conservation Areas.
Low	Building/site/area of identified local heritage value	Locally Listed Buildings or equivalent non-designated heritage assets.
Very Low	Building/site/area of local heritage value	Receptors not formally identified, but which may have a degree of value meriting consideration in planning decisions.

Townscape Value

8.3.15 **Table 8.4** provides the criteria for defining the value of a townscape receptor.

Table 8.4 Townscape Amenity Value Criteria.		
Value	**Importance**	**Typical Criteria**
Very High	International / National	Unique or outstanding townscape with clearly distinctive characteristics, features and elements; Widespread use of quality materials; Very strong urban structure, characteristic patterns and balanced combination of built form and open space; Appropriate management for land use; No, or very limited, detracting features.
High	National / Regional / Local	Distinctive or unusual townscape with notable features and elements; Evident use of quality materials; Strong urban structure, characteristic patterns and balanced combination of built form and open space; Appropriate management for land use with limited scope to improve; Limited detracting features.
Medium	Regional / Local	Attractive townscape with occasional distinctive features;

Table 8.4 Townscape Amenity Value Criteria.		
Value	**Importance**	**Typical Criteria**
		Recognisable urban structure, characteristic patterns and combinations of built form and open space; Scope to improve management for land use; Some detracting features.
Low	Local	Commonplace or ordinary townscape with limited variety or distinctiveness; Distinguishable urban structure, characteristic patterns and combinations of built form and open space, although often fragmented; Scope to improve management or land use; Potentially some dominant detracting features and areas of very low value.
Very Low	Local	Very common townscape, often in decline; Weak or degraded urban structure, characteristic patterns and combination of built form and open space; Lack of management has resulted in degradation; Frequent dominant detracting features; Disturbed or derelict land requires treatment.

Visual Value

8.3.16 **Table 8.5** provides the criteria for defining the value of a visual receptor.

Table 8.5: Visual Amenity Value Criteria	
Value	**Criteria / Examples**
Very High	Areas of national or international importance and/or identified strategic views of national or international importance. Very enjoyable area with multiple positive elements and/or Very High townscape value.
High	Areas of national or regional importance, or particular local importance and/or static view identified in the development plan. Enjoyable area with several positive elements and/or High townscape value.
Medium	Areas of regional or local importance and/or static view identified in planning guidance, including conservation area appraisals. Pleasant area with some positive elements and/or Medium townscape value.
Low	Commonplace areas with limited positive elements and/or Low townscape value, often with detracting elements.
Very Low	Area of Very Low townscape value (e.g. industrial areas/busy main roads) that has very few positive characteristics, usually with significant detracting elements.

Susceptibility of Receptor to Change Criteria

8.3.17 The first stage in the assessment of the Proposed Development on a receptor is to identify its sensitivity to the Proposed Development. Sensitivity is identified by calibrating the baseline value of the receptor with its susceptibility, defined as the ability to accommodate the particular type and/or nature of development without undue consequences for the maintenance of the baseline situation and/or the achievement of planning policies and strategies.

Table 8.6: Susceptibility of Receptor to Change Criteria

Susceptibility	**Criteria**
High	The setting of the receptor or receptor itself has a low ability to accommodate the type of change without change to its value.
Medium	The setting of the receptor or receptor itself has a moderate ability to accommodate the type of change without change to its value.
Low	The setting of the receptor or receptor itself has a high ability to accommodate the type of change without change to its value.

Determining Sensitivity

8.3.18 The value of the receptor and its susceptibility are calibrated using the matrix at **Table 8.7**. Sensitivity is recorded in a verbal scale (**High**, **Medium** or **Low**), supported by a clear narrative linked to evidence from the baseline study and an assessment of susceptibility.

Table 8.7: Sensitivity Matrix

		Susceptibility to Change		
		Low	Medium	High
Receptor Value	**Very Low**	Low	Low	Low/Medium
	Low	Low	Low/Medium	Medium
	Medium	Low/Medium	Medium	Medium/High
	High	Medium	Medium/High	High
	Very High	Medium/High	High	High

Determining the Magnitude of Change

8.3.19 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 **High**, **Medium**, **Low**, **Very Low** or **Nil**.

8.3.20 The magnitude of change is a qualitative judgement supported by the narrative text within the assessment. The professional judgement is quantified using the criteria provided in **Table 8.8**.

Table 8.8: Magnitude of Change to Receptor Criteria

Magnitude of Change	Criteria
High	Major change to the value of the receptor. Loss of or major alteration to key elements/features/characteristics that contribute to value. The duration of this impact may be permanent and non-reversible.
Medium	Moderate change to the value of the receptor. Alteration to one or more key elements/features/characteristics that contribute to value. The duration of this impact may be semi-permanent and partially reversible.
Low	Minor change to the value of the receptor. Minor alteration to one or more elements/features/characteristics that contribute to value. The duration of this impact may be temporary and reversible.
Very Low	Negligible change to the value of the receptor. Very minor alteration to one or more key elements/features/characteristics of the baseline. The duration of this impact may be temporary and reversible.
Nil	No change to the value of the heritage receptor or townscape receptor or visual amenity.

Determining the Level of Effect

8.3.21 The level of effect has been determined using professional judgement and **Table 8.3** has been a tool which has assisted with this process.

8.3.22 Whilst **Table 8.9** provides ranges, the level of effect is confirmed as a single level and not a range, informed by professional judgement. For each effect, it has been concluded whether the effect is '*beneficial*', '*adverse*' or *'neutral'*[1].

[1] An effect that on balance, is neither beneficial nor adverse to a receptor, and therefore preserves the receptor.

Table 8.9: Level of Effect				
		Sensitivity (or value / importance)		
		High	**Medium**	**Low**
Magnitude of Change	**High**	Major	Moderate / Major	Minor / Moderate
	Medium	Moderate / Major	Moderate	Minor
	Low	Minor / Moderate	Minor	Negligible / Minor
	Very Low	Negligible	Negligible	Negligible
	Nil	None	None	None

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

- Major effect: where the change resulting from the impact of the Proposed Development upon the value of the receptor would give rise to 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 change resulting from the impact of the Proposed Development upon the value of the receptor is likely to cause either considerable change from the baseline conditions and the receptor 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 change resulting from the impact of the Proposed Development upon the value of the receptor 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 Development is likely to cause a considerable change from the baseline conditions at a receptor which can adapt, is tolerant of the change or/and can recover from the change;
- Negligible: where the change resulting from the impact of the Proposed Development upon the heritage value of the receptor is unlikely to cause a noticeable change; and

- None: where the change resulting from the impact of the Proposed Development upon the receptor would have no effect.

8.3.24 For each effect, a statement has been made as to whether the level of effect is '**Significant**' or '**Not Significant'**. This determination has been based on professional judgement and/or relevant guidance/legislation where applicable.

8.3.25 Effects are also given descriptors to confirm their nature (i.e. direct or indirect), temporal scale (short-, medium- or long-term), permanence (temporary or permanent), type (adverse or beneficial) and/or spatial scale (site, local, regional, national).

8.3.26 The likely effects of the Project include embedded mitigation. As a result, there is no requirement for additional mitigation and thus likely residual effects remain the same as the likely effects, unless otherwise stated.

Baseline Conditions

Existing Baseline

8.3.27 The Site is located in central Manchester, in close proximity to both Deansgate Train Station and the Castlefield-Deansgate Metrolink Station along with being located 425m from Oxford Road Railway Station.

8.3.28 The Site is not located within a Conservation Area and does contain any heritage receptors. There are heritage receptors within the immediate and wider context, with the closest being the Grade II Rochdale Canal Lock No. 90 (located approximately 23m north), 13-17, Albion Street (located approximately 57m north-east), Manchester South Junction and Altrincham Railway Viaduct (located approximately 35m north), the Britons Protection Public House (located approximately 112m north-east) Rochdale Canal Lock Keepers Cottage at Lock No. 91, next to Gaythorn Tunnel, and Rochdale Canal Lock No. 91 at East End of Gaythorn Tunnel (located approximately 93m north-west) and Deansgate Station (located approximately 79m west).

8.3.29 The Site lies within the city centre neighbourhood of Petersfield. The immediate townscape sits within the core of Manchester city-centre, characterised by a dense urban fabric combining historic and more modern buildings, transport infrastructure, canal/waterway corridors, and a mixture of civic, commercial and residential uses. Existing tall and large development within the within the surrounding area includes:

- Beetham Tower at 47 storeys (Planning Application Ref: 068662/FO/2003/C3);
- Axis Tower at 28 storeys (Planning Application Ref: 106490/FO/2014/C1);
- Deansgate Square – 4 towers at 64, 50, 44 and 37 storeys (Planning Application Ref: 111719/FO/2016/C1);
- Elizabeth Tower and Victoria Residence (Crown Street development 1st phase) at 51 and 21 storeys respectively (Planning Application Ref: 119806/FO/2018); and
- The Blade and Three60 (Crown Street development 2nd phase) both at 51 storeys (Planning Application Ref: 126668/FO/2020).

8.3.30 The Site is experienced in the existing and emerging context that includes several tall buildings demonstrating that the skyline of the surrounding area is therefore evolving

8.3.31 The Site is located to the south of the study area, positioned between Whitworth Street West and the Castlefield railway corridor. The Site in its current condition, contributes little to the way the area appears and functions, appearing as gap to the built form along Whitworth Street West.

8.3.32 The baseline conditions are described in more detail in the following sections of **BHTVIA** at **Appendix 8.1**:

- Section 3.0: Legalisation and Planning Policy;
- Section 4.0: Historical Development;
- Section 5.0: Heritage Asset Baseline;
- Section 6.0: Townscape Character Areas Baseline; and
- Section 7.0: Visual Baseline

Future Baseline

8.3.33 In the absence of the Proposed Development, it is anticipated that the existing baseline conditions on the Site would remain unchanged. However, the continuation of the Site in its current form would be inconsistent with the strategic direction established for this part of the city. The Site falls within the Whitworth Street West Strategic Regeneration Framework area, which sets out a comprehensive vision for delivering a high-quality, well connected and vibrant destination that strengthens this key gateway into Manchester City Centre. The Site is also influenced by a number of adjacent Strategic Regeneration Frameworks, including Great Northern, Manchester

Central, Castlefield Quay, First Street, and Great Jackson Stretch which collectively demonstrate the transformational context of the wider area, including that of taller and large development, and the evolving city skyline. The area around the Site is undergoing redevelopment and as such the baseline conditions are evolving. Without the Proposed Development, this would continue; tall and contemporary developments will continue to characterise the immediate surroundings.

Sensitive Receptors

8.3.34 A number of sensitive receptors have been identified following the baseline review, as listed in **Table 8.4** and shown on Built Heritage, Townscape Character Area and View Location plans provided at **Appendix 8.2**.

Table 8.5: Sensitive Receptors				
Map Ref (Map B of Appendix 8.2)	**Name**	**Grade**	**Location**	**Value**
Conservation Areas				
A	Castlefield Conservation Area	N/A	186m west	High
D	St Peter's Square	N/A	353m north-east	High
E	George Street Conservation Area	N/A	456m north-east	High
G	Albert Square	N/A	435mnorth-east	High
H	Upper King Street	N/A	643m north-east	High
Listed Buildings				
1	Town Hall	Grade I	575m north-east	Very High
2	Albert Memorial	Grade I	625m north-east	Very High
4	Old Warehouse to North of former Liverpool Road Railway Station	Grade I	625m north-west	Very High
5	Manchester Art Gallery	Grade I	650m north-east	Very High
6	Former Liverpool Road Railway Station, Station Masters House	Grade I	62 m north-west	Very High

Table 8.5: Sensitive Receptors				
Map Ref (Map B of Appendix 8.2)	**Name**	**Grade**	**Location**	**Value**
7	G Mex	Grade II*	130m north	High
8	Deansgate Goods Station and attached Carriage Ramp	Grade II*	288m north	High
10	Midland Hotel	Grade II*	360 m north-east	High
12	Central Public Library	Grade II*	470m north-east	High
17	Town Hall Extension	Grade II*	535m north-east	High
18	Manchester War Memorial	Grade II*	613m north-east	High
20	The Athenaeum	Grade II*	654m north-east	High
25	Church of St George	Grade II*	675m west	High
27	Rochdale Canal Lock No. 90, Approx. 30 None Nil metres West of Albion Bridge	Grade II	23m north	High
28	13-17, Albion Street	Grade II	57m north-east	High
29	Manchester South Junction and Altrincham Railway Viaduct	Grade II	35m north	High
30	The Britons Protection Public House	Grade II	112m north-east	High
31	Rochdale Canal Lock Keepers Cottage at Lock No. 91, Next to Gaythorn Tunnel	Grade II	93m north-west	High
31	Rochdale Canal Lock No. 91 at East End of Gaythorn Tunnel	Grade II	93m north-west	High
32	Deansgate Station	Grade II	79m west	High
33	Rochdale Canal Lock No. 89 (Tib Lock), on South Side of Havelock Mills	Grade II	163m east	High

Table 8.5: Sensitive Receptors				
Map Ref (Map B of Appendix 8.2)	**Name**	**Grade**	**Location**	**Value**
34	Boundary Stone on Knott Mill Bridge, and Floodgate on East Side of Knott Mill Bridge	Grade II	197m south-west	High
35	Former Congregational Chapel	Grade II	215m west	High
36	Electricity Junction Box in Castlefield Canal Basin, Manchester	Grade II	232m west	High
38	Castlefield Information Centre	Grade II	218m north-west	High
40	Electricity Junction Box in Castlefield Canal Basin, Manchester	Grade II	232m west	High
41	Chepstow House	Grade II	218m north-east	High
42	Former Market Hall	Grade II	237m north-west	High
44	Electricity Junction Box on Castle Street, Manchester	Grade II		High
45	29-41, Liverpool Road	Grade II	273m north-west	High
47	Castlefield Railway Viaduct from G-Mex to Dawson Street	Grade II	41m west	High
49	The Ritz Dance Hall	Grade II	361m east	High
53	Canda House	Grade II	366m north-east	High
55	Museum of Science and Industry, Air and Space Museum	Grade II	341m north-west	High
56	Manchester & Salford Junction Canal Tunnel	Grade II	324m north-west	High
62	Manchester Oxford Road Station	Grade II	400m east	High

Table 8.5: Sensitive Receptors				
Map Ref (Map B of Appendix 8.2)	**Name**	**Grade**	**Location**	**Value**
	(including Platform Structures)			
63	Nos 25 to 31 and attached former Chapel	Grade II	409m north-west	High
64	Former St Matthews Sunday School	Grade II	408m north-west	High
65	Chorlton Old Mill	Grade II	439m south-east	High
68	Rochdale Canal Lock No. 92 and Castle Street Bridge	Grade II	443m west	High
71	Merchants Warehouse	Grade II	443m west	High
73	Mill on North East Corner of Junction with Chester Street	Grade II	437m south-east	High
Townscape (Map D of Appendix 8.2)				
1	Petersfield	N/A	N/A	High
2	First Street	N/A	N/A	Medium
3	Castlefield	N/A	N/A	High
4	Great Jackson Street	N/A	N/A	Medium
5	St John's	N/A	N/A	Medium
6	Hulme Park	N/A	N/A	Low / Medium
Visual (Map F of Appendix 8.2)				
Visual Receptors				
Views 1, 2, 3 and 4	Pedestrians using Mosley Street and Lower Mosley Street	N/A	N/A	High
Views 5 and 7	Pedestrians using Whitworth Street West	N/A	N/A	Low / Medium
Views 5 and 7	Users of Whitworth Steet West	N/A	N/A	Low / Medium

Table 8.5: Sensitive Receptors				
Map Ref (Map B of Appendix 8.2)	**Name**	**Grade**	**Location**	**Value**
View 6	Users of Medlock Street	N/A	N/A	Low
View 8	Users of Chester Road	N/A	N/A	Low
Static Views				
View 9	Castle Street	N/A	445m west	High
View 10	Albert Square	N/A	700m north	High
View 11	Windmill Street	N/A	365m north west	High
View 12	St Ann's Square	N/A	900m north	High

Limitations and Assumptions

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

- The National Heritage List for England is up to date in terms of designated heritage receptors (i.e. Listed Buildings) and this Chapter has captured all designated built heritage receptors at the time of writing.
- Greater Manchester's Historic Environment Record is up to date in terms of non-designated heritage receptors (i.e. Conservation Areas and Locally Listed Buildings) and this Chapter has captured all non-designated built heritage receptors at the time of writing.
- The advice from Manchester City Council during design development during the EIA Scoping Process.
- This Chapter has relied on the accuracy and technical validity of the verified views (prepared by AVR London) presented in the **BHTVIA** at **Appendix 8.1**.

8.4 Assessment of Effects

Embedded Mitigation

Construction

8.4.1 The following embedded mitigation which has been evaluated as part of the construction phase assessment are outlined below:

- Enclosure of the Site with hoardings; and
- Compliance with the requirements of the Construction Management Plans.

Operation

8.4.2 The design proposals have been developed through an extensive iterative process incorporating environmental assessment and consultation. This approach has enabled site constraints and opportunities to directly inform the evolution of the Proposed Development. Consequently, mitigation measures have been embedded within the design of the Proposed Development.

Summary

8.4.3 In the case of the built heritage, townscape and visual receptors, all mitigation is embedded through construction management practice (construction stage) and design (completed development stage). There is no further mitigation proposed.

Assessment of Effects

Construction Phase

8.4.4 **Section 10: Assessment Heritage Receptors, Section 11: Assessment Townscape and Section 12: Assessment Visual** of the BHTVIA at **Appendix 8.1** provides an assessment of the construction effects of the Proposed Development on Built Heritage, Townscape and Visual receptors. The likely effects for the construction effects are summarised in **Table 8.6**.

Table 8.6: Summary of Construction Effects						
Map Ref	**Name**	**Heritage Value**	**Susceptibility to Change**	**Sensitivity**	**Magnitude of Impact (Construction)**	**Likely Effect / Nature of Effect (Construction)**
Heritage						
Conservation Areas						
A	Castlefield Conservation Area	High	Medium	Medium/High	Very Low	Negligible Adverse (not significant)
D	St Peter's Square	High	Low	Medium/High	Nil None	None (not significant)
E	George Street Conservation Area	High	Low	Medium	Nil None	None (not significant)
G	Albert Square	High	Low	Medium	Nil	None (not significant)
H	Upper King Street	High	Low	Medium	Nil	None (not significant)
Listed Buildings						
1	Town Hall	Very High	Low	Medium/High	Nil	None (not significant)
2	Albert Memorial	Very High	Low	Medium/High	Nil	None (not significant)
4	Old Warehouse to North of former Liverpool Road Railway Station	Very High	Low	Medium/High	Nil	None (not significant)
5	Manchester Art Gallery	Very High	Low	Medium/High	Nil	None (not significant)
6	Former Liverpool Road Railway Station, Station Masters House	Very High	Low	Medium/High	Nil	None (not significant)
7	G Mex	High	Low	Medium	Nil	None (not significant)
8	Deansgate Goods Station and attached Carriage Ramp	High	Low	Medium		None (not significant)
10	Midland Hotel	High	Low	Medium	Nil	None (not significant)
12	Central Public Library	High	Low	Medium	Nil	None (not significant)
17	Town Hall Extension	High	Low	Medium	Nil	None (not significant)
18	Manchester War Memorial	High	Low	Medium	Nil	None (not significant)
20	The Athenaeum	High	Low	Medium	Nil	None (not significant)
25	Church of St George	High	Low	Medium	Nil	None (not significant)
27	Rochdale Canal Lock No. 90, Approx. 30 None Nil metres West of Albion Bridge	High	Low	Medium	Low	Minor Adverse (not significant)

Table 8.6: Summary of Construction Effects

Map Ref	Name	Heritage Value	Susceptibility to Change	Sensitivity	Magnitude of Impact (Construction)	Likely Effect / Nature of Effect (Construction)
28	13-17, Albion Street	High	Low	Medium	Nil	None (not significant)
29	Manchester South Junction and Altrincham Railway Viaduct	High	Low	Medium	Nil	None (not significant)
30	The Britons Protection Public House	High	Low	Medium	Nil	None (not significant)
31	Rochdale Canal Lock Keepers Cottage at Lock No. 91, Next to Gaythorn Tunnel	High	Low	Medium	Nil	None (not significant)
31	Rochdale Canal Lock No. 91 at East End of Gaythorn Tunnel	High	Low	Medium	Nil	None (not significant)
32	Deansgate Station	High	Low	Medium	Nil	None (not significant)
33	Rochdale Canal Lock No. 89 (Tib Lock), on South Side of Havelock Mills	High	Low	Medium	Nil	None (not significant)
34	Boundary Stone on Knott Mill Bridge, and Floodgate on East Side of Knott Mill Bridge	High	Low	Medium	Nil	None (not significant)
35	Former Congregational Chapel	High	Low	Medium	Very Low	Negligible Adverse (not significant)
36	Electricity Junction Box in Castlefield Canal Basin, Manchester	High	Low	Medium	Nil	None (not significant)
38	Castlefield Information Centre	High	Low	Medium	Nil	None (not significant)
40	Electricity Junction Box in Castlefield Canal Basin, Manchester	High	Low	Medium	Nil	None (not significant)
41	Chepstow House	High	Low	Medium	Nil	None (not significant)
42	Former Market Hall	High	Low	Medium	Nil	None (not significant)
44	Electricity Junction Box on Castle Street, Manchester	High	Low	Medium	Nil	None (not significant)
45	29-41, Liverpool Road	High	Low	Medium	Nil	None (not significant)

Table 8.6: Summary of Construction Effects						
Map Ref	**Name**	**Heritage Value**	**Susceptibility to Change**	**Sensitivity**	**Magnitude of Impact (Construction)**	**Likely Effect / Nature of Effect (Construction)**
47	Castlefield Railway Viaduct from G-Mex to Dawson Street	High	Low	Medium	Nil	None (not significant)
49	The Ritz Dance Hall	High	Low	Medium	Nil	None (not significant)
53	Canda House	High	Low	Medium	Nil	None (not significant)
55	Museum of Science and Industry, Air and Space Museum	High	Low	Medium	Nil	None (not significant)
62	Manchester Oxford Road Station (including Platform Structures)	High	Low	Medium	Nil	None (not significant)
63	Nos 25 to 31 and attached former Chapel	High	Low	Medium	Nil	None (not significant)
64	Former St Matthews Sunday School	High	Low	Medium	Nil	None (not significant)
65	Chorlton Old Mill	High	Low	Medium	Nil	None (not significant)
68	Rochdale Canal Lock No. 92 and Castle Street Bridge	High	Low	Medium	Nil	None (not significant)
71	Merchants Warehouse	High	Low	Medium	Nil	None (not significant)
73	Mill on North East Corner of Junction with Chester Street	High	Low	Medium	Nil	None (not significant)
Townscape						
1	Character Area 1: Petersfield	High	Low	Medium	Low	Minor / Moderate Adverse (not significant)
2	Character Area 2: First Street	Medium	Low	Low / Medium	Very Low	Negligible Adverse (not significant)
3	Character Area 3: Castlefield	High	Low	Medium	Very Low	Negligible Adverse (not significant)
4	Character Area 4: Great Jackson Street	Medium	Low	Low / Medium	Very Low	Negligible Adverse (not significant)
5	Character Area 5: St John's	Medium	Low	Low / Medium	Very Low	Negligible Adverse (not significant)
6	Character Area 6: Hulme Park	Low / Medium	Low	Low	Very Low	Negligible Adverse (not significant)

Table 8.6: Summary of Construction Effects						
Map Ref	**Name**	**Heritage Value**	**Susceptibility to Change**	**Sensitivity**	**Magnitude of Impact (Construction)**	**Likely Effect / Nature of Effect (Construction)**
Visual						
Visual Receptors						
Views 1, 2, 3 and 4	Pedestrians using Mosley Street and Lower Mosley Street	High	Low	Medium	Very Low	Negligible Adverse (not significant)
Views 5 and 7	Pedestrians using Whitworth Street West	Low / Medium	Low	Low	Low	Minor Adverse (not significant)
Views 5 and 7	Users of Whitworth Steet West	Low / Medium	Low	Low	Low	Minor Adverse (not significant)
View 6	Users of Medlock Street	Low	Low	Low	Very Low	Negligible Adverse (not significant)
View 8	Users of Chester Road	Low	Low	Low	Very Low	Negligible Adverse (not significant)
Static Views						
View 9	Castle Street	High	Low / Medium	Medium	Very Low	Negligible Adverse (not significant)
View 10	Albert Square	High	Low / Medium	Medium	Very Low	Negligible Adverse (not significant)
View 11	Windmill Street	High	Low / Medium	Medium	Very Low	Negligible Adverse (not significant)
View 12	St Ann's Square	High	Medium / High	High	Nil	None (not significant)

Operational Phase

8.4.5 **Section 10: Assessment Heritage Receptors, Section 11: Assessment Townscape and Section 12: Assessment Visual** of the BHTVIA at **Appendix 8.1** provides an assessment of the operational effects of the Proposed Development on Built Heritage, Townscape and Visual receptors. The likely effects for the operational effects are summarised in **Table 8.7**.

Table 8.7: Summary of Operational Effects						
Map Ref (Map B, D F of Appendix 8.2)	**Name**	**Heritage Value**	**Susceptibility to Change**	**Sensitivity**	**Magnitude of Impact (Completed Development)**	**Likely Effect / Nature of Effect (Completed Development)**
Heritage						
Conservation Areas						
A	Castlefield Conservation Area	High	Medium	Medium/High	Low	Minor Neutral (not significant)
D	St Peter's Square	High	Medium	Medium/High	Very Low	Negligible Neutral (not significant)
E	George Street Conservation Area	High	Low	Medium	Nil	None (not significant)
G	Albert Square	High	Low	Medium	Nil	None (not significant)
H	Upper King Street	High	Low	Medium	Nil	None (not significant)
Listed Buildings						
1	Town Hall	Very High	Low	Medium/High	Nil	None (not significant)
2	Albert Memorial	Very High	Low	Medium/High	Nil	None (not significant)
4	Old Warehouse to North of former Liverpool Road Railway Station	Very High	Low	Medium/High	Nil	None (not significant)
5	Manchester Art Gallery	Very High	Low	Medium/High	Nil	None (not significant)
6	Former Liverpool Road Railway Station, Station Masters House	Very High	Low	Medium/High	Nil	None (not significant)
7	G Mex	High	Low	Medium	Very Low	Negligible Neutral (not significant)
8	Deansgate Goods Station and attached Carriage Ramp	High	Low	Medium	Nil	None (not significant)
10	Midland Hotel	High	Low	Medium	Nil	None (not significant)
12	Central Public Library	High	Low	Medium	Nil	None (not significant)
17	Town Hall Extension	High	Low	Medium	Nil	None (not significant)

Table 8.7: Summary of Operational Effects

Map Ref (Map B, D F of Appendix 8.2)	Name	Heritage Value	Susceptibility to Change	Sensitivity	Magnitude of Impact (Completed Development)	Likely Effect / Nature of Effect (Completed Development)
18	Manchester War Memorial	High	Low	Medium	Nil	None (not significant)
20	The Athenaeum	High	Low	Medium	Nil	None (not significant)
25	Church of St George	High	Low	Medium	Nil	None (not significant)
27	Rochdale Canal Lock No. 90, Approx. 30 None Nil metres West of Albion Bridge	High	Low	Medium	Nil	None (not significant)
28	13-17, Albion Street	High	Low	Medium	Nil	None (not significant)
29	Manchester South Junction and Altrincham Railway Viaduct	High	Low	Medium	Nil	None (not significant)
30	The Britons Protection Public House	High	Low	Medium	Nil	None (not significant)
31	Rochdale Canal Lock Keepers Cottage at Lock No. 91, Next to Gaythorn Tunnel	High	Low	Medium	Nil	None (not significant)
31	Rochdale Canal Lock No. 91 at East End of Gaythorn Tunnel	High	Low	Medium	Nil	None (not significant)
32	Deansgate Station	High	Low	Medium	Very Low	Negligible Neutral (not significant)
33	Rochdale Canal Lock No. 89 (Tib Lock), on South Side of Havelock Mills	High	Low	Medium	Nil	None (not significant)
34	Boundary Stone on Knott Mill	High	Low	Medium	Nil	None (not significant)

Table 8.7: Summary of Operational Effects						
Map Ref (Map B, D F of Appendix 8.2)	**Name**	**Heritage Value**	**Susceptibility to Change**	**Sensitivity**	**Magnitude of Impact (Completed Development)**	**Likely Effect / Nature of Effect (Completed Development)**
	Bridge, and Floodgate on East Side of Knott Mill Bridge					
35	Former Congregational Chapel	High	Low	Medium	Low	Minor Neutral (not significant)
36	Electricity Junction Box in Castlefield Canal Basin, Manchester	High	Low	Medium	Nil	None (not significant)
38	Castlefield Information Centre	High	Low	Medium	Nil	None (not significant)
40	Electricity Junction Box in Castlefield Canal Basin, Manchester	High	Low	Medium	Nil	None (not significant)
41	Chepstow House	High	Low	Medium	Nil	None (not significant)
42	Former Market Hall	High	Low	Medium	Nil	None (not significant)
44	Electricity Junction Box on Castle Street, Manchester	High	Low	Medium	Nil	None (not significant)
45	29-41, Liverpool Road	High	Low	Medium	Nil	None (not significant)
47	Castlefield Railway Viaduct from G-Mex to Dawson Street	High	Low	Medium	Nil	None (not significant)
49	The Ritz Dance Hall	High	Low	Medium	Nil	None (not significant)
53	Canda House	High	Low	Medium	Nil	None (not significant)
55	Museum of Science and Industry, Air and Space Museum	High	Low	Medium	Nil	None (not significant)
62	Manchester Oxford Road Station (including	High	Low	Medium	Nil	None (not significant)

Table 8.7: Summary of Operational Effects						
Map Ref (Map B, D F of Appendix 8.2)	**Name**	**Heritage Value**	**Susceptibility to Change**	**Sensitivity**	**Magnitude of Impact (Completed Development)**	**Likely Effect / Nature of Effect (Completed Development)**
	Platform Structures)					
63	Nos 25 to 31 and attached former Chapel	High	Low	Medium	Nil	None (not significant)
64	Former St Matthews Sunday School	High	Low	Medium	Nil	None (not significant)
65	Chorlton Old Mill	High	Low	Medium	Nil	None (not significant)
68	Rochdale Canal Lock No. 92 and Castle Street Bridge	High	Low	Medium	Nil	None (not significant)
71	Merchants Warehouse	High	Low	Medium	Nil	None (not significant)
73	Mill on North East Corner of Junction with Chester Street	High	Low	Medium	Nil	None (not significant)
Townscape						
1	Character Area 1: Petersfield	High	Low	Medium	Low / Medium	Moderate Beneficial (significant)
2	Character Area 2: First Street	Medium	Low	Low / Medium	Low	Minor Beneficial (not significant)
3	Character Area 3: Castlefield	High	Low	Medium	Low	Minor / Moderate Beneficial (not significant)
4	Character Area 4: Great Jackson Street	Medium	Low	Low / Medium	Very Low	Negligible Beneficial (not significant)
5	Character Area 5: St John's	Medium	Low	Low / Medium	Very Low	Negligible Beneficial (not significant)
6	Character Area 6: Hulme Park	Low / Medium	Low	Low	Very Low	Negligible Neutral (not significant)
Visual						
Visual Receptors						
Views 1, 2, 3 and 4	Pedestrians using Mosley Street and Lower Mosley Street	High	Low	Medium	Low	Minor / Moderate Beneficial (not significant)

Table 8.7: Summary of Operational Effects						
Map Ref (Map B, D F of Appendix 8.2)	**Name**	**Heritage Value**	**Susceptibility to Change**	**Sensitivity**	**Magnitude of Impact (Completed Development)**	**Likely Effect / Nature of Effect (Completed Development)**
Views 5 and 7	Pedestrians using Whitworth Street West	Low / Medium	Low	Low	Low / Medium	Minor Beneficial (not significant)
Views 5 and 7	Users of Whitworth Steet West	Low / Medium	Low	Low	Low	Minor Beneficial (not significant)
View 6	Users of Medlock Street	Low	Low	Low	Medium	Minor / Moderate Beneficial (not significant)
View 8	Users of Chester Road	Low	Low	Low	Low	Minor Beneficial (not significant)
Static Views						
View 9	Castle Street	High	Low / Medium	Medium	Very Low	Negligible Neutral (not significant)
View 10	Albert Square	High	Low / Medium	Medium	Very Low	Negligible Neutral (not significant)
View 11	Windmill Street	High	Low / Medium	Medium	Very Low	Negligible Neutral (not significant)
View 12	St Ann's Square	High	Medium / High	High	Nil	None (not significant)

8.5 Mitigation and Monitoring

Construction Mitigation

8.5.1 No significant adverse effects were identified during the construction phase after consideration of primary mitigation and therefore no additional mitigation measures are required.

Construction Monitoring

8.5.2 No construction monitoring is proposed.

Operational Mitigation

8.5.3 No significant adverse effects were identified during the operational phase after consideration of primary mitigation and therefore no additional mitigation measures are required.

Operational Monitoring

8.5.4 No operational monitoring is proposed.

8.6 Residual Effects

8.6.1 In the absence of secondary mitigation, the residual effects are the same as that reported in the pre-mitigation scenario. In summary no significant residual effects are anticipated.

8.7 Assessment of Cumulative Effects

Built Heritage

Demolition and Construction

8.7.1 The cumulative schemes which are set out in Table 4.1 in Chapter 4 of the ES and have been considered in terms of the potential effects on the heritage receptors.

8.7.2 The demolition and construction activity associated with cumulative schemes, in combination with the construction phase of the Proposed Development, has the potential to intensify environmental conditions within the settings of a number of heritage assets. Owing to its scale and its proximity to the Site, the demolition and construction works for the Viadux Phase 2 scheme (Planning Ref: 139715/FO/2024) are expected to generate levels of noise, vibration, dust and construction traffic. These effects would be experienced in the settings of those heritage receptors located closest to the Site and sharing intervisibility with the Proposed Development, which include:

- Castlefield Conservation Area
- Rochdale Canal Lock No. 90
- Former Congregational Chapel

8.7.3 The cumulative demolition and construction effects for these three heritage receptors remain as assessed in the construction scenario due to their temporary nature and an existing awareness of construction activity in the wider area. As a result, cumulative demolition and construction likely effect would be **Negligible Adverse** for the Castlefield Conservation Area and the Former Congregational Chapel and **Minor Adverse** for Rochdale Lock No. 90. These effects are indirect, medium term and temporary. They are therefore Not Significant.

8.7.4 For many heritage assets within the wider city centre, such as most of the conservation areas and the listed buildings within them, cumulative demolition and construction effects are anticipated to be limited primarily to visual change. This would typically include the visibility of hoardings, scaffolding, cranes and construction compounds within urban views. The construction phase of the Proposed Development will also be visible in combination with demolition and construction activity within the Great Jackson Street area. For example, views from St Peter's Square along Lower Mosley Street will be directed towards construction activity in the middle and far distance. This will be experienced within the setting of a number of heritage assets in and around St Peter's Square, including the Midland Hotel, the Central Public Library, the Town Hall Extension and the Town Hall.

8.7.5 Whilst there would be some visual change in the setting of heritage receptors, it is important to note that temporary construction-related features, such as scaffolding, hoardings and increased construction traffic, are common characteristics of the contemporary Manchester city centre environment, reflecting the ongoing intensification of regeneration. As such, the visibility of demolition and construction activity typically forms a transient and familiar component of the wider setting of many heritage assets considered within the assessment, and is generally perceived as part of a wider pattern of urban development.

8.7.6 There will be no permanent change to the way the heritage value of the receptors identified in the baseline is appreciated or understood. For the majority of receptors that are situated some distance from the Site or have a physical buffer between the Site and the receptor. The change to the setting will not intrinsically affect the appreciation or understanding of any surrounding heritage receptors.

8.7.7 As such, the visual impact of the cumulative demolition and construction scenario would not combine with the impact of the Proposed Development so that it would alter its setting to the point that the cumulative scenario would impact the assessment of the Proposed Development in isolation.

Operational

8.7.8 The cumulative condition demonstrates a continued intensification of the well-established secondary skyline that surrounds, but remains visually separate from, the historic core of Manchester. This is particularly evident in south-west-facing views toward the Great Jackson Street cluster, where the existing cluster of tall buildings will

be intensified in the cumulative condition. In this context, the Proposed Development, which is already backdropped by existing tall buildings, would continue to appear recessive or read in silhouette alongside new cumulative schemes such as Plot D, Great Jackson Street (Planning Ref: 137273/FO/2021) and Plots C and E, Great Jackson Street (Planning Ref: 137226/FO/2023). This effect will be especially noticeable from conservation areas within the city centre and from heritage receptors in St Peter's Square, where channelled views south-west along Lower Mosley Street frame the emerging tall-building cluster as a key element in its setting that characterises the wider urban landscape but that is secondary to the historic townscape of the city core.

8.7.9 In a number of key views from heritage receptors within the city centre, such as Views 3, 10 and 11, Viadux Phase 2 (Planning Ref: 139715/FO/2024) will be highly visible due to its height and its relative proximity to the historic core. In views where Viadux Phase 2 is seen together with the Proposed Development, the Proposed Development is perceived as a recessive background element, visually subordinate to Viadux Phase 2 and situated behind or alongside it rather than competing for prominence. At the time of writing, the Viadux Phase 2 scheme is awaiting decision from Manchester City Council.

8.7.10 When seen together, the wider cumulative visual impact would lead to an intensification of development that would create a visual change within the setting of several receptors. However, the visual impact of the cumulative scenario would not combine with the impact of the Proposed Development so that it would alter its setting to the point that the cumulative scenario would impact the assessment of the Proposed Development in isolation. For most of the heritage receptors located some distance from the Site, the Proposed Development in the cumulative condition would be viewed as contributing to an existing context that forms a key feature in the setting of the listed buildings. This would not result in additional effects arising over and above those already identified in the assessment of the Proposed Development in isolation.

8.7.11 Within the broader cityscape, the Proposed Development and surrounding cumulative schemes together reinforce Manchester's identity as a contemporary metropolitan centre, where the contrast between historic industrial townscape and modern high-rise forms are already an established and characteristic feature of the skyline. Visibility of tall buildings in the wider setting of the receptors will read as the continued evolution of the city and does not erode the key attributes of their value,

nor does it diminish their legibility, landmark qualities or spatial relationships within the historic core.

8.7.12 As such, it is considered that the potential cumulative effects on heritage assets, remains the same as the likely effects arising from the Proposed Development in isolation. In summary no significant cumulative effects are anticipated during both the construction and operational phase.

Townscape

Demolition and Construction

8.7.13 The cumulative schemes which are set out at Table 4.1 in Chapter 4 of the ES and have been considered in terms of the potential effects on the townscape receptors.

8.7.14 During demolition and construction, the cumulative effects on townscape character areas would be limited and broadly consistent with those identified for the Proposed Development scenario. Within Townscape Character Area 1: Petersfield, the Site would be visible alongside other consented and emerging schemes within the Manchester City Centre, including those that are consented or emerging for tall buildings, such at 2 – 4 Whitworth Street (Planning Ref: 141773/FO/2024), Viadux Phase 2 (Planning Ref: 139715/FO/2024), and the Great Northern Warehouse redevelopment (Planning Ref: 135565/FO/2022). Consequently, temporary construction features, such as cranes, scaffolding, hoardings, and increased construction traffic, would be characteristic of an area undergoing planned city centre intensification. The cumulative demolition and construction effects for Townscape Character Area 1: Petersfield is not considered to change from construction scenario and would remain **Minor / Moderate Adverse**. The Geographical Significance of the effect would be at District level and the Nature would be Medium Term, Reversible and Not Significant.

8.7.15 For the wider Townscape Character Areas, the cumulative demolition and construction effects would remain as previously assessed due to distance, separation by existing built form, and the transient nature of visibility. Temporary construction elements associated with other consented and emerging developments within the city centre, may be perceptible in views, however would be read within an evolving city centre environment. The magnitude of impact to Character Areas 2, 3, 4, 5 and 6 would continue to result in a **Negligible Adverse** effect. The Geographical Significance

of these effect would be at District level and the Nature would be Medium Term, Reversible and Not Significant.

Operational

8.7.16 In the cumulative operational context, the Proposed Development would continue to be an attractive addition to the townscape and would demonstrably improve the character, appearance and function of the area. Within Character Area 1: Petersfield the Proposed Development would be understood alongside the consented schemes at 2 – 4 Whitworth Street (Planning Ref: 141773/FO/2024), Viadux Phase 2 (Planning Ref: 139715/FO/2024), and the Great Northern Warehouse redevelopment (Planning Ref: 135565/FO/2022) which would see heights up to 76 storeys. The effects of additional tall and large-scale development in the character area would there lessen the effect of the Proposed Development on the character area. As a result of the magnitude of impact would be reduced slightly to Low and this would to give rise to **Minor / Moderate Beneficial** cumulative effect. The Geographical Significance of the cumulative effect would be at District level and the Nature would be Long Term, Irreversible and Not Significant.

8.7.17 Across the wider character areas, there would be numerous schemes that would be visible in conjunction with the Proposed Development. These cumulative schemes in the surrounding area in conjunction with the Proposed Development would be seen as part of the emerging context of taller and larger development in Manchester City Centre. In summary no significant cumulative effects are anticipated during both the construction and operational phase.

Visual

Demolition and Construction

8.7.18 The cumulative demolition and construction effects would be temporary and generally comparable to those identified for the Proposed Development scenario. For visual receptors moving towards and through Manchester City Centre activity from other consented and emerging schemes, such as cranes, scaffolding, hoardings and increased construction traffic, would be consistent with the city centre character, where ongoing redevelopment and large-scale construction activity are already anticipated. The cumulative demolition and construction effects remain as assessed in the construction scenario. The Geographical Significance of these effect would be

at District level and the Nature would be Medium Term, Reversible and Not Significant.

8.7.19 For receptors considered as part of Static Views 9, 10, 11 and 12, the cumulative effects would primarily involve intermittent visibility of cranes or partially completed structures in the skyline. These elements would largely be screened by intervening built form or vegetation and would be perceived within a wider context where multiple tall building projects around Manchester City Centre would be already visible and part of an evolving city centre townscape. While cumulative construction activity may marginally increase the presence of temporary vertical elements in these views, it would not undermine townscape legibility or significantly change the viewer's amenity. The cumulative demolition and construction effects remain as assessed in the construction scenario. The Geographical Significance of these effect would be at District level and the Nature would be Medium Term, Reversible and Not Significant.

Operational

The combination of the Proposed Development with the cumulative schemes will not alter any of the final effects found in the assessment for visual amenity. However, it is recognised that the scale of development within Manchester City Centre will intensify as a result of other tall and large schemes being developed. The cumulative effects remain as assessed in the Completed Development scenario. The Geographical Significance of these effect would be at District level and the Nature would be Medium Term, Reversible and Not Significant.

8.7.20 With regard to Static Views 9, 10, 11 and 12, as presented within Appendix 1.0 of Appendix 8.1 (Built Heritage, Townscape and Visual Impact Assessment), the cumulative views illustrate the presence of additional tall and large-scale development within the middle ground and backdrop. Collectively, these schemes would emphasise the ongoing redevelopment of the wider Manchester City Centre, characterised by an increasing prevalence of tall and substantial contemporary buildings.

8.7.21 From View 9, the consented scheme at 2-4 Whitworth Street (Planning Ref: 141773/FO/2024) appears in front of the Proposed Development, occluding the proposals from view. In cumulative terms, the consented scheme would contribute to the perception of increased built form within the view and form part of the ongoing pattern of city centre intensification. However, as the Proposed Development would

be screened from view, it would not contribute to this cumulative change. As a result of this change, the magnitude of impact is considered to reduce to Nil and the likely cumulative effect to that of **None**. The Geographical Significance of the effect would be at a Local level and the Nature would be Long Term, Irreversible and Not Significant.

8.7.22 For the remainder of the Static Views, the combination of the Proposed Development with the cumulative schemes will result in cumulative effects of the same level as those identified as a result of the Proposed Development in isolation. However, it is recognised that the scale of development within Manchester City Centre will intensify as a result of other tall and large schemes being developed. The cumulative effects remain as assessed in the Completed Development scenario. The Geographical Significance of these effect would be at District level and the Nature would be Medium Term, Reversible and Not Significant. In summary no significant cumulative effects are anticipated during both the construction and operational phase.

8.8 Summary

8.8.1 A summary of the likely significant residual effects of the Proposed Development on the receptors considered within this Chapter are summarised in **Table 8.8** below.

Built Heritage Summary

8.8.2 The built heritage assessment has considered the heritage significance of heritage receptors within the surrounding area, the contribution of setting towards that significance and the impact of the Proposed Development upon that setting and significance.

8.8.3 The construction residual effects are considered to have a likely effect of None (Not Significant) to Minor Adverse (Not Significant) on heritage receptors outside the Site. The greatest impact would arise from the construction stage would be on the Castlefield Conservation Area and the Rochdale Canal Lock No. 90 as a result of the noise and disruption from the construction phase, plus the visual impact of cranes, hoardings and other construction structures appearing in the setting of these receptors.

8.8.4 During the completed development stage, the assessment of impact to heritage receptors identified would give rise to likely effects ranging from None (Not Significant) to Minor Neutral (Not Significant), with the greatest impact arising on the Castlefield Conservation Area and the Former Congregational Chapel.

8.8.5 In the case of all other heritage receptors identified within this report, it is considered that effects arising from the Proposed Development range from None (Not Significant) to Negligible Neutral (Not Significant), with the value (significance) of all unaffected (and therefore significance (value) preserved).

Townscape Summary

8.8.6 The townscape assessment has considered the Proposed Development within its urban context, including the buildings, the relationships between these, the different types of urban open spaces, including green spaces and the relationship between buildings and open spaces.

8.8.7 The construction residual effects are considered to have a likely effect of Negligible Adverse (Not Significant) to Minor / Moderate Adverse (Not Significant).

8.8.8 During the completed development stage, the Proposed Development would give rise to effects ranging from Negligible Neutral (Not Significant) to Moderate Beneficial (Significant).

8.8.9 The resultant effect arising from the impact to Townscape Character Area 1: Petersfield would be Moderate Beneficial. In relation to this character area which the Site is located within, the Proposed Development would establish a new development within Manchester City Centre, delivering a PBSA scheme supported by a high architectural quality building that marks a demonstrable improvement to the character, appearance, and function of the area.

8.8.10 In the cumulative context for Townscape Character Area 1: Petersfield, the Proposed Development would remain an attractive addition to the townscape, continuing to enhance the character, appearance and function of the area while being read alongside other consented schemes, including 2–4 Whitworth Street, Viadux Phase 2 and the Great Northern Warehouse redevelopment. The introduction of additional tall and large-scale development within the character area would lessen the relative visual influence of the Proposed Development, thereby reducing the magnitude of impact to Low and resulting in a Minor / Moderate Beneficial effect (Not Significant).

8.8.11 There are no changes to the findings of effects on the remaining townscape receptors as a result of cumulative and emerging scenarios in the surrounding area.

Visual Summary

8.8.12 The visual assessment has considered the impact of the Proposed Development upon visual receptors e.g. people experiencing a change in views and visual amenity at different places, including publicly accessible locations. Visual receptors are always people (although usually visual receptors are defined according to use e.g. residential, business, road, footpath etc.), rather than landscape features.

8.8.13 The construction residual effects are considered to have a likely effect of None (Not Significant) to Minor Adverse (Not Significant) on the visual receptors identified.

8.8.14 In the cumulative context, View 9 forms a static view. From this location, the consented scheme at 2–4 Whitworth Street (Planning Ref: 141773/FO/2024) appears in front of the Proposed Development, fully occluding it from view. As a consequence, the magnitude of impact is assessed as Nil, resulting in a likely effect of None (Not Significant).

8.8.15 There are no changes to the findings of effects on the remaining visual receptors as a result of the cumulative scenario in the surrounding area.

Table 8.8: Summary of Residual Effects												
Receptor	**Description of the Residual Effect**	**Geographical Significance**							**St / Mt / Lt & R / Ir**	**Scale and Nature**	**Significant / Not Significant**	**Additional Mitigation Measures**
		I	**N**	**R**	**C**	**D**	**P**	**L**				
Construction Phase												
Built Heritage												
Castlefield Conservation Area	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	Negligible Adverse	Not Significant	None Required
St Peter's Square	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
George Street Conservation Area	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Albert Square	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Upper King Street	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Town Hall	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Albert Memorial	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Old Warehouse to North of former Liverpool Road Railway Station	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required

Table 8.8: Summary of Residual Effects												
Receptor	**Description of the Residual Effect**	**Geographical Significance**							**St / Mt / Lt & R / Ir**	**Scale and Nature**	**Significant / Not Significant**	**Additional Mitigation Measures**
		I	**N**	**R**	**C**	**D**	**P**	**L**				
Construction Phase												
Built Heritage												
Manchester Art Gallery	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Former Liverpool Road Railway Station, Station Masters House	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
G Mex	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Deansgate Goods Station and attached Carriage Ramp	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Midland Hotel	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Central Public Library	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Town Hall Extension	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Manchester War Memorial	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required

Table 8.8: Summary of Residual Effects												
Receptor	**Description of the Residual Effect**	**Geographical Significance**							**St / Mt / Lt & R / Ir**	**Scale and Nature**	**Significant / Not Significant**	**Additional Mitigation Measures**
		I	**N**	**R**	**C**	**D**	**P**	**L**				
Construction Phase												
Built Heritage												
The Athenaeum	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Church of St George	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Rochdale Canal Lock No. 90, Approx. 30 None Nil metres West of Albion Bridge	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	Minor Adverse	Not Significant	None Required
13-17, Albion Street	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Manchester South Junction and Altrincham Railway Viaduct	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
The Britons Protection Public House	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Rochdale Canal Lock Keepers Cottage at Lock No. 91, Next to Gaythorn Tunnel	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required

Table 8.8: Summary of Residual Effects

Receptor	Description of the Residual Effect	Geographical Significance							St / Mt / Lt & R / Ir	Scale and Nature	Significant / Not Significant	Additional Mitigation Measures
		I	N	R	C	D	P	L				
Construction Phase												
Built Heritage												
Rochdale Canal Lock No. 91 at East End of Gaythorn Tunnel	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Deansgate Station	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Rochdale Canal Lock No. 89 (Tib Lock), on South Side of Havelock Mills	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Boundary Stone on Knott Mill Bridge, and Floodgate on East Side of Knott Mill Bridge	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Former Congregational Chapel	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	Negligible Adverse	Not Significant	None Required
Electricity Junction Box in Castlefield Canal Basin, Manchester	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Castlefield Information Centre	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required

Table 8.8: Summary of Residual Effects												
Receptor	**Description of the Residual Effect**	**Geographical Significance**							**St / Mt / Lt & R / Ir**	**Scale and Nature**	**Significant / Not Significant**	**Additional Mitigation Measures**
		I	**N**	**R**	**C**	**D**	**P**	**L**				
Construction Phase												
Built Heritage												
Electricity Junction Box in Castlefield Canal Basin, Manchester	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Chepstow House	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Former Market Hall	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Electricity Junction Box on Castle Street, Manchester	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
29-41, Liverpool Road	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Castlefield Railway Viaduct from G-Mex to Dawson Street	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
The Ritz Dance Hall	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Canda House	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required

Table 8.8: Summary of Residual Effects

Receptor	Description of the Residual Effect	Geographical Significance							St / Mt / Lt & R / Ir	Scale and Nature	Significant / Not Significant	Additional Mitigation Measures
		I	N	R	C	D	P	L				
Construction Phase												
Built Heritage												
Museum of Science and Industry, Air and Space Museum	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Manchester & Salford Junction Canal Tunnel	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Manchester Oxford Road Station (including Platform Structures)	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Nos 25 to 31 and attached former Chapel	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Former St Matthews Sunday School	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Chorlton Old Mill	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Rochdale Canal Lock No. 92 and Castle Street Bridge	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Merchants Warehouse	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required

Table 8.8: Summary of Residual Effects

Receptor	Description of the Residual Effect	Geographical Significance							St / Mt / Lt & R / Ir	Scale and Nature	Significant / Not Significant	Additional Mitigation Measures
		I	N	R	C	D	P	L				
Construction Phase												
Built Heritage												
Mill on North East Corner of Junction with Chester Street	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Townscape												
Townscape Character Area 1: Petersfield	Construction activities on the Site which is located in this Character Area					X			Mt & R	Minor / Moderate Adverse	Not Significant	None - embedded in construction management
Townscape Character Area 2: First Street	Appearance of construction activities in the wider townscape area surrounding the receptor					X			Mt & R	Negligible Adverse	Not Significant	None Required
Townscape Character Area 3: Castlefield	Appearance of construction activities in the wider townscape area surrounding the receptor					X			Mt & R	Negligible Adverse	Not Significant	None Required
Townscape Character Area 4: Great Jackson Street	Appearance of construction activities in the wider townscape area surrounding the receptor					X			Mt & R	Negligible Adverse	Not Significant	None Required
Townscape Character Area 5: St John's	Appearance of construction activities in the wider townscape area surrounding the receptor					X			Mt & R	Negligible Adverse	Not Significant	None Required
Character Area 6: Hulme Park	Appearance of construction activities in the wider					X			Mt & R	Negligible Adverse	Not Significant	None Required

Table 8.8: Summary of Residual Effects												
Receptor	**Description of the Residual Effect**	**Geographical Significance**							**St / Mt / Lt & R / Ir**	**Scale and Nature**	**Significant / Not Significant**	**Additional Mitigation Measures**
		I	**N**	**R**	**C**	**D**	**P**	**L**				
Construction Phase												
Built Heritage												
	townscape area surrounding the receptor											
Visual												
Visual Receptors												
Pedestrians using Mosley Street and Lower Mosley Street	Appearance construction activity in the view							X	Mt & R	Negligible Adverse	Not Significant	None Required
Pedestrians using Whitworth Street West	Appearance construction activity in the view							X	Mt & R	Minor Adverse	Not Significant	None Required
Users of Whitworth Steet West	Appearance construction activity in the view							X	Mt & R	Minor Adverse	Not Significant	None Required
Users of Medlock Street	Appearance construction activity in the view							X	Mt & R	Negligible Adverse	Not Significant	None Required
Users of Chester Road	Appearance construction activity in the view							X	Mt & R	Negligible Adverse	Not Significant	None Required
Static Views												
View 9: Castle Street	Appearance construction activity in the view							X	Mt & R	Negligible Adverse	Not Significant	None Required
View 10: Albert Square	Appearance construction activity in the view							X	Mt & R	Negligible Adverse	Not Significant	None Required
View 11: Windmill Street	Appearance construction activity in the view							X	Mt & R	Negligible Adverse	Not Significant	None Required

Table 8.8: Summary of Residual Effects

Receptor	Description of the Residual Effect	Geographical Significance							St / Mt / Lt & R / Ir	Scale and Nature	Significant / Not Significant	Additional Mitigation Measures
		I	N	R	C	D	P	L				
Construction Phase												
Built Heritage												
View 12: St Ann's Square	Appearance construction activity in the view							X	Mt & R	None	Not Significant	None Required
Operational Phase												
Heritage												
Castlefield Conservation Area	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	Minor Neutral	Not Significant	None Required
St Peter's Square	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	Negligible Neutral	Not Significant	None Required
George Street Conservation Area	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Albert Square	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Upper King Street	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Town Hall	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Albert Memorial	New development appearing in the setting of the built							X	Lt & Ir	None	Not Significant	None Required

Table 8.8: Summary of Residual Effects												
Receptor	**Description of the Residual Effect**	**Geographical Significance**							**St / Mt / Lt & R / Ir**	**Scale and Nature**	**Significant / Not Significant**	**Additional Mitigation Measures**
		I	**N**	**R**	**C**	**D**	**P**	**L**				
Construction Phase												
Built Heritage												
	heritage receptor											
Old Warehouse to North of former Liverpool Road Railway Station	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Manchester Art Gallery	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Former Liverpool Road Railway Station, Station Masters House	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
G Mex	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	Negligible Neutral	Not Significant	None Required
Deansgate Goods Station and attached Carriage Ramp	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Midland Hotel	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Central Public Library	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required

Table 8.8: Summary of Residual Effects												
Receptor	**Description of the Residual Effect**	**Geographical Significance**							**St / Mt / Lt & R / Ir**	**Scale and Nature**	**Significant / Not Significant**	**Additional Mitigation Measures**
		I	**N**	**R**	**C**	**D**	**P**	**L**				
Construction Phase												
Built Heritage												
Town Hall Extension	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Manchester War Memorial	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
The Athenaeum	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Church of St George	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Rochdale Canal Lock No. 90, Approx. 30 None Nil metres West of Albion Bridge	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
13-17, Albion Street	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Manchester South Junction and Altrincham Railway Viaduct	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required

Table 8.8: Summary of Residual Effects												
Receptor	**Description of the Residual Effect**	**Geographical Significance**							**St / Mt / Lt & R / Ir**	**Scale and Nature**	**Significant / Not Significant**	**Additional Mitigation Measures**
		I	**N**	**R**	**C**	**D**	**P**	**L**				
Construction Phase												
Built Heritage												
The Britons Protection Public House	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Rochdale Canal Lock Keepers Cottage at Lock No. 91, Next to Gaythorn Tunnel	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Rochdale Canal Lock No. 91 at East End of Gaythorn Tunnel	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Deansgate Station	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	Negligible Neutral	Not Significant	None Required
Rochdale Canal Lock No. 89 (Tib Lock), on South Side of Havelock Mills	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Boundary Stone on Knott Mill Bridge, and Floodgate on East Side of Knott Mill Bridge	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Former Congregational Chapel	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	Minor Neutral	Not Significant	None Required

Table 8.8: Summary of Residual Effects

Receptor	Description of the Residual Effect	Geographical Significance							St / Mt / Lt & R / Ir	Scale and Nature	Significant / Not Significant	Additional Mitigation Measures
		I	N	R	C	D	P	L				
Construction Phase												
Built Heritage												
Electricity Junction Box in Castlefield Canal Basin, Manchester	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Castlefield Information Centre	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Electricity Junction Box in Castlefield Canal Basin, Manchester	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Chepstow House	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Former Market Hall	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Electricity Junction Box on Castle Street, Manchester	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
29-41, Liverpool Road	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Castlefield Railway Viaduct from G-Mex to Dawson Street	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required

Table 8.8: Summary of Residual Effects												
Receptor	**Description of the Residual Effect**	**Geographical Significance**							**St / Mt / Lt & R / Ir**	**Scale and Nature**	**Significant / Not Significant**	**Additional Mitigation Measures**
		I	**N**	**R**	**C**	**D**	**P**	**L**				
Construction Phase												
Built Heritage												
The Ritz Dance Hall	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Canda House	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Museum of Science and Industry, Air and Space Museum	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Manchester & Salford Junction Canal Tunnel	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Manchester Oxford Road Station (including Platform Structures)	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Nos 25 to 31 and attached former Chapel	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Former St Matthews Sunday School	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Chorlton Old Mill	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required

Table 8.8: Summary of Residual Effects

Receptor	Description of the Residual Effect	Geographical Significance							St / Mt / Lt & R / Ir	Scale and Nature	Significant / Not Significant	Additional Mitigation Measures
		I	N	R	C	D	P	L				
Construction Phase												
Built Heritage												
Rochdale Canal Lock No. 92 and Castle Street Bridge	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Merchants Warehouse	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Mill on North East Corner of Junction with Chester Street	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Townscape												
Townscape Character Area 1: Petersfield	Introduction of new uses and development to the site which falls within the Character Area					X			Lt & Ir	Moderate Beneficial	Significant	None Required
Townscape Character Area 2: First Street	New uses and development in the wider setting of the townscape receptor					X			Lt & Ir	Minor Beneficial	Not Significant	None Required
Townscape Character Area 3: Castlefield	New uses and development in the wider setting of the townscape receptor					X			Lt & Ir	Minor / Moderate Beneficial	Not Significant	None Required
Townscape Character Area 4: Great Jackson Street	New uses and development in the wider setting of the townscape receptor					X			Lt & Ir	Negligible Beneficial	Not Significant	None Required
Townscape Character Area 5: St John's	New uses and development in the wider setting of the townscape receptor					X			Lt & Ir	Negligible Beneficial	Not Significant	None Required

Table 8.8: Summary of Residual Effects

Receptor	Description of the Residual Effect	Geographical Significance							St / Mt / Lt & R / Ir	Scale and Nature	Significant / Not Significant	Additional Mitigation Measures
		I	N	R	C	D	P	L				
Construction Phase												
Built Heritage												
Character Area 6: Hulme Park	New uses and development in the wider setting of the townscape receptor					X			Lt & Ir	Negligible Neutral	Not Significant	None Required
Visual												
Visual Receptors												
Pedestrians using Mosley Street and Lower Mosley Street	The appearance of development in views and the subsequent change to visual amenity							X	Lt & Ir	Minor / Moderate Beneficial	Not Significant	None Required
Pedestrians using Whitworth Street West	The appearance of development in views and the subsequent change to visual amenity							X	Lt & Ir	Minor Beneficial	Not Significant	None Required
Users of Whitworth Steet West	The appearance of development in views and the subsequent change to visual amenity							X	Lt & Ir	Minor Beneficial	Not Significant	None Required
Users of Medlock Street	The appearance of development in views and the subsequent change to visual amenity							X	Lt & Ir	Minor / Moderate Beneficial	Not Significant	None Required
Users of Chester Road	The appearance of development in views and the subsequent change to visual amenity							X	Lt & Ir	Minor Beneficial	Not Significant	None Required
Static Views												

Table 8.8: Summary of Residual Effects

Receptor	Description of the Residual Effect	Geographical Significance							St / Mt / Lt & R / Ir	Scale and Nature	Significant / Not Significant	Additional Mitigation Measures
		I	N	R	C	D	P	L				
Construction Phase												
Built Heritage												
View 9: Castle Street	The appearance of development in the view and the subsequent change to visual amenity							X	Lt & Ir	Negligible Neutral	Not Significant	None Required
View 10: Albert Square	The appearance of development in the view and the subsequent change to visual amenity							X	Lt & Ir	Negligible Neutral	Not Significant	None Required
View 11: Windmill Street	The appearance of development in the view and the subsequent change to visual amenity							X	Lt & Ir	Negligible Neutral	Not Significant	None Required
View 12: St Ann's Square	The appearance of development in the view and the subsequent change to visual amenity							X	Lt & Ir	None	Not Significant	None Required

Key:

Geographical Significance: I = International N = National R = Regional C = County D = District P = Parish L = Low to Local

Nature: St = Short Term Mt = Medium Term Lt = Long Term R = Reversible Ir = Irreversible

9 DAYLIGHT, SUNLIGHT AND OVERSHADOWING

9.1 Introduction

9.1.1 This Chapter reports the likely significant effects of the Proposed Development in terms of Daylight, Sunlight and Overshadowing in the context of the Site and surrounding area. In particular it considers the likely significant daylight, sunlight and overshadowing effects upon neighbouring properties which contain an element of residential accommodation (sensitive receptors) as well as neighbouring amenity spaces.

9.1.2 This Chapter (and its associated figures and appendices) is not intended to be read as a standalone assessment and reference should be made to the front end of this ES (Chapters 1 – 5), as well as the final chapter, 'Summary of Residual and Cumulative Effects' (Chapter 14).

9.2 Legislation, Policy and Guidance

Legislative Framework

9.2.1 There is no legislation that governs daylight, sunlight and overshadowing. The criteria for assessment relating to daylight, sunlight and overshadowing is covered by national and local policy in addition to Building research Establishment (BRE) guidance as set out below.

Planning Policy

9.2.2 The applicable planning policy is summarised as follows:

- National Planning Policy Framework (NPPF) 2024

The NPPF highlights the Government's recognition that increased flexibility is required on daylight and sunlight in response to the requirement for higher density development by stating that *"when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards)"*

- Manchester Core Strategy (2012-2027)

Policy DM1 – Development Management – States that all developments should have regard to the effects on amenity including privacy, light, noise, vibration, air quality and odours.

Policy EN2 – Tall Buildings – States that, by their very size, tall buildings can have a significant impact on the local environment and its micro-climate. It is therefore expected that this impact be modelled and that submissions for tall buildings also include appropriate measures to create an attractive, pedestrian friendly local environment.

Guidance

9.2.3 The applicable guidance is summarised as follows:

- Planning Practice Guidance (PPG) (2024 and regularly updated as a 'live' resource)

Paragraph: 006 Reference ID: 66-006-20190722 – Effective use of land within the PPG states that *"All developments should maintain acceptable living standards. What this means in practice, in relation to assessing appropriate levels of sunlight and daylight, will depend to some extent on the context for the development as well as its detailed design. For example, in areas of high-density historic buildings, or city centre locations where tall modern buildings predominate, lower daylight and sunlight levels at some windows may be unavoidable if new developments are to be in keeping with the general form of their surroundings."*

- Manchester Residential Quality Guidance (2016)

The Residential Quality Guidance states that *"Developers and their design teams will be expected to demonstrate how the bulk, massing and scale of proposals have been considered in terms of its impact on the neighbourhood, street and block and how it influenced the architecture and design of the building and/or space."*

- Building Research Establishment (BRE) 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice', Third Edition, 2022 (hereafter referred to as the 'BRE Guidelines')

The BRE guidelines provides advice on site layout planning to achieve good sunlighting and daylighting within buildings, and in the open spaces between them. It is intended for use by building designers, developers, consultants and Local Planning Authorities (LPAs). The advice it gives is not mandatory and should not be used as an instrument of planning policy. On page 4 (Summary) it states that *"It is purely advisory and the numerical target values within it may be varied to meet the needs of the development and its location."*

It also states at paragraph 1.6 that *"… the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. In special circumstances the developer or planning authority may wish to use different target values… in an area with modern high-rise buildings, a higher degree of obstruction maybe unavoidable if new developments are to match the height and proportions of existing building"*

9.3 Assessment Methodology and Significance Criteria

Scope of the Assessment

9.3.1 The assessments undertaken establish the extent to which daylight and sunlight levels within surrounding residential properties will change as a result of the operation of the Proposed Development compared to the levels experienced currently.

9.3.2 The assessments undertaken will also establish the extent to which shadow levels upon surrounding areas of amenity space will change as a result of the operation of the Proposed Development compared to the levels experienced currently.

Effects Not Considered within the Scope

9.3.3 Owing to the evolving and changing nature of construction activities, the assessment of potential effects during construction of the Proposed Development on daylight and sunlight to surrounding properties and areas of amenity space will not be modelled.

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

9.3.5 Therefore, reduced daylight and sunlight amenity within the surrounding residential receptors and areas of amenity space during the demolition and construction phases is not considered to be significant (or if it is, only on parity with the completed Proposed Scheme) and is not considered further.

Extent of the Study Area

9.3.6 The BRE Guidelines suggest that residential properties have the highest requirement for daylight and sunlight by stating that "*the guidelines are intended for use for rooms in adjoining dwellings where light is required, including living rooms, kitchens and bedrooms.*"

9.3.7 The scope of properties that contain an element of residential accommodation (sensitive receptors) that will be assessed has been determined through professional judgement, considering their orientation and proximity to the Site.

9.3.8 Figure 9.1 illustrates the sensitive receptors, and hence the study area, which will be considered for daylight and sunlight due to their residential use and proximity to the Site.

9.3.9 The properties and areas of amenity space, and hence the study area is identified in the drawings contained at Appendix 9.1.

9.3.10 The assessment has considered other residential properties which may have a view of the completed Proposed Development but, due to the distance and orientation from the Proposed Development, their daylight and sunlight amenity levels are unlikely to be adversely affected. They have not, therefore, been assessed in detail.

Consultation Undertaken to Date

9.3.11 There are no specialists within Manchester City Council (MCC) or other statutory consultees relevant to the area of daylight, sunlight and overshadowing. As such, no consultation has been undertaken.

Assessment Methodology

9.3.12 The method of baseline data collection and assessment is in accordance with current guidance and industry best practice.

9.3.13 The assessment of daylight, sunlight and overshadowing effects is based principally on the amount of visible sky before and after the construction of a new development.

9.3.14 The Building Research Establishment (BRE) recommends the following assessment methodologies:

- Daylight
  - Vertical Sky Component (VSC) skylight;
  - No Sky Line (NSL) skylight: and

- Diffuse Daylight.

- Sunlight
  - Annual Probable Sunlight Hours (APSH).
- Overshadowing
  - Sun Hours on Ground (SHOG)

VSC

9.3.15 VSC is a measure of the direct skylight reaching a point from an overcast sky. It is the ratio of the illuminance at a point on a given vertical plane to the illuminance at a point on a horizontal plane due to an unobstructed sky. The maximum value achievable is approximately 40% for a completely unobstructed vertical wall.

9.3.16 The BRE guidelines suggest that if the VSC at the centre of a window is less than 27%, and it is less than 0.8 times its former value (i.e. the proportional reduction is greater than 20%), then the reduction in skylight will be noticeable, and the existing building may be adversely affected.

NSL

9.3.17 NSL is a measure of the distribution of daylight within a room. It maps out the region within a room where light can penetrate directly from the sky, and therefore accounts for the size of and number of windows by simple geometry. This assessment is recommended only where floor plans are available.

9.3.18 The BRE guidelines suggests that, if the area of the working plane within a room that can receive direct skylight is reduced to less than 0.8 times its former value, the affected room will be adversely affected. This therefore implies that an NSL of at least 80% would be considered satisfactory.

9.3.19 In regard to deep rooms which are lit by windows on one side, the BRE Guidelines states "*If an existing building contains rooms lit from one side only and greater than 5m deep, then a greater movement of the no skyline may be unavoidable*" (paragraph 2.2.10).

Diffuse Daylight

9.3.20 This assessment process is summarised in Figure 20 of the BRE Guidelines, Decision Chart: diffuse daylight in existing buildings, which can be seen in Figure 9.1

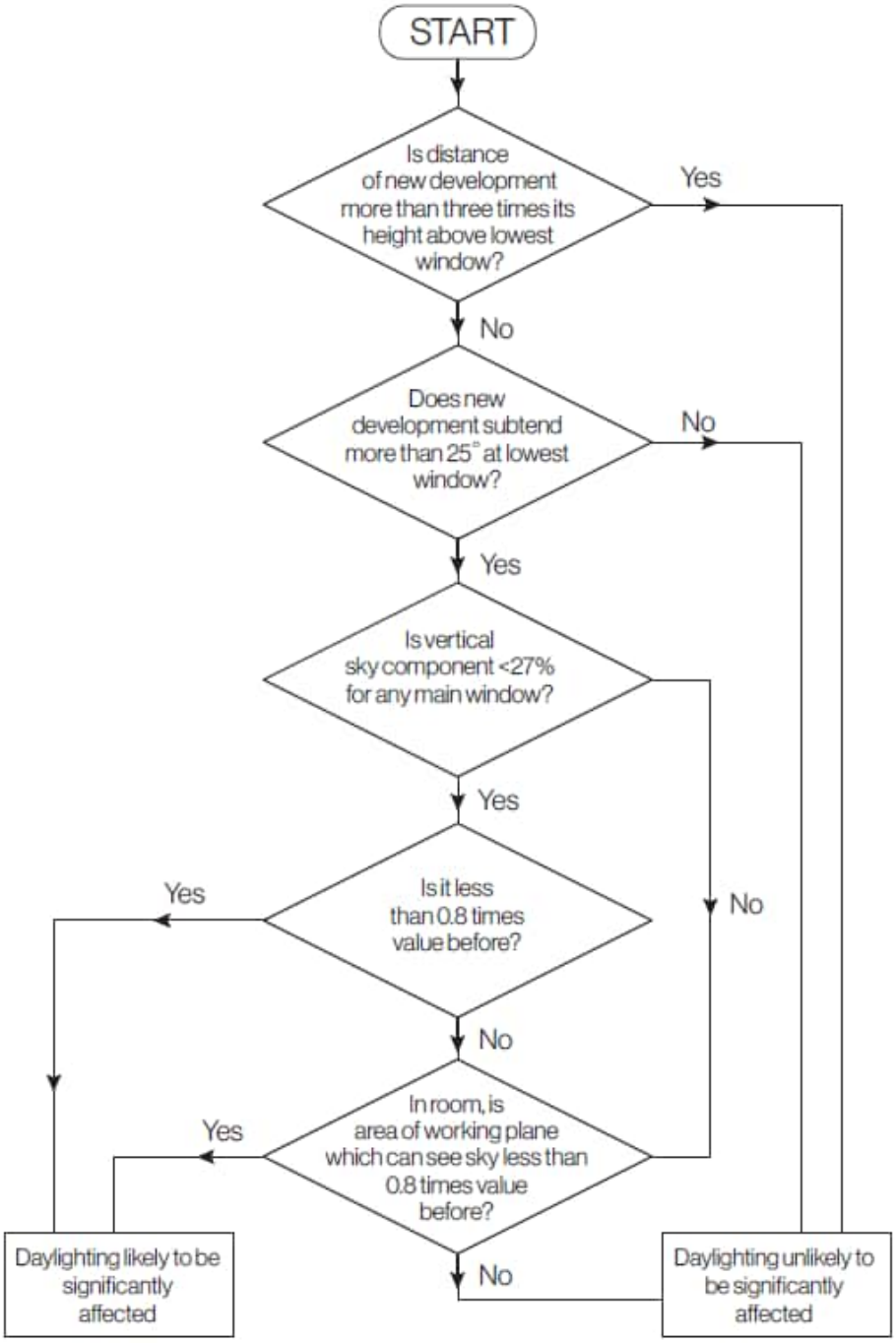


Figure 9.1: Figure 20 of the BRE Guidelines: Decision chart: diffuse daylight in existing buildings.

APSH

9.3.21 APSH is measured using a sun indicator which contains 100 spots, each representing 1% of APSH. Where no obstruction exists the total annual probable sunlight for Bradford would amount to 1392 hours, and each spot equates to 13.92 hours of the total annual probable sunlight.

9.3.22 The BRE Guidelines suggest that a window within a main living room may be adversely affected if a point at the centre of the window receives less than 25% of the APSH, including at least 5% of the APSH during the winter months (21 September to 21 March), or less than 0.8 times its baseline sunlight hours during either period, or if there is a reduction in total APSH which is greater than 4%. Bedrooms and kitchens have been discounted in accordance with paragraph 3.2.3 of the BRE guidelines.

SHOG

9.3.23 SHOG is a measure of the extent of an area of outdoor amenity space that can benefit from at least two hours on sunlight.

9.3.24 If a space is used all year round, the spring equinox (21st March) is the best date for which to prepare shadow plots as it gives the average level of shadowing, however if a particular space is used only at certain times of the year, it is instructive to plot shadows for those specific times.

9.3.25 The BRE guidelines suggest that, for an area of amenity spaces to be adequately sunlit throughout the year, at least half of it should receive at least two hours of sunlight on 21st March and if, as a result of a new developments, that area does not meet the above, and the area which can receive 2 hours of sun on 21 March is less than 0.80 times its former value, then the loss of sunlight is likely to be noticeable.

9.3.26 The technical analyses carried out to inform the daylight, sunlight and overshadowing assessments have been undertaken by creating a digital three-dimensional (3D) model of the existing Site and Proposed Development.

9.3.27 The 3D model uses Waldram Diagrams to establish the VSC and 3D geometric calculations for daylight distribution. This model (which is orientated to north by the use of Ordnance Survey (OS) information) enables the path of the sun to be tracked throughout the year to establish the shadow cast by the existing and proposed buildings and thus calculate the sun hours on ground in each scenario.

9.3.28 In accordance with the BRE Guidance, only those surrounding properties which have windows facing towards the Site were included in the assessment. If a nearby property has no windows facing the Site, these properties would not be affected by the Proposed Development in terms of light.

9.3.29 Only outdoor amenity spaces which are proximate enough to the Proposed Development for any shadow cast by it to reach them have been included in the assessments.

9.3.30 The above BRE criteria is summarised in **Table 9.1**

Table 9.1: Summary of Daylight, Sunlight and Overshadowing Assessment Criteria

Assessment Method	BRE Criteria
VSC	A window may be adversely affected if its VSC measured at the centre of the window is less than 27% and less than 0.8 times is former value.
NSL	A room may be adversely affected if the daylight distribution (NSL) is reduced beyond 0.8 times its existing area.
APSH	A window may be adversely affected if a point at the centre of the window received for the whole year, less than 25% of the APSH including at least 5% of the APSH during the winter months (21 September to 21 March) and less than 0.8 times its former sunlight hours during either period, and for existing neighbouring buildings, if there is a reduction in total APSH which is greater than 4%.
SHOG	An area of outdoor amenity space may be adversely affected if less than 50% of its total area is unable to benefit from at least 2 hours of sunlight on 21st March and if the reduction in sunlight is greater than 20% of the baseline level.

Scenarios Assessed

9.3.31 The daylight, sunlight and overshadowing scenarios that have been assessed and inform the content of this chapter are as follows:

- Existing Baseline
- Existing Baseline v Proposed
- Existing Baseline v Proposed + Cumulatives
- Consented Baseline
- Consented Baseline v Proposed

Identification of Sensitive Receptors

9.3.32 It is important that the location and nature of the Site and surroundings are considered when determining the significance of any effects identified. The BRE Guide is very clear that the targets provided are not mandatory. The location of the development could be deemed to be special circumstances in which the planning

authority may wish to use different target values. This scope and view should also be followed through to the sensitivity of the surrounding receptors. There should be an expectation that a higher degree of obstruction is inevitable in an area with modern high-rise buildings. This point is also made in the NPPF and NPPG.

9.3.33 For these reasons, the surrounding receptors may have a lower sensitivity to change in an urban location than those located in suburban, less dense areas. Sensitivity classification is assigned on how the proposed receptor is able to accommodate or adapt to the effect of the development. These are summarised in Table 9.2

Table 9.2: Summary of Receptor Sensitivity levels	
High	The receptor/resource has little ability to absorb change without fundamentally altering its present character or is of international or national importance.
Medium	The receptor/resource has moderate capacity to absorb change without significantly altering its present character or is of high importance.
Low	The receptor/resource is tolerant of change without detriment to its character, is of low or local importance.

Magnitude of Change

9.3.34 The initial numerical criteria for determining the magnitude of change is based on the percentage alterations shown in Table 9.3.

Table 9.3: Daylight, Sunlight and Overshadowing Magnitude of Change	
Magnitude of Change	**Percentage Alteration from Baseline**
Negligible	0-20%
Minor	20-30%
Moderate	30-40%
Major	40%+

Significance Criteria

9.3.35 The level of effect upon a sensitive receptor is initially determined by the assessment of the magnitude of change against the sensitivity of the receptor. Table 9.4 illustrates how the sensitivity of the receptor and the magnitude of any change combine to indicate the potential level of an identified effect.

9.3.36 Effects that are deemed to be significant for the purposes of this assessment are those that are described as being of a moderate or major beneficial or adverse level.

Table 9.4:	**Daylight, Sunlight and Overshadowing Level of Effect**		
	High	**Medium**	Low
Major	Major Adverse / Beneficial*	Major Adverse / Beneficial*	Moderate-Minor Adverse / Beneficial
Moderate	Moderate Adverse / Beneficial*	Moderate Adverse / Beneficial*	Minor Adverse / Beneficial
Minor	Moderate-Minor Adverse / Beneficial	Minor Adverse / Beneficial	Minor-Negligible Adverse / Beneficial
Negligible	Negligible Adverse / Beneficial	Negligible Adverse / Beneficial	Negligible Adverse / Beneficial
* Significant in terms of EIA regulations			

9.3.37 When assigning significance to an effect for daylight, sunlight and overshadowing effects, the above table and professional judgement has been used. Consideration has been given to the proportion of rooms/windows affected, as well as the percentage alterations, absolute changes, sensitivity of the receptor, and any other relevant factors. There may be mitigating factors such as location and nature of development balconies, overhangs or design features which may also affect the determination of assigning the criteria (see 'Level of Effect by Reference to the BRE Guidelines' and 'Effects in Context to Locality and Manchester City Benchmarking' below),.

Level of Effect by Reference to the BRE Guidelines

9.3.38 For daylight and sunlight, the BRE Guidelines outline the approach within the accompanying Appendix H, in terms of assigning criteria to assess the effects.

"Adverse impacts occur when there is a significant decrease in the amount of skylight and sunlight reaching an existing building where it is required…The assessment of impact will depend on a combination of factors, and there is no simple rule of thumb that can be applied."

"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."

9.3.39 The classification of minor adverse is documented within Paragraph H6 of the BRE Guidelines:

"Factors tending towards a minor adverse impact include:

- Only a small number of windows 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 only has a low level of requirement for skylight or sunlight; and
- There are particular reasons why an alternative, less stringent, guideline should be applied…".

9.3.40 The classification of major adverse is documented within Paragraph H7 of the BRE Guidelines:

"Factors tending towards a major adverse impact include:

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

9.3.41 The BRE Guidelines do not provide any guidance on what constitutes a moderate effect.

9.3.42 At paragraph F2, the BRE Guidelines state the following:

"Sometimes there may be an extant planning permission for a site but the developer wants to change the design. In assessing the loss of light to existing windows nearby, a local authority may allow the vertical sky component (VSC) and annual probable sunlight hours (APSH) for the permitted scheme to be used as alternative benchmarks. However, since the permitted scheme only exists on paper, it would be inappropriate for it to be treated in the same way as an existing building, and for the developer to set 0.80 times the values for the permitted scheme as benchmarks."

Significance of Effects in Context to the Locality

9.3.43 The context of the Site and surrounding area is key to understanding the sensitivity of the surrounding receptors and significance of daylight and sunlight effects.

9.3.44 It is well established that the published targets within the BRE guide are based on low rise, suburban development. The PPG – Making Effective Use of Land, updated 22 July 2019, Paragraph 007 Reference ID: 66-007-20190722 states:

"All developments should maintain acceptable living standards. What this means in practice, in relation to assessing appropriate levels of sunlight and daylight, will depend to some extent on the context for the development as well as its detailed design. For example, in areas of high-density historic buildings, or city centre locations where tall modern buildings predominate, lower daylight and sunlight levels at some windows may be unavoidable if new developments are to be in keeping with the general form of their surroundings."

9.3.45 This is a key point to consider in respect of the Proposed Development and its impact on surrounding properties, particularly as it is situated in Manchester City Centre. The Manchester Core Strategy 2012-2027 sets out development principles for the city centre in Policy CC 6 (p60), which states the following:

"City Centre development will generally be high-density. It is a location where land should be used to its maximum efficiency. The appropriate scale, massing and height of development in the City Centre will significantly exceed what is appropriate elsewhere in the City."

9.3.46 Policy DM1 of the Manchester Core Strategy also states:

"Development should have regard to the character of the surrounding area".

9.3.47 In other words, when considering acceptability of matters such as daylight and sunlight, the height, proximity and levels of light already established in should be taken into account.

9.3.48 This approach is also acknowledged in the BRE guide, which states:

"in special circumstances the developer or planning authority may wish to use different target values… in a historic city centre, or in an area with modern high rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings".

9.3.49 Additionally, the National Planning Policy Framework ("NPPF") states the following at paragraph 130 (c):

"…when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight…(as long as the resulting scheme would provide acceptable living standards)."

9.3.50 The Planning Practice Guidance ("PPG") also supports this approach, stating:

Paragraph 007 Reference ID: 66-007-20190722

"All developments should maintain acceptable living standards. What this means in practice, in relation to assessing appropriate levels of sunlight and daylight, will depend to some extent on the context for the development [emphasis added] as well as its detailed design. For example, in areas of high-density historic buildings, or city centre locations where tall modern buildings predominate, lower daylight and sunlight levels at some windows may be unavoidable…"

Paragraph: 004 Reference ID: 66-004-20190722

"A range of considerations should be taken into account in establishing appropriate densities on a site or in a particular area. Tools that can assist with this include…characterisation studies [emphasis added] and design strategies, dealing with issues such as urban form, historic character, building typologies, prevailing sunlight and daylight levels [emphasis added], green infrastructure and amenity space…"

9.3.51 It would therefore be unrealistic for the surrounding residential properties to expect to maintain similar levels of daylight as those currently experienced, as the Site is underutilised with only very low structures.

Manchester City Centre Benchmarking

9.3.52 Considering the contextual discussion above, in order to fully understand the results in context, it is appropriate to consider what are deemed to be appropriate daylight levels in Manchester city centre. A detailed characterisation study as recommended by the Manchester Core Strategy, the NPPF & PPG has, therefore, been produced and can be found in Appendix 9.4.

9.3.53 The characterisation study provides a benchmark as to what is acceptable/sufficient daylight in context and, indeed, what residents living within Manchester city centre, in which a successful residential market operates and where properties are in high demand, experience when exercising choice in where they live.

9.3.54 The impacts discussed to the surrounding sensitive receptors below have therefore been considered in context to the BRE guidance, but also against what is considered acceptable in other residential locations in Manchester City Centre.

9.4 Baseline Conditions

Existing Baseline

9.4.1 The existing baseline conditions comprise the existing Site as of March 2026, which is a restored site comprising turfing and perimeter fencing and which is understood not to be subject to change.

9.4.2 Drawings of the Existing Baseline assessment scenario can be found in Appendix 9.1.

Daylight & Sunlight

9.4.3 2,662 Site facing windows were assessed for VSC (daylight). 1098 rooms for which floor plans were publicly available were assessed for NSL (daylight). 1576 windows were assessed for APSH (sunlight) within those buildings which are material for consideration in sunlight terms i.e. their windows are orientated to within 90 degrees of due south.

9.4.4 The full Existing Baseline daylight and sunlight results can be found in Appendix 9.2and are summarised in Table 9.5 below.

Table 9.5: Baseline Daylight and Sunlight Levels

	Total No. Windows That Meet VSC Criteria		Total No. Rooms That Meet NSL Criteria		Total No. Windows That Meet APSH Criteria	
	TOTAL	**PASS**	**TOTAL**	**PASS**	**TOTAL**	**PASS**
Hill Quays	192	54	92	66	93	34
Riverside Mews	45	15	7	7	3	0
The Rhine	83	14	56	47	14	0
The Nile	183	36	109	70	33	16
30 City Road East	36	7	33	15	0	0
14 Albion Street*	7	3	0	0	0	0
The Hacienda	127	71	24	24	91	73
326-330 Deansgate	22	0	1	1	21	12
The Ropeworks	168	6	77	50	4	1
21 Little Peter Street*	43	5	0	0	3	3
8-16 Bridgewater St	13	1	8	7	13	10
20 Southern St*	11	2	0	0	10	9
18-12 Southern St	8	0	2	0	8	7
8-10 Southern St	12	4	6	2	8	5
Deansgate Quay	81	23	34	33	40	17
357-361 Deansgate*	43	16	0	0	4	0
Lumiere Building	130	52	56	24	10	5
The Danube	94	6	74	20	13	0
AXIS TOWER	318	299	262	245	293	281

Table 9.5: Baseline Daylight and Sunlight Levels						
	Total No. Windows That Meet VSC Criteria		Total No. Rooms That Meet NSL Criteria		Total No. Windows That Meet APSH Criteria	
Viadux - Phase 1	342	341	152	152	304	304
BEETHAM TOWER	282	206	105	99	239	239
325 Deansgate Staycity Aparthotel*	422	230	0	0	372	370
TOTALS	**2662**	**1391**	**1098**	**862**	**1576**	**1386**

***** No publicly available rooms layouts. The BRE Guidelines provide that the effect on the daylight distribution (NSL) should only be assessed where room layouts are known.

9.4.5 Out of the 2662 windows assessed for VSC daylight, 1391 (52%) meet or exceed the BRE recommended criteria. For NSL, 862 (79%) of the 1098 rooms assessed as floor plans were publicly available meet the BRE recommended criteria. For sunlight, 1386 (88%) of the 1576 windows assessed meet the BRE criteria for both Winter and Annual APSH.

9.4.6 Overall, there is a reasonable level of Existing Baseline daylight and sunlight compliance considering the city centre context of the Site. This is due to the presence of the currently vacant nature of the Site, enabling a greater amount of daylight and sunlight availability.

Overshadowing

9.4.7 The full Existing Baseline overshadowing results can be found in Appendix 9.3 and are summarised in Table 9.6 below. The location of the areas detailed in Table 9.6 can be seen in the plots found in Appendix 9.3.

Table 9.6: Baseline Overshadowing Levels		
Area Name	**Area benefitting from 2 hours of SHOG on 21st March**	**Meets SHOG Criteria?**
Rochdale Canal Area 01 - West	**66.69%**	**Yes**
Rochdale Canal Area 02 - East	**85.99%**	**Yes**
Social terrace along the canal	**85.50%**	**Yes**

9.4.8 All sufficiently proximate areas of outdoor amenity space will benefit from BRE compliant levels of SHOG in the Baseline scenario.

Future Baseline

9.4.9 If the Proposed Development was not constructed, the Existing Baseline daylight, sunlight and overshadowing levels would remain the same as set out above as there are no 'natural' factors that would influence baseline conditions, only human induced changes (i.e., development). The Site is, however, seen as a redevelopment

opportunity and so, in reality, it would be unlikely for the baseline to remain as it is indefinitely. With respect to human induced changes, any development of the Site could influence the baseline conditions of varying degrees, as any drivers for change in baseline conditions would be linked to massing and layout of the surrounding context.

Sensitive Receptors

9.4.10 Figure 9.2 illustrates the sensitive receptors which will be considered for daylight and sunlight due to their residential use and proximity to the Site. These include:

1. Hill Quays
2. Riverside Mews
3. The Rhine
4. The Nile
5. 30 City Road East
6. 14 Albion Wharf
7. The Hacienda
8. 326-330 Deansgate
9. The Ropeworks
10. 21 Little Peter Street
11. 8-16 Bridgewater Street
12. 20 Southern Street
13. 18-12 Southern St
14. 8-10 Southern St
15. Deansgate Quay
16. 357-361 Deansgate
17. Lumiere Building
18. The Danube
19. Axis Tower
20. Viadux - Phase 1
21. Beetham Tower Residential
22. StayCity Aparthotel, Deansgate



Figure 9.2: Daylight & Sunlight Sensitive Receptor Map

9.4.11 The following sensitive receptors will be considered for overshadowing due to their proximity to the Site:

- The canal (Rochdale Canal)
- The social terrace along the canal

9.4.12 The above properties and areas of amenity space are identified in the drawings contained at Appendix 9.1 and Appendix 9.3.

9.4.13 The existing residential receptors and outdoor amenity spaces surrounding the Site are in a developing city centre location where there is an expectation for a higher density of development. All of the daylight, sunlight and overshadowing sensitive receptors are, therefore, considered to be of **medium sensitivity.**

Limitations

9.4.14 Access to surrounding properties was not obtained. Best estimates were, therefore, made in determining building uses (residential or commercial). Generally, these were made from external observations and recourse to the Valuation Office Agency's (VOA) council tax records. This is in accordance with standard industry practice.

9.4.15 Where publicly available, room layouts have been included within the modelling of the sensitive receptors. Reasonable assumptions as to the floor levels within these modelled rooms, which dictate the level of the working plane relevant for the NSL assessments, have been based on external observations. This is in accordance with standard industry practice.

9.5 Assessment of Effects

Daylight & Sunlight (Existing Baseline v Proposed)

9.5.1 2662 Site facing windows were assessed for VSC (daylight). 1098 rooms for which floor plans were publicly available were assessed for NSL (daylight). 1576 windows were assessed for APSH (sunlight) within those buildings which are material for consideration in sunlight terms i.e. their windows are orientated to within 90 degrees of due south.

9.5.2 The outputs of the computer modelling for both daylight and sunlight is provided in full within Appendix 9.2, with the key metrics provided in Table 9.7 to Table 9.11 below.

Table 9.7 - Summary of Baseline v Proposed VSC Results

Address	Total No. Windows	No. of windows that meet BRE Guidelines	Below BRE Guidelines - Magnitude of Change		
		Negligible	Minor	Moderate	Major
Hill Quays	192	164	18	10	0
Riverside Mews	45	45	0	0	0
The Rhine	83	83	0	0	0
The Nile	183	178	5	0	0
30 City Road East	36	36	0	0	0
14 Albion Street	7	0	0	0	7
The Hacienda	127	86	32	9	0
326-330 Deansgate	22	22	0	0	0
The Ropeworks	168	14	13	16	125
21 Little Peter Street	43	43	0	0	0
8-16 Bridgewater St	13	13	0	0	0

Table 9.7 - Summary of Baseline v Proposed VSC Results					
Address	Total No. Windows	No. of windows that meet BRE Guidelines	Below BRE Guidelines - Magnitude of Change		
		Negligible	Minor	Moderate	Major
20 Southern St	11	11	0	0	0
18-12 Southern St	8	8	0	0	0
8-10 Southern St	12	12	0	0	0
Deansgate Quay	81	81	0	0	0
357-361 Deansgate	43	43	0	0	0
Lumiere Building	130	130	0	0	0
The Danube	94	93	1	0	0
AXIS TOWER	318	134	32	103	49
Viadux - Phase 1	342	342	0	0	0
BEETHAM TOWER	282	282	0	0	0
325 Deansgate Staycity Aparthotel	422	422	0	0	0
TOTALS	2662	2242	101	138	181
Address	**Total No. Rooms**	**No. of rooms that meet BRE Guidelines**	**Below BRE Guidelines - Magnitude of Change**		
		Negligible	**Minor**	**Moderate**	**Major**
Hill Quays	92	92	0	0	0
Riverside Mews	7	7	0	0	0
The Rhine	56	56	0	0	0
The Nile	109	109	0	0	0
30 City Road East	33	31	2	0	0
14 Albion Street*	0	0	0	0	0
The Hacienda	24	24	0	0	0
326-330 Deansgate	1	1	0	0	0
The Ropeworks	77	20	1	10	46
21 Little Peter Street*	0	0	0	0	0
8-16 Bridgewater St	8	8	0	0	0
20 Southern St*	0	0	0	0	0
18-12 Southern St	2	2	0	0	0
8-10 Southern St	6	6	0	0	0
Deansgate Quay	34	34	0	0	0
357-361 Deansgate*	0	0	0	0	0
Lumiere Building	56	56	0	0	0
The Danube	74	74	0	0	0
AXIS TOWER	262	78	38	31	115
Viadux - Phase 1	152	152	0	0	0
BEETHAM TOWER	105	105	0	0	0
325 Deansgate Staycity Aparthotel*	0	0	0	0	0
TOTALS	1098	855	41	41	161

***** No publicly available rooms layouts. The BRE Guidelines provide that the effect on the daylight distribution (NSL) should only be assessed where room layouts are known.

Table 9.9 - Summary of Baseline v Proposed Annual Sunlight Results					
Address	**Total No. Windows**	**No. of windows that meet BRE Guidelines Negligible**	**Below BRE Guidelines - Magnitude of Change**		
			Minor	**Moderate**	**Major**
Hill Quays	93	93	0	0	0
Riverside Mews	3	3	0	0	0
The Rhine	14	14	0	0	0
The Nile	33	33	0	0	0
30 City Road East	0	0	0	0	0
14 Albion Street	0	0	0	0	0
The Hacienda	91	90	1	0	0
326-330 Deansgate	21	21	0	0	0
The Ropeworks	4	4	0	0	0
21 Little Peter Street	3	3	0	0	0
8-16 Bridgewater St	13	13	0	0	0
20 Southern St	10	10	0	0	0
18-12 Southern St	8	8	0	0	0
8-10 Southern St	8	8	0	0	0
Deansgate Quay	40	40	0	0	0
357-361 Deansgate	4	4	0	0	0
Lumiere Building	10	10	0	0	0
The Danube	13	13	0	0	0
AXIS TOWER	293	293	0	0	0
Viadux - Phase 1	304	304	0	0	0
BEETHAM TOWER	239	239	0	0	0
325 Deansgate Staycity Aparthotel	372	372	0	0	0
TOTALS	1576	1575	1	0	0

Table 9.10 - Summary of Baseline v Proposed Winter Sunlight Results					
Address	**Total No. Windows**	**No. of windows that meet BRE Guidelines Negligible**	**Below BRE Guidelines - Magnitude of Change**		
			Minor	**Moderate**	**Major**
Hill Quays	93	93	0	0	0
Riverside Mews	3	3	0	0	0
The Rhine	14	14	0	0	0
The Nile	33	33	0	0	0
30 City Road East	0	0	0	0	0
14 Albion Street	0	0	0	0	0
The Hacienda	91	91	0	0	0
326-330 Deansgate	21	21	0	0	0
The Ropeworks	4	4	0	0	0
21 Little Peter Street	3	3	0	0	0
8-16 Bridgewater St	13	13	0	0	0

Table 9.10 - Summary of Baseline v Proposed Winter Sunlight Results					
Address	**Total No. Windows**	**No. of windows that meet BRE Guidelines Negligible**	**Below BRE Guidelines - Magnitude of Change**		
			Minor	**Moderate**	**Major**
20 Southern St	10	10	0	0	0
18-12 Southern St	8	8	0	0	0
8-10 Southern St	8	8	0	0	0
Deansgate Quay	40	40	0	0	0
357-361 Deansgate	4	4	0	0	0
Lumiere Building	10	10	0	0	0
The Danube	13	13	0	0	0
AXIS TOWER	293	293	0	0	0
Viadux - Phase 1	304	304	0	0	0
BEETHAM TOWER	239	239	0	0	0
325 Deansgate Staycity Aparthotel	372	372	0	0	0
TOTALS	1576	1576	**0**	0	0

9.5.3 Out of the 2662 windows assessed for VSC daylight, the changes to 2242 (84%) are BRE compliant. For NSL, the changes to 855 (78%) of the 1098 rooms assessed as floor plans were publicly available are BRE complaint. For sunlight, the changes to 1575 (99%) of the 1576 windows assessed are BRE compliant for both Winter and Annual APSH.

9.5.4 In situations where the operation of the Proposed Development would result in VSC, NSL and APSH alterations to the windows and rooms within a property which are all within the BRE guidelines, the effect of the Proposed Development upon the daylight and sunlight amenity to that property is considered to be **negligible adverse (not significant)**.

9.5.5 The sensitivity of the 14 receptors listed in Table 9.11 is considered to be medium. Based on the initial numerical criteria for determining the magnitude of change detailed in Table 9.3, the magnitude of VSC, NSL and APSH change is negligible. The effect upon daylight and sunlight amenity within these properties is therefore considered to be **negligible adverse (not significant).**

Table 9.11 - Properties with a Negligible Daylight and Sunlight effect	
Riverside Mews	8-10 Southern St
The Rhine	Deansgate Quay
326-330 Deansgate	357-361 Deansgate
21 Little Peter Street	Lumiere Building
8-16 Bridgewater St	Viadux - Phase 1
20 Southern St	Beetham Tower

Table 9.11 - Properties with a Negligible Daylight and Sunlight effect	
18-12 Southern St	325 Deansgate Staycity Aparthotel

9.5.6 The sensitivity of the three receptors listed in Table 9.12 is considered to be medium. Based on the initial numerical criteria for determining the magnitude of change detailed in Table 9.3, the magnitude of VSC and/or NSL change is no greater than minor. The effect upon daylight amenity within these properties is therefore considered to be **minor adverse (not significant).** Based on the initial numerical criteria for determining the magnitude of change detailed in Table 9.3, the magnitude of APSH change (where applicable) is negligible. The effect of the Proposed Development upon the sunlight amenity within these properties would be **negligible adverse (not significant)**

Table 9.12 - Properties with a Minor Adverse Daylight and Negligible Sunlight effect	
The Nile	The Danube
30 City Road East	

9.5.7 The remaining five properties are discussed in detail below:

Hill Quays

9.5.8 A total of 192 windows serving 92 rooms were assessed for daylight within this building. The 93 windows with Site facing windows orientated to within 90° of due south were assessed for sunlight.

VSC Daylight

9.5.9 164 (85%) of the 192 windows assessed would meet the BRE's criteria and so experience a negligible magnitude of VSC change.

9.5.10 Based on the initial numerical criteria for determining the magnitude of change detailed in Table 9.3 the magnitude of VSC change to 18 (64%) of the affected windows is minor and the magnitude of change to the remaining 10 (36%) windows is moderate.

9.5.11 The existing VSC values of the 10 windows which experience a moderate magnitude of change are all no greater than 5.1%. This means that the no greater than 1.6% absolute VSC changes as a result of the Proposed Development, are disproportionately represented as moderate when changes of this level are unlikely to be noticeable to the occupants of the rooms served by these windows.

NSL Daylight

9.5.12 All 92 (100%) rooms assessed would meet the BRE's criteria and so experience a negligible magnitude of NSL change.

Diffuse Daylight

9.5.13 64 (70%) of the 92 rooms assessed would meet the BRE's criteria and so experience a negligible magnitude of diffuse daylight change.

9.5.14 In accordance with the significance criteria described above, 18 (19%) of the remaining 28 affected rooms will experience changes in VSC and/or NSL which amount to a minor magnitude of diffuse daylight change.

9.5.15 One of the windows serving the remaining 10 (11%) rooms will experience a moderate magnitude of change. The baseline VSC levels of all of these windows are, however, no greater than 5.1%. This means that the no greater than 1.6% absolute VSC changes as a result of the Proposed Development, are disproportionately represented as moderate when changes of this level are unlikely to be noticeable to the occupants of the rooms served by these windows. All of the rooms served by these windows will experience BRE compliant levels of NSL change (negligible) and will continue to benefit from NSL to in excess of 86% of the room areas.

9.5.16 The overall magnitude of diffuse daylight change within this receptor is considered to be minor on the basis that, based on the initial numerical criteria detailed in Table 9.3, only a small number (10) of windows experience a moderate magnitude of change and this is only due to their low baseline VSC levels, which means that the small (no greater than 1.6%) absolute changes are disproportionately represented.

Daylight Effect

9.5.17 The sensitivity of this receptor is considered to be medium.

9.5.18 The overall magnitude of daylight change is considered to be minor.

Significance of Effect

9.5.19 The effect of the Proposed Development upon the daylight within this property is considered to be **minor adverse (not significant).**

APSH Sunlight

9.5.20 Any changes to the sunlight amenity to the 93 windows material for assessment will be fully BRE compliant. The magnitude of APSH change is, therefore, negligible.

Sunlight Effect

9.5.21 The sensitivity of this receptor is considered to be medium.

9.5.22 The magnitude of APSH change is negligible.

Significance of Effect

9.5.23 The effect upon sunlight amenity within this property is considered to be **negligible adverse (not significant).**

<u>14 Albion Street</u>

9.5.24 A total of seven windows were assessed for daylight within this building. As there were no publicly available floorplans, NSL within the rooms served by these windows has not been assessed. There are no windows with Site facing windows orientated to within 90° of due south and therefore sunlight within this building was not assessed.

VSC Daylight

9.5.25 Based on the initial numerical criteria for determining the magnitude of change detailed in Table 9.3 the magnitude of VSC change to all seven (100%) windows assessed is major due to their location being less than 5m from the Site boundary. As the baseline conditions are a vacant site, the implementation of the Proposed Development will inevitably result in a reduction in daylight availability to the seven windows.

Alternate Guidelines

9.5.26 There is an extant consent for the Site (the Consented Scheme) which, in accordance with paragraph F2 of the BRE Guidelines, can be used as an alternative baseline (the Consented Baseline) on the basis that it was considered acceptable in terms of both magnitude of change to surrounding sensitive receptors and retained daylight and sunlight levels.

9.5.27 Drawings of the Consented Baseline scenario can be found in Appendix 9.1.

9.5.28 Full detailed analysis of the effect of the Proposed Development compared to the Consented Baseline can be found in Appendix 9.2.

9.5.29 Compared to the Consented Baseline, two of the seven windows will experience an imperceptible additional 0.1% absolute VSC change. The remaining windows will experience 1% to 4.3% absolute VSC gains compared to the Consented Baseline. The average difference is a 1.6% absolute gain.

9.5.30 The magnitude of VSC change of the Proposed Development compared to the Consented Scheme is considered to result in a negligible beneficial effect (not significant)

Daylight Effect

9.5.31 The sensitivity of this receptor is considered to be medium.

9.5.32 The magnitude of daylight change compared to the Existing Baseline is considered to be major.

Significance of Effect

9.5.33 Whilst compared to the Existing Baseline there is a **major adverse** daylight effect, the effect is considered to be **not significant.**

9.5.34 This is because the effect level has been driven by the change compared to the Existing Baseline, which is an uncharacteristically undeveloped Site in a developing city centre location. It has therefore been considered appropriate to review the magnitude of change compared to the Consented Scheme, the effects of which, by virtue of its consented status, have already been considered acceptable. This is in accordance with paragraph H6 of the BRE Guidelines.

9.5.35 As outlined above, under this assessment scenario, the magnitude of change compared to the Consented Baseline is considered to result in a negligible beneficial effect.

9.5.36 The justification for the major adverse effect not being considered significant is associated with the locality in which the Proposed Development is situated and that it is unrealistic for existing daylight levels to be retained in a developing city centre environment.

<u>The Hacienda</u>

9.5.37 A total of 127 windows serving 24 rooms were assessed for daylight within this building. A total of 91 windows with Site facing windows orientated to within 90° of due south were assessed for sunlight within this building.

VSC Daylight

9.5.38 86 (68%) of the 127 windows assessed would meet the BRE's criteria and so experience a negligible magnitude of VSC change.

9.5.39 Based on the initial numerical criteria for determining the magnitude of change detailed in Table 9.3, the magnitude of VSC change to 32 (25%) of the remaining 41 affected windows is minor. The magnitude of VSC change to the remaining nine (7%) windows is moderate.

9.5.40 The nine windows which experience a moderate magnitude of VSC change all have low (no greater than 16%) baseline VSC levels. This means that the no greater than 5.3% absolute VSC changes as a result of the Proposed Development, are disproportionately represented as moderate. It should also be noted that the rooms served by these nine windows all have at least one additional window which is affected to no greater than a minor adverse extent, which means that the rooms served by these nine windows have other sources of VSC skylight.

NSL Daylight

9.5.41 All 24 (100%) rooms assessed, as floor plans were publicly available, would meet the BRE's criteria and so experience a negligible magnitude of NSL change.

Diffuse Daylight

9.5.42 17 (71%) of the 24 rooms assessed, as floor plans were publicly available, would meet the BRE's criteria and so experience a negligible magnitude of diffuse daylight change.

9.5.43 Based on the initial numerical criteria for determining the magnitude of change detailed in Table 9.3, the seven affected rooms will experience changes in VSC and/or NSL which amount to a minor magnitude of diffuse daylight change. All seven rooms will experience BRE compliant levels of NSL change and VSC alterations which do not exceed 21%, against a BRE target value of 20%. Moreover, the retained VSC values to all seven rooms is in excess of 22% which is commensurate with/better than the levels in other successful residential buildings in Manchester, as shown in the characterisation study at Appendix 9.4

Daylight Effect

9.5.44 The sensitivity of this receptor is considered to be medium.

9.5.45 The overall magnitude of daylight change is considered to be minor.

Significance of Effect

9.5.46 The effect of the Proposed Development upon the daylight within this property is considered to be **minor adverse (not significant).**

APSH Sunlight

9.5.47 90 (99%) of the 91 windows assessed would meet the BRE's criteria and so experience a negligible magnitude of APSH change.

9.5.48 The magnitude of APSH change to the remaining one (1%) window is minor.

9.5.49 When assessed against the Winter APSH, all 91 (100%) windows assessed would meet the BRE's criteria and so experience a negligible magnitude of winter APSH change.

9.5.50 The overall magnitude of sunlight change is considered to be minor.

Sunlight Effect

9.5.51 The sensitivity of this receptor is considered to be medium.

9.5.52 The overall magnitude of sunlight change is considered to be minor.

Significance of Effect

9.5.53 The effect of the Proposed Development upon the sunlight within this property is, therefore, considered to be **minor adverse (not significant)**.

<u>The Ropeworks</u>

9.5.54 A total of 168 windows serving 77 rooms were assessed for daylight within this building. A total of four windows with Site facing windows orientated to within 90° of due south were assessed for sunlight within this building.

VSC Daylight

9.5.55 14 (8%) of the 168 windows assessed would meet the BRE's criteria and so experience a negligible magnitude of VSC change.

9.5.56 Based on the initial numerical criteria for determining the magnitude of change detailed in Table 9.3, the magnitude of VSC change to 13 (8%) of the 154 affected windows is minor. The magnitude of VSC change to 16 (10%) windows is moderate and the magnitude of VSC change to the remaining 125 (82%) is major.

NSL Daylight

9.5.57 20 (26%) of the 77 rooms assessed would meet the BRE's criteria and so experience a negligible magnitude of NSL change.

9.5.58 Based on the initial numerical criteria for determining the magnitude of change, the magnitude of NSL change to one (2%) of the 57 affected rooms is minor. The

magnitude of NSL change to 10 (18%) rooms is moderate and the magnitude of NSL change to the remaining 46 (80%) is major.

Diffuse Daylight

9.5.59 In accordance with the significance criteria described above, four (5%) of the 77 rooms assessed as floor plans were publicly available will experience changes in VSC and/or NSL which amount to a minor magnitude of diffuse daylight change.

9.5.60 There are six (8%) dual aspect rooms whose windows will experience minor to moderate magnitudes of VSC change but the rooms will be fully NSL compliant and retain NSL to between 75% and 96% of the rooms area. The magnitude of diffuse daylight change to these six rooms is, therefore, also considered to be minor.

9.5.61 5 (7%) rooms will experience changes in VSC and /or NSL which amount to a moderate magnitude of diffuse daylight change.

9.5.62 There are 10 (13%) rooms served by multiple windows which will experience negligible to major magnitudes of VSC change but the rooms will be fully NSL compliant apart from one which will experience a 26.3% (minor) change and all rooms will retain NSL to between 62% and 99% of the rooms area. The magnitude of diffuse daylight change to these 10 rooms is, therefore, also considered to be moderate.

9.5.63 The remaining 52 (67%) rooms will experience changes in VSC and /or NSL which amount to a major magnitude of diffuse daylight change.

Alternate Guidelines

9.5.64 There is an extant consent for the Site (the Consented Scheme) which, in accordance with paragraph F2 of the BRE Guidelines, can be used as an alternative baseline (the Consented Baseline) on the basis that it was considered acceptable in terms of both magnitude of change to surrounding sensitive receptors and retained daylight and sunlight level.

9.5.65 Drawings of the Consented Baseline scenario can be found in Appendix 9.1.

9.5.66 Full detailed analysis of the effect of the Proposed Development compared to the Consented Baseline can be found in Appendix 9.2.

9.5.67 Compared to the Consented Baseline, five of the 183 windows will experience an imperceptible additional 0.1% absolute VSC change. The remaining windows will

experience either no change or 0.1% to 1% absolute VSC gains compared to the Consented Baseline. The average difference is a 0.2% absolute gain.

9.5.68 The magnitude of VSC change of the Proposed Development compared to the Consented Scheme is considered to be negligible beneficial (not significant)

Daylight Effect

9.5.69 The sensitivity of this receptor is considered to be medium.

9.5.70 The magnitude of daylight change compared to the Existing Baseline is considered to be major.

Significance of Effect

9.5.71 Whilst compared to the Existing Baseline there is a **major adverse** daylight effect, the effect is considered to be **not significant.**

9.5.72 This is because the effect level has been driven by the change compared to the Existing Baseline, which is an uncharacteristically undeveloped Site in a developing city centre location. It has therefore been considered appropriate to review the magnitude of change compared to the Consented Scheme, the effects of which, by virtue of its consented status, have already been considered acceptable. This is in accordance with paragraph H6 of the BRE Guidelines.

9.5.73 As outlined above, under this assessment scenario, the magnitude of change compared to the Consented Baseline is considered to be negligible beneficial.

9.5.74 The justification for the major adverse effect not being considered significant is associated with the locality in which the Proposed Development is situated and that it is unrealistic for existing daylight levels to be retained in a developing city centre environment.

Daylight Effect
APSH Sunlight

9.5.75 Any changes to the sunlight amenity to the four windows material for assessment will be fully BRE compliant. The magnitude of APSH change is, therefore, negligible.

Sunlight Effect

9.5.76 The sensitivity of this receptor is considered to be medium.

9.5.77 The magnitude of APSH change is negligible.

Significance of Effect

9.5.78 The effect upon sunlight amenity within this property is considered to be **negligible adverse (not significant).**

Axis Tower

9.5.79 A total of 318 windows serving 262 rooms were assessed for daylight within this building. A total of 293 Site facing windows orientated to within 90° of due south were assessed for sunlight within this building.

VSC Daylight

9.5.80 134 (42%) of the 318 windows assessed would meet the BRE's criteria and so experience a negligible magnitude of VSC change.

9.5.81 Based on the initial numerical criteria for determining the magnitude of change detailed in Table 9.3, the magnitude of VSC change to 32 (10%) of the remaining 184 affected windows is minor. The magnitude of VSC change to 103 (33%) of the remaining 152 affected windows is moderate. The magnitude of VSC change to the remaining 49 (15%) windows is major.

9.5.82 In the baseline scenario, eight of the 184 affected windows have very low VSC values of between 3.2% and 4.6%. The absolute VSC change to these windows is no more than 2.4% and it is therefore the extremely low existing VSC values which result in disproportionate percentage changes.

9.5.83 For the remaining 176 affected windows, uncharacteristically high baseline VSC values are noted for a building in an urban location. The results demonstrate baseline VSC values of between 22.8% and 38.1%, with, for context, an average of 35.7%. The VSC levels with the Proposed Development in place, remain very reasonable in an urban context, ranging from 11.8% to 26.9%, with, for context, an average of 23.1%. Such values are commensurate with/better than the levels in other successful residential buildings in Manchester, as shown in the characterisation study in Appendix 9.4.

NSL Daylight

9.5.84 78 (30%) of the 262 rooms assessed would meet the BRE's criteria and so experience a negligible magnitude of NSL change.

9.5.85 Based on the initial numerical criteria for determining the magnitude of change, the magnitude of NSL change to 38 (14%) of the 184 affected rooms is minor. The magnitude of NSL change to 31 (12%) of the remaining 146 affected rooms is moderate and the magnitude of NSL change to the remaining 115 (44%) rooms is major.

9.5.86 108 of the affected rooms serve bedrooms, of which 63 rooms experience a change in NSL which amounts to a major magnitude of change. In accordance with the BRE Criteria, these rooms are considered 'less important'.

9.5.87 The remaining 76 rooms serve open plan lounge kitchen dining rooms (LKD's,) one kitchen and two Living rooms. For the majority of LKD's, the room is lit from one side only and is greater than 5m in depth. In these instances, the BRE states that '*a greater movement of the no skyline may be unavoidable*.'.

Diffuse Daylight

9.5.88 39 (15%) of the 262 rooms assessed, as floor plans were publicly available, would meet the BRE's criteria and so experience a negligible magnitude of diffuse daylight change.

9.5.89 In accordance with the significance criteria described above, 38 (14%) of the 262 rooms assessed as floor plans were publicly available will experience changes in VSC and/or NSL which amount to a minor magnitude of diffuse daylight change.

9.5.90 There are 26 (10%) dual aspect rooms where one of the two windows will experience moderate to major magnitudes of VSC change and the other a negligible magnitude of change. The windows will all retain between 17% and 33% VSC with, for context, the average being 25%. The rooms served by these windows will all be fully NSL compliant and retain NSL to between 81% and 99% of the rooms area. The magnitude of diffuse daylight change to these 26 rooms is, therefore, also considered to be minor.

9.5.91 The windows serving five (2%) of the remaining 159 rooms have very low VSC values of between 3.2% and 4.6%. With the Proposed Development in place, they experience magnitudes of VSC change ranging from minor to major. The absolute VSC changes to these windows are, however, no more than a potentially unnoticeable 2.4%. It is therefore the extremely low existing VSC values which result in disproportionate percentage changes. The NSL effect is similar. The magnitude of diffuse daylight change to these eight rooms is, therefore, also considered to be minor.

9.5.92 The remaining 154 (59%) rooms will experience changes in VSC and /or NSL which both range from negligible to major.

9.5.93 Paragraph F7 BRE states: *"In assessing the loss of light to an existing building, the VSC is generally recommended as the appropriate parameter to use. This is because the VSC depends only on obstruction and is therefore a measure of the daylit environment as a whole."*

9.5.94 The 154 windows serving the 154 affected rooms have uncharacteristically high baseline VSC for a building in an urban location (23% and 38%, with, for context, an average of 36%). The VSC levels with the Proposed Development in place, remain very reasonable in an urban context, ranging from 12% to 31%, with, for context, an average of 24%. Such values are commensurate with/better than the levels in other successful residential buildings in Manchester, as shown in the characterisation study in Appendix 9.4.

Alternate Guidelines

9.5.95 There is an extant consent for the Site (the Consented Scheme) which, in accordance with paragraph F2 of the BRE Guidelines, can be used as an alternative baseline (the Consented Baseline) on the basis that it was considered acceptable in terms of both magnitude of change to surrounding sensitive receptors and retained daylight and sunlight level.

9.5.96 Drawings of the Consented Baseline scenario can be found in Appendix 9.1.

9.5.97 Full detailed analysis of the effect of the Proposed Development compared to the Consented Baseline can be found in Appendix 9.2.

9.5.98 Compared to the Consented Baseline, 66 of the 318 windows will experience imperceptible additional absolute VSC changes that are all less than 1%. The remaining windows will experience either no change or 0.1% to 1% absolute VSC gains compared to the Consented Baseline. The average difference is a 0.2% absolute gain.

9.5.99 The magnitude of VSC change of the Proposed Development compared to the Consented Scheme is considered to be negligible beneficial (not significant)

Daylight Effect

9.5.100 The sensitivity of this receptor is considered to be medium.

9.5.101 The overall magnitude of daylight change is considered to be moderate

Significance of Effect

9.5.102 Whilst compared to the Existing Baseline there is a **moderate adverse** daylight effect, the effect is considered to be **significant.**

9.5.103 This is because the effect level has been driven by the change compared to the Existing Baseline, which is an uncharacteristically undeveloped Site in a developing city centre location. It has therefore been considered appropriate to review the magnitude of change compared to the Consented Scheme, the effects of which, by virtue of its consented status, have already been considered acceptable. This is in accordance with paragraph H6 of the BRE Guidelines.

9.5.104 As outlined above, under this assessment scenario, the magnitude of change compared to the Consented Baseline is considered to be negligible beneficial.

9.5.105 The justification for the major adverse effect not being considered significant is associated with the locality in which the Proposed Development is situated and that it is unrealistic for existing daylight levels to be retained in a developing city centre environment.

APSH Sunlight

9.5.106 Any changes to the sunlight amenity to the 293 windows material for assessment will be fully BRE compliant. The magnitude of APSH change is, therefore, negligible.

Sunlight Effect

9.5.107 The sensitivity of this receptor is considered to be medium.

9.5.108 The magnitude of APSH change is negligible.

Significance of Effect

9.5.109 The effect upon sunlight amenity within this property is therefore considered to be **negligible adverse (not significant).**

Overshadowing (Existing Baseline v Proposed)

9.5.110 The outputs of the computer modelling for overshadowing is provided in full within Appendix 9.3 with the key metrics provided in Table 9.13 below.

Table 9.13: Summary of March 21st SHOG Assessment Area Name	Area benefitting from 2 hours of SHOG on 21st March (Baseline)	Area benefitting from 2 hours of SHOG on 21st March (Proposed)	Meets SHOG Criteria?
Rochdale Canal Area 01 - West	66.69%	64.73%	Yes
Rochdale Canal Area 02 - East	85.99%	84.36%	Yes
Social terrace along the canal	85.50%	84.96%	Yes

9.5.111 Any changes to the level of shadow falling upon all three overshadowing receptors will be fully BRE compliant and so will experience a negligible magnitude of March SHOG change.

Overshadowing Effect

9.5.112 The sensitivity of all three overshadowing receptors are considered to be medium.

9.5.113 The magnitude of SHOG change to all three overshadowing receptors is negligible.

Significance of Effect

9.5.114 The effect of the Proposed Development upon the level of SHOG on all three overshadowing receptors is considered to be **negligible adverse (not significant).**

9.6 Mitigation and Monitoring

Operational Mitigation

9.6.1 No significant adverse effects were identified during the operational phase after consideration of primary mitigation and therefore no mitigation measures are required.

Operational Monitoring

9.6.2 No operational monitoring is proposed.

9.7 Residual Effects

Table 9.14: Summary of Residual Effects During Operation Receptor	Effect	Significance before mitigation	Supplementary mitigation	Residual effect significance
Hill Quays	Reduction in daylight levels	Minor Adverse	n/a	Minor adverse, direct, permanent, irreversible, not significant
Riverside Mews	Reduction in daylight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
The Rhine	Reduction in daylight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant

Table 9.14: Summary of Residual Effects During Operation				
Receptor	Effect	Significance before mitigation	Supplementary mitigation	Residual effect significance
The Nile	Reduction in daylight levels	Minor Adverse	n/a	Minor adverse, direct, permanent, irreversible, not significant
30 City Road East	Reduction in daylight levels	Minor Adverse	n/a	Minor adverse, direct, permanent, irreversible, not significant
14 Albion Street	Reduction in daylight levels	Major Adverse	n/a	Major adverse, direct, permanent, irreversible, not significant
The Hacienda	Reduction in daylight levels	Minor Adverse	n/a	Minor adverse, direct, permanent, irreversible, not significant
326-330 Deansgate	Reduction in daylight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
The Ropeworks	Reduction in daylight levels	Major Adverse	n/a	Major adverse, direct, permanent, irreversible, not significant
21 Little Peter Street	Reduction in daylight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
8-16 Bridgewater Street	Reduction in daylight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
20 Southern Street	Reduction in daylight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
18-12 Southern Street	Reduction in daylight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
8-10 Southern Street	Reduction in daylight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
Deansgate Quay	Reduction in daylight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
357-361 Deansgate	Reduction in daylight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
Lumiere Building	Reduction in daylight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
The Danube	Reduction in daylight levels	Minor Adverse	n/a	Minor adverse, direct, permanent, irreversible, not significant
AXIS TOWER	Reduction in daylight levels	Moderate Adverse	n/a	Moderate adverse, direct, permanent, irreversible, not significant
Viadux - Phase 1	Reduction in daylight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
Beetham Tower	Reduction in daylight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant

Table 9.14: Summary of Residual Effects During Operation				
Receptor	Effect	Significance before mitigation	Supplementary mitigation	Residual effect significance
325 Deansgate Aparthotel	Reduction in daylight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
Hill Quays	Reduction in sunlight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
Riverside Mews	Reduction in sunlight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
The Rhine	Reduction in sunlight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
The Nile	Reduction in sunlight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
30 City Road East	Reduction in sunlight levels	n/a	n/a	n/a
14 Albion Street	Reduction in sunlight levels	n/a	n/a	n/a
The Hacienda	Reduction in sunlight levels	Minor Adverse	n/a	Minor adverse, direct, permanent, irreversible, not significant
326-330 Deansgate	Reduction in sunlight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
The Ropeworks	Reduction in sunlight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
21 Little Peter Street	Reduction in sunlight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
8-16 Bridgewater St	Reduction in sunlight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
20 Southern Street	Reduction in sunlight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
18-12 Southern Street	Reduction in sunlight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
8-10 Southern Street	Reduction in sunlight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
Deansgate Quay	Reduction in sunlight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
357-361 Deansgate	Reduction in sunlight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant

Table 9.14: Summary of Residual Effects During Operation				
Receptor	Effect	Significance before mitigation	Supplementary mitigation	Residual effect significance
Lumiere Building	Reduction in sunlight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
The Danube	Reduction in sunlight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
AXIS TOWER	Reduction in sunlight levels	Negligible	n/a	Negligible, direct, permanent, irreversible adverse le, not significant
Viadux - Phase 1	Reduction in sunlight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
Beetham Tower	Reduction in sunlight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
325 Deansgate Aparthotel	Reduction in sunlight levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
Rochdale Canal Area 01 - West	Increase in shadow levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
Rochdale Canal Area 02 - East	Increase in shadow levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant
Social terrace along the canal	Increase in shadow levels	Negligible	n/a	Negligible adverse, direct, permanent, irreversible, not significant

9.7.1 In summary no significant residual effects are anticipated.

9.8 Assessment of Cumulative Effects

Intra-cumulative effects

9.8.1 No intra-cumulative effects have been identified.

Inter-Cumulative Effects

9.8.2 This section reports upon the effects of the Proposed Development in combination with the following neighbouring development:

- 1 - 141773/FO/2024 - 2-4 Whitworth Street West, Manchester, M1 5WY.
- 5 - 137226/FO/2023 - Part Of Plot C And Plot E, Great Jackson Street, Manchester, M15 4NP.
- 7 - 139715/FO/2024 - Viadux Phase 2 Land Bounded By Albion Street, Great Bridgewater Street, And Trafford Street, Manchester, M60 2AT.
- 8 - 133172/FO/2022 - Land Bounded By Trumpet Street, Albion Street & Great Bridgewater Street, Manchester, M1 5LE.
- 16 - 128002/FO/2020 - One City Road, East Manchester,M15 4PN.
- 17 - 135565/FO/2022 - Land Bounded By Deansgate, Great Bridgewater Street, Watson Street & Peter Street Manchester M3 4EN.

9.8.3 No other consented schemes have been included in this assessment on the basis that they are of insufficient proximity and/or massing to have any material inter-cumulative effects.

9.8.4 The location of the above developments relative to the Proposed Development can be seen on the drawings in Appendix 9.1.

9.8.5 The same, 2,662 Site facing windows were assessed for VSC (daylight). 1098 rooms for which floor plans were publicly available were assessed for NSL (daylight). 1576 windows were assessed for APSH (sunlight) within those buildings which are material for consideration in sunlight terms i.e. their windows are orientated to within 90 degrees of due south.

Table 9.15 – Comparison of Baseline V Proposed and Baseline v Proposed plus Cumulative VSC Results

Address	Total No. Windows	Baseline V Proposed Negligible	Baseline v Proposed plus Cumulative Negligible	Baseline V Proposed Minor	Baseline v Proposed plus Cumulative Minor	Baseline V Proposed Moderate	Baseline v Proposed plus Cumulative Moderate	Baseline V Proposed Major	Baseline v Proposed plus Cumulative Major
Hill Quays	192	164	128	18	14	10	17	0	33
Riverside Mews	45	45	44	0	1	0	0	0	0
The Rhine	83	83	68	0	14	0	1	0	0
The Nile	183	178	142	5	9	0	11	0	21
30 City Road East	36	36	35	0	0	0	0	0	1
14 Albion Street	7	0	0	0	0	0	0	7	7
The Hacienda	127	86	59	32	29	9	21	0	18
326-330 Deansgate	22	22	16	0	3	0	2	0	1
The Ropeworks	168	14	0	13	8	16	10	125	150
21 Little Peter Street	43	43	3	0	22	0	9	0	9
8-16 Bridgewater St	13	13	13	0	0	0	0	0	0
20 Southern St	11	11	11	0	0	0	0	0	0
18-12 Southern St	8	8	8	0	0	0	0	0	0
8-10 Southern St	12	12	12	0	0	0	0	0	0
Deansgate Quay	81	81	63	0	11	0	6	0	1
357-361 Deansgate	43	43	32	0	8	0	1	0	2
Lumiere Building	130	130	128	0	1	0	1	0	0
The Danube	94	93	89	1	4	0	1	0	0
AXIS TOWER	318	134	70	32	38	103	87	49	123
Viadux - Phase 1	342	342	147	0	29	0	80	0	86
BEETHAM TOWER	282	282	279	0	0	0	0	0	3
325 Deansgate Aparthotel	422	422	125	0	167	0	130	0	0
TOTALS	2662	2242	**1472**	101	358	138	377	181	455

VSC DAYLIGHT

9.8.6 If the Proposed Development and the Cumultive Developments listed in Paragraph 9.8.2 were all fully built out at the same time then, compared to the Proposed Development in isolation:

- 770 fewer windows would experience negligible magnitudes of VSC change.
- 257 more windows would experience minor magnitudes of VSC change.
- 239 more windows would experience moderate magnitudes of VSC change.
- 274 more windows would experience major magnitudes of VSC change.

Table 9.16 – Comparison of Baseline V Proposed and Baseline v Proposed plus Commutative NSL Results									
Address	Total No. Rooms	Baseline V Proposed	Baseline v Proposed plus Cumulative	Baseline V Proposed	Baseline v Proposed plus Cumulative	Baseline V Proposed	Baseline v Proposed plus Cumulative	Baseline V Proposed	Baseline v Proposed plus Cumulative
		Negligible	Negligible	Minor	Minor	Moderate	Moderate	Major	Major
Hill Quays	92	92	80	0	2	0	4	0	6
Riverside Mews	7	7	7	0	0	0	0	0	0
The Rhine	56	56	56	0	0	0	0	0	0
The Nile	109	109	108	0	1	0	0	0	0
30 City Road East	33	31	31	2	2	0	0	0	0
14 Albion Street*	0	0	0	0	0	0	0	0	0
The Hacienda	24	24	24	0	0	0	0	0	0
326-330 Deansgate	1	1	1	0	0	0	0	0	0
The Ropeworks	77	20	20	1	1	10	7	46	46
21 Little Peter Street*	0	0	0	0	0	0	0	0	0
8-16 Bridgewater St	8	8	8	0	0	0	0	0	0
20 Southern St*	0	0	0	0	0	0	0	0	0
18-12 Southern St	2	2	2	0	0	0	0	0	0
8-10 Southern St	6	6	6	0	0	0	0	0	0
Deansgate Quay	34	34	34	0	0	0	0	0	0
357-361 Deansgate*	0	0	0	0	0	0	0	0	0
Lumiere Building	56	56	55	0	1	0	0	0	0
The Danube	74	74	66	0	8	0	0	0	0
AXIS TOWER	262	78	76	38	37	31	32	115	117
Viadux - Phase 1	152	152	152	0	0	0	0	0	0
BEETHAM TOWER	105	105	105	0	0	0	0	0	0
325 Deansgate Aparthotel*	0	0	0	0	0	0	0	0	0
TOTALS	1098	855	821	41	56	41	43	161	178

***** No publicly available rooms layouts. The BRE Guidelines provide that the effect on the daylight distribution (NSL) should only be assessed where room layouts are known.

NSL DAYLIGHT

9.8.7 If the Proposed Development and the Consented developments listed at paragraph 9.8.2 were all fully built out at the same time then, compared to the Proposed Development in isolation:

- 34 fewer rooms would experience negligible magnitudes of NSL change.
- 15 more rooms would experience minor magnitudes of NSL change.
- 2 more rooms would experience moderate magnitudes of NSL change.
- 17 more rooms would experience major magnitudes of NSL change.

Table 9.17 – Comparison of Baseline V Proposed and Baseline v Proposed plus Cumulative APSH Results

Address	Total No. Windows	Baseline V Proposed Negligible	Baseline v Proposed plus Cumulative Negligible	Baseline V Proposed Minor	Baseline v Proposed plus Cumulative Minor	Baseline V Proposed Moderate	Baseline v Proposed plus Cumulative Moderate	Baseline V Proposed Major	Baseline v Proposed plus Cumulative Major
Hill Quays	93	93	93	0	0	0	0	0	0
Riverside Mews	**3**	**3**	**3**	**0**	**0**	**0**	**0**	**0**	**0**
The Rhine	14	14	14	0	0	0	0	0	0
The Nile	**33**	**33**	**17**	**0**	**0**	**0**	**0**	**0**	**16**
30 City Road East	0	0	0	0	0	0	0	0	0
14 Albion Street*	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
The Hacienda	91	90	90	1	0	0	1	0	0
326-330 Deansgate	**21**	**21**	**21**	**0**	**0**	**0**	**0**	**0**	**0**
The Ropeworks	4	4	4	0	0	0	0	0	0
21 Little Peter Street	**3**	**3**	**3**	**0**	**0**	**0**	**0**	**0**	**0**
8-16 Bridgewater St	13	13	13	0	0	0	0	0	0
20 Southern St	**10**	**10**	**10**	**0**	**0**	**0**	**0**	**0**	**0**
18-12 Southern St	8	8	8	0	0	0	0	0	0
8-10 Southern St	**8**	**8**	**8**	**0**	**0**	**0**	**0**	**0**	**0**
Deansgate Quay	40	40	40	0	0	0	0	0	0
357-361 Deansgate	**4**	**4**	**4**	**0**	**0**	**0**	**0**	**0**	**0**
Lumiere Building	10	10	10	0	0	0	0	0	0
The Danube	**13**	**13**	**13**	**0**	**0**	**0**	**0**	**0**	**0**
AXIS TOWER	293	293	287	0	0	0	0	0	6
Viadux - Phase 1	**304**	**304**	**290**	**0**	**0**	**0**	**0**	**0**	**14**
BEETHAM TOWER	239	239	236	0	0	0	0	0	3
325 Deansgate Aparthotel	**372**	**372**	**370**	**0**	**0**	**0**	**0**	**0**	**2**
TOTALS	1576	1575	**1534**	1	0	0	1	**0**	41

ANNUAL SUNLIGHT

9.8.8 If the Proposed Development and the Consented developments listed at paragraph 9.8.2 were all fully built out at the same time then, compared to the Proposed Development in isolation:

- 41 fewer windows would experience negligible magnitudes of annual sunlight change.
- 1 fewer windows would experience minor magnitudes of annual sunlight change.
- 1 more windows would experience moderate magnitudes of annual sunlight change.
- 41 more windows would experience major magnitudes of annual sunlight change.

Table 9.18 – Comparison of Baseline V Proposed and Baseline v Proposed plus Cumulative Winter APSH Results

Address	Total No. Windows	Baseline V Proposed Negligible	Baseline v Proposed plus Cumulative Negligible	Baseline V Proposed Minor	Baseline v Proposed plus Cumulative Minor	Baseline V Proposed Moderate	Baseline v Proposed plus Cumulative Moderate	Baseline V Proposed Major	Baseline v Proposed plus Cumulative Major
Hill Quays	**93**	**93**	**93**	**0**	**0**	**0**	**0**	**0**	**0**
Riverside Mews	3	3	3	0	0	0	0	0	0
The Rhine	**14**	**14**	**14**	**0**	**0**	**0**	**0**	**0**	**0**
The Nile	33	33	17	0	0	0	0	0	16
30 City Road East	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
14 Albion Street*	0	0	0	0	0	0	0	0	0
The Hacienda	**91**	**91**	**91**	**0**	**0**	**0**	**0**	**0**	**0**
326-330 Deansgate	21	21	21	0	0	0	0	0	0
The Ropeworks	**4**	**4**	**4**	**0**	**0**	**0**	**0**	**0**	**0**
21 Little Peter Street	3	3	2	0	0	0	0	0	1
8-16 Bridgewater St	**13**	**13**	**13**	**0**	**0**	**0**	**0**	**0**	**0**
20 Southern St	10	10	10	0	0	0	0	0	0
18-12 Southern St	**8**	**8**	**8**	**0**	**0**	**0**	**0**	**0**	**0**
8-10 Southern St	8	8	8	0	0	0	0	0	0
Deansgate Quay	**40**	**40**	**40**	**0**	**0**	**0**	**0**	**0**	**0**
357-361 Deansgate	4	4	4	0	0	0	0	0	0
Lumiere Building	**10**	**10**	**10**	**0**	**0**	**0**	**0**	**0**	**0**
The Danube	13	13	13	0	0	0	0	0	0
AXIS TOWER	**293**	**293**	**288**	**0**	**0**	**0**	**0**	**0**	**5**
Viadux - Phase 1	304	304	290	0	0	0	0	0	1
BEETHAM TOWER	**239**	**239**	**236**	**0**	**0**	**0**	**0**	**0**	**3**
325 Deansgate Aparthotel	372	372	372	0	0	0	0	0	0
TOTALS	1576	1576	**1550**	0	0	0	0	**0**	26

WINTER SUNLIGHT

- If the Proposed Development and the Consented developments listed at paragraph 9.8.2 were all fully built out at the same time then, compared to the Proposed Development in isolation:26 fewer windows would experience negligible magnitudes of winter sunlight change.
- Same number of windows would experience minor magnitudes of winter sunlight change.
- Same number of windows would experience moderate magnitudes of winter sunlight change.
- 26 more windows would experience major magnitudes of winter sunlight change.

Table 9.19: Comparison of Baseline V Proposed and Baseline v Proposed plus Cumulative Winter APSH Results

Area Name	Area benefitting from 2 hours of SHOG on 21st March Baseline	Area benefitting from 2 hours of SHOG on 21st March Baseline v Proposed plus Cumulative	Meets SHOG Criteria?
Rochdale Canal Area 01 - West	**66.69%**	**57.13%**	**Yes**
Rochdale Canal Area 02 - East	**85.99%**	**83.47%**	**Yes**
Social terrace along the canal	**85.50%**	**83.12%**	**Yes**

SHOG

9.8.9 If the Proposed Development and the Consented developments listed at paragraph 9.8.2 were all fully built out at the same time then, compared to the Proposed Development in isolation, all areas of surrounding amenity space would remain BRE compliant

Summary of Inter-Cumulative Assessment

9.8.10 It can be clearly seen from the above analysis results comparisons that, if the Proposed Development and the consented developments listed at paragraph 9.8.2 were all fully built out at the same time then, compared to the Proposed Development in isolation, the effect upon the daylight and sunlight within some of the surrounding sensitive receptors would increase.

9.8.11 Despite this, none of the inter-cumulative effects are considered to be significant on the basis that all of the cumulative schemes included in the Proposed Development's inter-cumulative assessment have already been assessed in combination as part of the

application for the now consented 2-4 Whitworth Street, with the resultant daylight, sunlight and overshadowing levels being considered to be acceptable.

9.8.12 The only difference between the 2-4 Whitworth Street inter-cumulative assessment and the Proposed Development's inter-cumulative assessment is that the Consented Scheme for the Site was included in the former rather than the Proposed Development. It can, however, be clearly seen from the Consented Scheme v Proposed Development assessment, the results for which can be found in Appendix 9.2, that there is no material difference in the resulting effects.

9.9 Summary

What is Daylight and Sunlight?

9.9.1 Daylight is the amount of natural light from the sky from which a surrounding property can benefit.

9.9.2 Sunlight is the amount of direct sunlight from which a surrounding property or area of outdoor amenity space can benefit.

What has been assessed?

9.9.3 The assessment of daylight, sunlight and overshadowing effects is based principally on the amount of visible sky before and after the construction of a new development.

9.9.4 Using a 3D model of the Site, surrounding properties and areas of outdoor amenity space and specialist software, the amount of natural light and direct sunlight within the surrounding residential properties and areas of outdoor amenity space has been assessed both before the operation of the Proposed Development and after it.

9.9.5 The before and after assessment results are then compared and reviewed against the guidance given in the Building Research Establishment's (BRE) document entitled Site layout planning for daylight and sunlight: A guide to good practice (the BRE Guidelines).

What is the effect of the Proposed Development on Daylight & Sunlight?

9.9.6 Whilst the Proposed Development will result in some changes in the levels of daylight and sunlight amenity within some of the surrounding properties that will be beyond the levels discussed within the BRE guidelines, the levels of change and retained levels of amenity are considered to be reasonable in context as demonstrated by the

characterisation study provided and better than those of the previously consented scheme for the Site.

9.9.7 Any change in overshadowing will be fully BRE compliant.

9.9.8 The overall effect of the Proposed Development upon the daylight and sunlight amenity within the surrounding residential properties and shadow upon areas of surrounding outdoor amenity space is considered to be not significant.

9.9.9 A summary of the likely significant residual effects of the Proposed Development on the receptors considered within this Chapter are summarised in Table 9.20 below.

Table 9.20: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Hill Quays	Reduction in daylight levels							X	Minor Adverse	Ir	Not Significant	None
Riverside Mews	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
The Rhine	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
The Nile	Reduction in daylight levels							X	Minor Adverse	Ir	Not Significant	None
30 City Road East	Reduction in daylight levels							X	Minor Adverse	Ir	Not Significant	None
14 Albion Street	Reduction in daylight levels							X	Major Adverse	Ir	Not Significant	None
The Hacienda	Reduction in daylight levels							X	Minor Adverse	Ir	Not Significant	None
326-330 Deansgate	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
The Ropeworks	Reduction in daylight levels							X	Major Adverse	Ir	Not Significant	None
21 Little Peter Street	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
8-16 Bridgewater St	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
20 Southern Street	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
18-12 Southern St	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
8-10 Southern Street	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
Deansgate Quay	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None

Key:

Geographical Significance: I = International N = National R = Regional C = County D = District P = Parish L = Low to Local

Nature*:* St = Short Term Mt = Medium Term Lt = Long Term R = Reversible Ir = Irreversible

Table 9.22: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
357-361 Deansgate	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
Lumiere Building	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
The Danube	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
AXIS TOWER	Reduction in daylight levels							X	Moderate Adverse	Ir	Not Significant	None
Viadux - Phase 1	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
Beetham Tower	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
325 Deansgate APTH	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
Hill Quays	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
Riverside Mews	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
The Rhine	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
The Nile	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
30 City Road East	Reduction in sunlight levels							X	n/a	n/a	n/a	n/a
14 Albion Street	Reduction in sunlight levels							X	n/a	n/a	n/a	n/a
The Hacienda	Reduction in sunlight levels							X	Minor Adverse	Ir	Not Significant	None
326-330 Deansgate	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None

Key:

Geographical Significance: I = International N = National R = Regional C = County D = District P = Parish L = Low to Local

Nature: St = Short Term Mt = Medium Term Lt = Long Term R = Reversible Ir = Irreversible

Table 9.22: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
The Ropeworks	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
21 Little Peter Street	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
8-16 Bridgewater St	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
20 Southern Street	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
18-12 Southern St	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
8-10 Southern Street	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
Deansgate Quay	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
357-361 Deansgate	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
Lumiere Building	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
The Danube	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
AXIS TOWER	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
Viadux - Phase 1	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
Beetham Tower	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
325 Deansgate APTH	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None

Key:

Geographical Significance: I = International N = National R = Regional C = County D = District P = Parish L = Low to Local

Nature: St = Short Term Mt = Medium Term Lt = Long Term R = Reversible Ir = Irreversible

Table 9.22: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Rochdale Canal Area 01 - West	Increase in shadow levels							X	Negligible	Ir	Not Significant	None
Rochdale Canal Area 02 - East	Increase in shadow levels							X	Negligible	Ir	Not Significant	None
Social terrace along the canal	Increase in shadow levels							X	Negligible	Ir	Not Significant	None

Key:

Geographical Significance: I = International N = National R = Regional C = County D = District P = Parish L = Low to Local

Nature*:* St = Short Term Mt = Medium Term Lt = Long Term R = Reversible Ir = Irreversible

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10 WIND MICROCLIMATE

10.1 Introduction

10.1.1 This Chapter reports the likely significant effects of the Proposed Development in terms of Wind Microclimate in the context of the Site and surrounding area. In particular it considers the likely significant effects of changes to the pedestrian level wind speeds around the Site, potentially altering the suitability of wind conditions for pedestrian comfort or safety.

10.1.2 This Chapter (and its associated figures and appendices) is not intended to be read as a standalone assessment and reference should be made to the front end of this ES (Chapters 1 – 5), as well as the final chapter, 'Summary of Residual and Cumulative Effects' (Chapter 14).

10.2 Legislation, Policy and Guidance

10.2.1 The relevant legislation, policy and guidance are listed below, with details provided in Appendix 10.1.

Legislative Framework

10.2.2 There is no relevant legislation with respect to wind microclimate.

Planning Policy

10.2.3 The applicable planning policy is summarised as follows:

- National Planning Policy Framework (2024);
- Greater Manchester Combined Authority Joint Development Plan "Places for Everyone" (2024); and
- Manchester Core Strategy (2012-2027).

- ***Guidance***

10.2.4 The applicable guidance is summarised as follows:

- Planning Practice Guidance (2021);
- Historic England Advice Note 4: Tall Buildings (2015); and
- Lawson Comfort Criteria, as set out in Building Aerodynamics, T. Lawson, (2001).

10.3 Assessment Methodology and Significance Criteria

Scope of the Assessment

10.3.1 Table 10.1 provides a summary of the key issues to be considered in relation to Wind Microclimate and are scoped into the ES chapter.

Table 10.1: Summary of Likely Significant Effects

Receptor	Potential Effects
Construction Phase	
Existing thoroughfares, roadways, building entrances, tram platforms, bus stops and amenity spaces	Temporary localised changes in pedestrian level wind speed as a result of the evolution of the massing on Site, potentially altering the suitability of wind comfort conditions or the level of safety risks during strong winds.
Operational Phase	
Existing thoroughfares, roadways, building entrances, tram platforms, bus stops and amenity spaces	Long-term localised changes in pedestrian level wind speed as a result of the proposed new massing on Site, potentially altering the suitability of wind comfort conditions or the level of safety risks during strong winds.
Proposed entrances and roof terraces	Long-term localised levels of pedestrian level wind speeds which either change the level of wind safety risk during strong winds, or comfort conditions which potentially deviate from the target conditions.

Effects Not Considered within the Scope

10.3.2 There are no wind microclimate matters scoped out of the ES chapter.

Extent of the Study Area

10.3.3 The Study Area for this assessment comprises a circular region of 400 m radius, centred on the Site. This in line the typically industry accepted value for the UK.

Consultation Undertaken to Date

10.3.4 No further consultation, beyond the EIA Scoping Process was necessary in relation to this Wind Microclimate assessment. The Scoping Opinion, prepared by Manchester City Council (dated 23 July 2025) confirmed that the proposed scope was acceptable.

10.3.5 ***Assessment Methodology***

10.3.6 The method of assessment is in accordance with current guidance and industry best practice. Full details are provided in Appendix 10.2.

10.3.7 Wind microclimate conditions have been established using a wind tunnel model, extending to a 400m radius from the Site, tested with an atmospheric boundary layer using the '10x5' wind tunnel at Imperial College, London, UK.

10.3.8 The existing baseline conditions are defined as the current site conditions at the time of the planning submission (2026) plus current surrounding properties and those schemes with planning permission that are currently under construction and which are progressed far enough for them to be affecting the local wind environment, so have been assumed fully built out for the purposes of the baseline scenario. These schemes are noted later in this ES chapter.

10.3.9 The wind tunnel has a working section which is 20m long with a 3m x 1.5m cross sectional area.

10.3.10 Wind speeds on and around the Site were measured at 1.5m above any surfaces expected to be used for pedestrian activity, using Irwin probes, to determine the conditions at and around the Site. The model was run at 1:300 scale from 18 wind angles, spaced using 10° or 30° increments such that no sector contributes more than 10% of the annual wind.

10.3.11 On-site and local wind speeds (both mean and peak gust speeds) were combined with approximately 30 years-worth of weather data from Manchester International airport, corrected for terrain local to the airport and the Site, to obtain annual and seasonal frequency and magnitude of wind speeds across the model. This allows the 'grading' of the pedestrian level winds according to the Lawson Comfort Criteria, which are explained later in this ES chapter.

10.3.12 The wind microclimate effects are assessed annually and seasonally. The windiest season (typically the winter months of December, January and February) are reported, as this is when the strongest winds are expected, and summer conditions (June, July, August) are reported as this is the season when pedestrian usage of outdoor spaces is expected to be highest (and also when wind levels are typically lowest).

10.3.13 A physical scale model of the Proposed Development was constructed and included in the wind tunnel for testing in March 2026, and wind speeds were measured at 129 locations on and around the Site to determine the strength and frequency of pedestrian level wind speeds. The locations at which wind speeds were measured are shown in Figure 10.1 at Appendix 10.5.

10.3.14 A suitable atmospheric boundary layer (to accurately capture the effect of local buildings and terrain on atmospheric wind speeds and turbulence) was generated using a combination of spires, fences and distributed roughness blocks.

Assessment Scenarios

10.3.15 The following scenarios have been assessed and reported within this wind microclimate ES Chapter:

- Scenario 1: Existing Baseline;
- Scenario 2: Existing Baseline + Proposed Development; and
- Scenario 3: Existing Baseline + Proposed Development + Cumulative Schemes.

10.3.16 Illustrations of the above scenarios are provided in Figures 1 to 5 of Appendix 10.2.

Target Conditions

10.3.17 Conditions were graded according to the London Docklands Development Corporation (LDDC) variant of the Lawson Comfort Criteria, which is the most commonly used version of the industry standard Lawson Criteria.

10.3.18 For a typical mixed-use urban area within which the Site is located, the desired wind microclimate would typically need to have areas acceptable for frequent and occasional sitting, standing (including at entrances of buildings) and walking use. Table 10.2 sets out the description of the comfort categories used to classify / grade wind conditions, and Table 10.3 sets out a description of the categories used to classify / grade wind safety risks.

Table 10.2: Lawson Comfort Criteria (LDDC Variant)

Comfort Category	Mean Wind Speed (5% Exceedance)	Description
Sitting	0-4 m/s	Acceptable for outdoor sitting use (e.g. cafes, benches)
Standing	4-6 m/s	Acceptable for main building entrances, pick-up / drop-off points and bus stops
Walking (leisure)	6-8 m/s	Acceptable for strolling
Walking (business)	8-10 m/s	Acceptable for external pavements, walking purposefully without lingering
Uncomfortable	>10 m/s	Not comfortable for regular pedestrian access

Table 10.3: Lawson Safety Criteria (LDDC Variant)		
Safety Category	**Mean Wind Speed (0.025% exceedance)**	**Description**
No Safety Exceedance	<15 m/s	Conditions are considered to be safe
S15 (distress)	>15 m/s	Presents a safety risk to more vulnerable members of the public and cyclists
S20 (safety)	>20 m/s	Presents a safety risk to all members of the public

10.3.19 Any areas that are identified as being either subject to strong winds (defined as when there is either a distress exceedance or a safety exceedance, in accordance with Table 10.3), or uncomfortable (during the windiest season), in accordance with Table 10.2, will require mitigation, unless they are in locations where pedestrian access can be controlled in the event of strong winds.

10.3.20 The target for thoroughfares, pedestrian crossings and roadways is to be suitable for leisure walking in the windiest season. Business walking is only acceptable in locations where pedestrians would not be expected to linger (such as in the middle of a roadway) or for regions of such slight spatial extent that they would not impact the pedestrian experience of a space.

10.3.21 The target for entrances is to be suitable for standing in the windiest season to provide a buffer between calm indoor conditions and windier outdoor conditions. This applies to both the principal entrances of the Proposed Development and existing off-Site entrances.

10.3.22 The target for transit stops is to be suitable for standing in the windiest season. This applies to the platforms of Deansgate tram stop and also to the bus stop on Whitworth Street West, both to the north west of the Site.

10.3.23 The target for amenity spaces is a wind microclimate that is suitable for a mix of sitting and standing during the summer season. Summer is the key season for these spaces as these areas are more likely to be frequently used during the summer, when factors such as rainfall and temperature are less likely to limit the potential use of the space. This is in accordance with standard industry best practice. There is existing amenity on First Street to the south east of the Site, and Deansgate Locks to the north of the Site as well as roof terraces on properties on Hewitt Street to the south of the Site. There are also proposed roof terraces on the Proposed Development and future

mixed amenity around the cumulative scheme at 2-4 Whitworth Street West to the west of the Site.

Assessment of Construction Effects

10.3.24 The wind environment during the construction works have not been measured in the wind tunnel, due to the constantly changing building form during the construction process. Rather, they have been assessed through professional judgement and comparison of the baseline conditions with those for the completed Proposed Development.

Assessment of Operational Effects

Pedestrian Wind Comfort

10.3.25 Pedestrian wind comfort effects can inhibit the usability of outdoor spaces should they be windier than required for the intended use. The effects are defined in accordance with whether the measured wind conditions at a sensitive receptor meet the target criteria (in accordance with the Lawson Comfort Criteria)

Strong Winds

10.3.26 Strong winds can cause risks to the safety of pedestrians and cyclists. Strong wind effects are defined in accordance with the Lawson Safety Criteria as when 15m/s is exceeded for more than 0.025% of the year.

Assessment of Sensitivity

10.3.27 Receptors considered in this assessment are the people utilising the various areas of the Site and surrounding area for activities such as sitting, standing, walking and cycling.

10.3.28 Although the effect significance methodology that has been used in this chapter does not directly reference receptor sensitivity, the Lawson Criteria inherently include a consideration of receptor sensitivity. For example, areas for more sensitive pedestrian activities, such as sitting, are required to meet more stringent wind criteria, than for walking access, recognising this heightened sensitivity. Consideration of receptor sensitivity is thus an inherent part of the assessment.

Assessment of Magnitude

10.3.29 Similarly, although the effect significance methodology that has been used in this chapter does not directly reference impact magnitude, it is considered that this is

ingrained within the methodology as the degree to which the predicted conditions adhere to the conditions suitable for the intended use represents the magnitude of the impact.

10.3.30 Adverse effects are those which worsen the suitability of conditions for a given receptor and beneficial effects are those which improve conditions. A neutral effect is an effect that on balance, is neither beneficial nor adverse to a receptor, and therefore preserves the receptor

Assessment of Significance

10.3.31 The significance of effect is determined according to the level of wind conditions relative to the target conditions, and also the change in conditions relative to the baseline conditions. The significance criteria for on and off-Site receptors are set out below.

Pedestrian Wind Comfort: On Site Receptors

10.3.32 For on-site receptors, the significance of effect criteria used in the assessment are based upon the relationship between the desired pedestrian use of a particular area of the Proposed Development, using the categories defined by the Lawson Comfort Criteria and the predicted wind conditions at that location within the Proposed Development. This allows for the assessment to take into account any change in pedestrian activity that might arise as a result of the Proposed Development.

10.3.33 A seven-point scale has been used within this assessment to determine the significance of effect and is presented in Table 10-4.

Table 10.4: Significance of Effect Criteria for On-site Receptors (Pedestrian Comfort)

Scale of Magnitude	**Level/Description of Effect**
Wind conditions are 3 comfort categories calmer than required	Major Beneficial
Wind conditions are 2 comfort categories calmer than required	Moderate Beneficial
Wind conditions are 1 comfort category calmer than required	Slight Beneficial
Wind conditions are the same comfort category as required	Negligible adverse/ beneficial/neutral
Wind conditions are 1 comfort category windier than required	Slight Adverse
Wind conditions are 2 comfort categories windier than required	Moderate Adverse
Wind conditions are 3 comfort categories windier than required	Major Adverse

10.3.34 The adopted scale for the level of effect criteria is a logical comparison of the measured wind environment with the desired wind environment.

10.3.35 The slight, moderate and major categories indicate the severity of the difference between the desired microclimate and the actual microclimate. As an example, if the desired wind conditions at a particular location are required to be suitable for standing, but the predicted wind conditions are suitable for walking (leisure), the difference between the desired and predicted wind condition is one category windier than desired. In this case, the scale of the effect would be identified as slight adverse.

10.3.36 Any adverse effect is considered 'significant' because it implies that a location, or area, has a wind microclimate that is unsuitable for the desired use of that area and that this would impact the actual usage of the space by pedestrians (such as people not wanting to sit in designated seating areas or opting to use alternative entrances to buildings). On this basis, effects that are adverse would need mitigating.

10.3.37 Beneficial or neutral effects are not considered to be significant as calmer than required wind conditions enhance the quality of a space but rarely effect the actual usage of the space by pedestrians.

Pedestrian Wind Comfort: Off-Site Receptors

10.3.38 The scale of effects criteria for off-site receptors are presented in Table 10.5. Like the assessment of on-site receptors, the assessment of the scale of effects for these receptors includes a consideration of the measured wind environment and the desired wind environment, while also taking into account any change in conditions from the baseline scenario, as described in the text beneath the table.

Table 10.5: Significance of Effect Criteria for Off-site Receptors (Pedestrian Comfort)

Scale of Magnitude	Level/ Description of Effect
If wind conditions were originally 3 categories windier than required but are now suitable or calmer than required	Major Beneficial
If wind conditions were originally 2 categories windier than required but are now suitable or calmer than required	Moderate Beneficial
If wind conditions were originally 1 category windier than required but are now suitable or calmer than required	Slight Beneficial
If wind conditions remain the same as in the baseline scenario; or	Negligible adverse/ beneficial/neutral

Table 10.5: Significance of Effect Criteria for Off-site Receptors (Pedestrian Comfort)	
If wind conditions were suitable for the intended use in the baseline scenario and remain suitable for the intended use	
If wind conditions are made windier, resulting in conditions 1 category windier than required	Slight Adverse
If wind conditions are made windier, resulting in conditions 2 categories windier than required	Moderate Adverse
If wind conditions are made windier, resulting in conditions 3 categories windier than required	Major Adverse

10.3.39 Any off-site locations would be deemed to have an adverse effect when conditions are found to be windier than suitable for the intended use and when it has been found that these conditions have been made windier by the Proposed Development. If these conditions do not occur as a direct result of the introduction of the Proposed Development, this effect would be considered negligible adverse/ beneficial/ neutral (not significant). If these conditions occur due to the introduction of the Proposed Development the effect would be considered significant.

10.3.40 Any off-site locations would only be deemed to have a beneficial effect if the wind conditions have been improved relative to the criteria/baseline results because of the introduction of the Proposed Development. This effect would be considered not significant as calmer than required wind conditions enhance the quality of a space but rarely effect the actual usage of the space by pedestrians.

Strong Winds

10.3.41 Strong winds (affecting pedestrian safety) are assessed separately from wind comfort effects. Where strong winds occur within the Site or outside the Site (when as a result of the Proposed Development), mitigation is required (as per adverse effects related to pedestrian comfort). Where strong winds occur as a result of the Proposed Development, this is considered to be a major adverse effect and significant as it can impact the safety of pedestrians or cyclists. The effect significance criteria that have been applied to strong winds for on-site and off-site receptors are set out in Table 10.6 and Table 10.7 respectively.

Table 10.6: Significance of Effect Criteria for On-site Receptors (Strong Winds)	
Scale of Magnitude	**Description of Impact**
If strong winds were present in the baseline scenario but have now been eradicated	Major Beneficial
If strong winds occur in the Proposed Development scenario	Major Adverse

Table 10.7: Significance of Effect Criteria for Off-site Receptors (Strong Winds)	
Scale of Magnitude	**Description of Impact**
If strong winds were present in the baseline scenario but have now been eradicated	Major Beneficial
If strong wind conditions remain the same as in the baseline scenario	Negligible adverse / beneficial/neutral
If strong winds were not present in the baseline scenario but now occur	Major Adverse

Significance Criteria

10.3.42 Effects that are deemed to be significant for the purposes of this assessment are those that are described as being adverse of any level as set out above, or major beneficial with respect to strong winds.

10.3.43 Effects are also given descriptors to confirm their nature (i.e. direct or indirect), temporal scale (short-, medium- or long-term), permanence (temporary or permanent), type (neutral, adverse or beneficial) and/or spatial scale (site, local, regional, national).

10.4 Baseline Conditions

Scenario 1: Existing Baseline

10.4.1 A wind tunnel scenario was tested consisting of the existing site (cleared) within the existing surrounds (the baseline).

10.4.2 Strong Winds for Scenario 1 are shown in Figure 10.2 at Appendix 10.5.

10.4.3 Windiest Season Comfort for Scenario 1 are shown in Figure 10.3 at Appendix 10.5.

10.4.4 Summer Comfort for Scenario 1 are shown in Figure 10.4 at Appendix 10.5.

Pedestrian Wind Comfort

10.4.5 Conditions for off-Site thoroughfares (wind tunnel locations 22, 32, 58 to 93, 95, 96, 99, 100, 102, 105, 106 to 125 see Appendix 10.5) range between suitable for sitting,

standing and leisure walking in the windiest season. This is suitable for the intended use.

10.4.6 Conditions for off-Site pedestrian crossings (wind tunnel locations 15 to 21 see Appendix 10.5) range between suitable for standing and leisure walking in the windiest season. This is suitable for the intended use.

10.4.7 Conditions for off-Site roadways (wind tunnel locations 41 to 57 see Appendix 10.5) range between suitable for sitting, standing and leisure walking in the windiest season. This is suitable for the intended use.

10.4.8 Conditions for the off-Site entrance to the Hacienda Apartments (wind tunnel location 39 see Appendix 10.5) are suitable for business walking in the windiest season. This is two categories windier than the target condition.

10.4.9 Conditions for the off-Site entrance to 28 Hewitt Street (wind tunnel location 34 see Appendix 10.5) are suitable for leisure walking in the windiest season. This is one category windier than the target condition.

10.4.10 Conditions for all other off-Site entrances (wind tunnel locations 27 to 31, 33, 35 to 38, 103 see Appendix 10.5) are suitable for either sitting or standing in the windiest season. This is suitable for the intended use.

10.4.11 Conditions for the Deansgate Station bus stop on Whitworth Street West (wind tunnel location 12 see Appendix 10.5) are suitable for standing in the windiest season. This is suitable for the intended use.

10.4.12 Conditions for the northern platform of Deansgate tram stop (wind tunnel location 13 see Appendix 10.5) are suitable for standing in the windiest season. This is suitable for the intended use.

10.4.13 Conditions for the southern platform of Deansgate tram stop (wind tunnel location 14 see Appendix 10.5) are suitable for leisure walking in the windiest season. This is one category windier than the target condition.

10.4.14 Conditions for the mixed amenity space in First Street (wind tunnel locations 8 to 11 see Appendix 10.5) are suitable for a mix of sitting and standing in summer. This is suitable for the intended use.

10.4.15 Conditions for the amenity by Deansgate Locks (wind tunnel locations 2, 3, 5, 6 and 7 see Appendix 10.5) are suitable for a mix of sitting and standing in summer. This is suitable for the intended use.

10.4.16 Conditions for the roof terraces on Hewitt Street (wind tunnel locations 25, 26 and 40 see Appendix 10.5) are suitable for sitting in summer. This is suitable for the intended use.

Strong Winds

10.4.17 There is one pre-existing instance of strong winds (wind speeds in excess of 15m/s for more than 0.025% annually) by the entrance to the Hacienda apartments to the northeast of the Site, at wind tunnel location 39 (see Appendix 10.5). This is a pre-exsiting wind safety risk for pedestrian and cyclists in this location.

10.4.18 All other wind tunnel locations do not show any exceedance of the strong winds threshold.

Future Baseline

10.4.19 In the absence of the Proposed Development, wind conditions in the surrounding area would evolve as future committed development comes forwards. From comparison of the results of Scenarios 2 and 3, it is apparent that this effect would be to make conditions calmer to the south of the Site, windier to the northwest and consistent with the baseline to the northeast. These changes would not be substantial (typically no more than a category) and the future baseline conditions would be of the same order as the baseline conditions overall.

Sensitive Receptors

10.4.20 A number of sensitive receptors have been identified following the baseline review, as listed in Table 10.7 and shown on Figure 10.1.

Table 10.7: Sensitive Receptors

Description	Location	Target Condition	Season
Thoroughfares, crossings and Roadways	On-Site and throughout study area	Leisure Walking	Windiest
Proposed entrances	On-Site	Standing	Windiest
Proposed roof terrace	On-Site	Sitting & Standing	Summer
Existing off-site entrances	throughout study area	Standing	Windiest
Bus stop on Whitworth Street West	~95m west north west	Standing	Windiest
Deansgate tram stop platforms	~60m north west	Standing	Windiest
First Street mixed amenity	~45m south east	Sitting & Standing	Summer
Deansgate Locks amenity	~35m north	Sitting & Standing	Summer

Table 10.7: Sensitive Receptors			
Hewitt Street roof terraces	~15m south	Sitting & Standing	Summer
Future mixed amenity by 2-4 Whitworth Street West*	Directly west	Sitting & Standing	Summer
*Represents a future receptor and is considered in the inter-cumulative assessment			

Limitations

- Limitation 1 – The accuracy of the results is dependent upon the accuracy of the CAD used to construct the model. The CAD for the Proposed Development has been provided by the project design team and the CAD for the surrounding area has been sourced from VU.CITY (which is accurate to 15cm) so this is assumed robust;

10.5 Assessment of Effects

Assumptions

10.5.1 The following assumptions and limitations are relevant to this technical assessment:

- Assumption 1 – There is an inherent assumption that on-site wind speeds will scale linearly with the measured wind speeds at the airport (Manchester International Airport). This assumption allows the tests to be performed at a single reference wind speed, rather than requiring testing across all of the possible wind speeds which may be encountered throughout the year; and
- Assumption 2 – It is assumed that construction workers can withstand a higher level of wind speeds than the general public.

10.5.2 These assumptions/limitations are typical for this type of assessment and are not expected to affect the validity of the assessment.

Embedded Mitigation

Construction

10.5.3 In assessing the likely construction impacts, no mitigation has been assumed as being 'inherent' and to be therefore considered within the pre-mitigation assessment.

Operation

10.5.4 In assessing the likely operational impacts, the following aspects of the scheme design are noted as 'inherent' or 'embedded' mitigation of relevance to this topic and is therefore considered within the pre-mitigation assessment:

- Inclusion of two 50% porous barriers, 2400mm tall, one located to the east and one to the south of the Site; and
- The locations of the above barriers are shown in Figure 10.5. It should be noted that these barriers are intended to span the entire gap. An additional scenario in which these fences were extended beyond the Site ownership line was also tested. The results of this scenario are reported in Appendix 10.3.

10.5.5 Any additional or secondary mitigation deemed necessary to avoid or minimise adverse effects arising from the operation of the Proposed Development is outlined in Section 10.6 'Mitigation & Monitoring'. Those measures are taken into account before reporting the residual (i.e. post-mitigation) operational effects of the Proposed Development.

Assessment of Effects

Construction Effects

10.5.6 As construction of the Proposed Development progresses, wind conditions on the Site would gradually adjust from those of the existing Site to those of the completed Proposed Development, as described in the following section 'Operational Effects' (the effects of which range from minor beneficial (**Not Significant**) to negligible neutral (**Not Significant**) at off-site receptor locations, and negligible (**Not Significant**) at on-site receptor locations.

10.5.7 The change in conditions which represents the minor beneficial operational effect would only be experienced at the very end of the construction period, so would be negligible neutral (**Not Significant**) during the construction phase itself. Therefore, all construction wind effects are direct, short-term, temporary, local wind effects of a negligible neutral level (**Not Significant**)

Operational Effects

Scenario 2: Existing Baseline + Proposed Development

10.5.8 A wind tunnel scenario was tested consisting of the Proposed Development within the existing surrounds.

10.5.9 Strong Winds for Scenario 2 are shown in Figure 10.6 at Appendix 10.5.

10.5.10 Windiest Season Comfort for Scenario 2 are shown in Figure 10.7 at Appendix 10.5.

10.5.11 Summer Comfort for Scenario 2 are shown in Figure 10.8 at Appendix 10.5.

Pedestrian Wind Comfort (On-Site)

10.5.12 Conditions for on-Site thoroughfares (wind tunnel locations 86, 94, 97, 101, 104 (see Appendix 10.5)) range between suitable for sitting, standing and leisure walking in the windiest season. This is suitable for the intended use so represents a direct, long-term, permanent, local wind effect of a negligible neutral level (**Not Significant**).

10.5.13 Conditions for on-Site entrances at wind tunnel locations 24 and 98 both record conditions which are suitable for leisure walking in winter. This is one category windier than the target condition, but supplementary testing using Computational Fluid Dynamics (presented in Appendix 10.3) demonstrate that in each case there is actually a "pocket" of conditions which would be suitable for standing between the actual entrance location and the location of the wind tunnel probe. As such, these would be suitable for the intended use. The other on-Site entrance (wind tunnel location 23) is suitable for standing in the windiest season, so all on-Site entrances would be suitable for the intended use. This represents a direct, long-term, permanent, local wind effect of negligible neutral level (**Not Significant**).

10.5.14 Conditions for the proposed roof terraces (probes 251 to 254) are suitable for sitting in summer. This is suitable for the intended use so represents a direct, long-term, permanent, local wind effect of negligible neutral level (**Not Significant**).

Pedestrian Wind Comfort (Off-Site)

10.5.15 Conditions for off-Site thoroughfares (wind tunnel locations 22, 32, 58 to 93, 95, 96, 99, 100, 102, 105, 106 to 125 (see Appendix 10.5)) range between suitable for sitting, standing and leisure walking in the windiest season. This is suitable for the intended use so represents a direct, long-term, permanent, local wind effect of negligible neutral level (**Not Significant**).

10.5.16 Conditions for off-Site pedestrian crossings (wind tunnel locations 15 to 21 (see Appendix 10.5)) range between suitable for standing and leisure walking in the windiest season. This is suitable for the intended use so represents a direct, long-term, permanent, local wind effect of negligible neutral level (**Not Significant**).

10.5.17 Conditions for off-Site roadways (wind tunnel locations 41 to 57 (see Appendix 10.5)) range between suitable for standing and leisure walking in the windiest season. This is suitable for the intended use so represents a direct, long-term, permanent, local wind effect of negligible neutral level (**Not Significant**).

10.5.18 Conditions for the off-Site entrance to the Hacienda Apartments (wind tunnel location 39) are suitable for business walking in the windiest season. This is two categories windier than the target condition but is consistent with the baseline conditions so is not attributable to the Proposed Development and represents a direct, long-term, permanent, local wind effect of negligible neutral level (**Not Significant**).

10.5.19 Conditions for the off-Site entrance to 28 Hewitt Street (wind tunnel location 34 (see Appendix 10.5)) are suitable for standing in the windiest season. This is now suitable for the intended use, and also one category calmer than the baseline conditions, which were windier than the target condition. Therefore, the conditions for this entrance are made suitable by the inclusion of the Proposed Development and this represents a direct, long-term, permanent, local wind effect of a minor beneficial level (**Not Significant**).

10.5.20 Conditions for all other off-Site entrances (wind tunnel locations 27 to 31, 33, 35 to 38, 103 (see Appendix 10.5)) are suitable for either sitting or standing in the windiest season. This is suitable for the intended use so represents a direct, long-term, permanent, local wind effect of negligible neutral level (**Not Significant**).

10.5.21 Conditions for the Deansgate Station bus stop on Whitworth Street West (wind tunnel location 12 (see Appendix 10.5)) are suitable for standing in the windiest season. This is suitable for the intended use so represents a direct, long-term, permanent, local wind effect of negligible neutral level (**Not Significant**).

10.5.22 Conditions for the northern platform of Deansgate tram stop (wind tunnel location 13 (see Appendix 10.5)) are suitable for standing in the windiest season. This is suitable for the intended use so represents a direct, long-term, permanent, local wind effect of negligible neutral level (**Not Significant**).

10.5.23 Conditions for the southern platform of Deansgate tram stop (wind tunnel location 14 (see Appendix 10.5)) are suitable for leisure walking in the windiest season. This is one category windier than the target condition,but is consistent with the baseline conditions so is not attributable to the Proposed Development and represents a direct, long-term, permanent, local wind effect of negligible neutral level (**Not Significant**).

10.5.24 Conditions for the mixed amenity space in First Street (wind tunnel locations 8 to 11 (see Appendix 10.5)) are suitable for a mix of sitting and standing in summer. This is

suitable for the intended use so represents a direct, long-term, permanent, local wind effect of negligible neutral level (Not Significant).

10.5.25 Conditions for the amenity by Deansgate Locks (wind tunnel locations 2, 3, 5, 6 and 7 (see Appendix 10.5)) are suitable for sitting in summer. This is suitable for the intended use so represents a direct, long-term, permanent, local wind effect of negligible neutral level (**Not Significant**).

10.5.26 Conditions for the roof terraces on Hewitt Street (wind tunnel locations 25, 26 and 40 (see Appendix 10.5)) are suitable for sitting in summer. This is suitable for the intended use so represents a direct, long-term, permanent, local wind effect of negligible neutral level (**Not Significant**).

Strong Winds (Off-Site)

10.5.27 There is an instance of strong winds (wind speeds in excess of 15m/s for more than 0.025% annually) by the entrance to the Hacienda apartments to the northeast of the Site, at wind tunnel location 39 (see Appendix 10.5). This is a pre-existing wind safety risk, which was identified in the baseline, so is not attributable to the Proposed Development and represents a direct, long-term, permanent, local wind effect of negligible neutral level (**Not Significant**).

10.5.28 All other off-Site wind tunnel locations do not show any exceedance of the strong winds threshold. There are no material wind safety risks at these locations, so this represents a direct, long-term, permanent, local wind effect of neutral level (**Not Significant**).

Strong Winds (On-Site)

10.5.29 All on Site wind tunnel locations do not show any exceedance of the strong winds threshold. There are no material wind safety risks at these locations, so this represents a direct, long-term, permanent, local wind effect of negligible neutral level (**Not Significant**).

10.6 Mitigation and Monitoring

Construction Mitigation

10.6.1 No significant adverse effects were identified during the construction phase and therefore no additional mitigation measures are required.

Construction Monitoring

10.6.2 No construction monitoring is proposed.

Operational Mitigation

10.6.3 No significant adverse effects were identified during the operational phase after consideration of primary mitigation and therefore no additional mitigation measures are required.

Operational Monitoring

10.6.4 No operational monitoring is proposed.

10.7 Residual Effects

10.7.1 The residual effects will be consistent with those effects set out in Section 10.5 above.

10.7.2 For the construction phase there are direct, short-term, temporary, local wind effects of negligible neutral level (**Not Significant**) for all thoroughfares, crossings and roadways, proposed entrances, off-Site entrances, bus stops, tram stops, existing amenity (both ground and terrace level) and also the proposed roof terraces.

10.7.3 For the operational phase there are direct, long-term, permanent, local wind effects of negligible neutral level (**Not Significant**) for all thoroughfares, crossings and roadways, proposed entrances, bus stops, tram stops, existing amenity (both ground and terrace level) and also the proposed roof terraces.

10.7.4 The operational residual effects for off-Site entrances are also direct, long-term, permanent, local wind effects of negligible neutral level (**Not Significant**), with the exception of the entrance to 28 Hewitt Street (directly south of the Site) where there is a direct, long-term, permanent, local wind effect of minor beneficial level (**Not Significant**),

10.8 Assessment of Cumulative Effects

Intra-cumulative effects

10.8.1 There are no intra-cumulative effects of relevance to Wind Microclimate.

Inter-cumulative effects

10.8.2 Consideration has also been given to the potential for likely significant inter-development cumulative effects to arise as a result of the Proposed Development

alongside other identified cumulative schemes during both the construction and operational phases.

10.8.3 A review of the schemes included in Table TBC of Chapter 2 has been undertaken. The cumulative schemes that are considered relevant to this technical assessment are as follows:

- Scheme 1 (2–4 Whitworth Street West Manchester M1 5WY,141773/FO/2024)
- Scheme 3 (34 Great Jackson Street Manchester M15 4NG,129273/FO/2021)
- Scheme 4 (Plot D Great Jackson Street Manchester M15 4NP,137227/FO/2023)
- Scheme 5 (Part of Plot C and Plot E Great Jackson Street Manchester M15 4NP,137226/FO/2023)
- Scheme 6 (Plot F Great Jackson Street Manchester M15 4AX,132199/FO/2021)
- Scheme 7 (Viadux Phase 2 M60 2AT,139715/FO/2024)
- Scheme 8 (Land at Trumpet Street / Albion Street / Great Bridgewater Street M1 5LE,133172/FO/2022)
- Scheme 9 (50–56 Great Bridgewater Street Manchester M1 5LE,133176/FO/2022)
- Scheme 10 (Plot 9B First Street Manchester,141786/FO/2024)
- Scheme 13 (325–327 Deansgate Manchester M3 4LQ,125804/FO/2019; 139059/JO/2024)
- Scheme 14 (Land at Deansgate South Manchester,129406/FO/2021)
- Scheme 16 (One City Road Manchester M15 4PN,128002/FO/2020)
- Scheme 17 (Land surrounded by Deansgate / Great Bridgewater Street / Watson Street / Peter Street M3 4EN,135565/FO/2022)
- Scheme 18 (One Medlock Street Manchester M15 5FJ,135419/FO/2022)
- Scheme 19 (Plot 10A First Street,136043/FO/2023)
- Scheme 20 (2 Gloucester Street Manchester M1 5QR,138805/FO/2023)
- Scheme 28 (Ground Surface Car Park Commercial Street / Constance Street / Little Peter Street Manchester,144334/FO/2025)
- Scheme 29 (6 Little Peter Street Manchester,143678/FO/2025)

10.8.4 All other cumulative schemes are not considered relevant to wind microclimate, on grounds of distance from the Site.

10.8.5 Of the above list, Schemes 6 and 14 were considered sufficiently advanced to be included in the baseline, and as such were included in all wind tunnel scenarios including the separate cumulative scenario.

10.8.6 Schemes 1, 3, 4, 5, 7, 8, 9, 10, 13, 16, 17, 18, 19, 20, 28 and 29 were only considered as part of a separate cumulative scenario.

10.8.7 The assessment of inter-development cumulative effects takes into consideration the residual effects of the Proposed Development during the construction and operational phases along with any primary and secondary mitigation measures proposed for the cumulative schemes (e.g. that all demolition and construction works are being undertaken in accordance with a CEMP).

Construction Phase Cumulative Effects

10.8.8 As construction of the Proposed Development and cumulative schemes progresses, wind conditions on and around the Site would gradually adjust from those of existing Site to those of the operational schemes, as described in the following section 'Operational Phase Cumulative Effects' (the effects of which range from minor beneficial (Not Significant) to negligible neutral (Not Significant) at off-site receptor locations, and negligible neutral (Not Significant) at on-site receptor locations).

10.8.9 The change in conditions which represents the minor beneficial operational effect would only be experienced at the very end of the Proposed Development and cumulative schemes construction periods, so would be a negligible neutral cumulative effect (Not Significant). Therefore, all construction wind cumulative effects are direct, short-term, temporary, local wind effects of a negligible neutral level (Not Significant).

Operational Phase Cumulative Effects

Scenario 3: Existing Baseline + Proposed Development + Cumulative Schemes

10.8.10 A wind tunnel scenario was tested consisting of the Proposed Development within the cumulative surrounds.

10.8.11 Strong Winds for Scenario 3 are shown in Figure 10.9 at Appendix 10.5.

10.8.12 Windiest Season Comfort for Scenario 3 are shown in Figure 10.10 at Appendix 10.5.

10.8.13 Summer Comfort for Scenario 3 are shown in Figure 10.11 at Appendix 10.5.

Pedestrian Wind Comfort (On-Site)

10.8.14 Conditions for on-Site thoroughfares (wind tunnel locations 86, 94, 97, 101, 104 (see Appendix 10.5)) range between suitable for standing and leisure walking in the windiest season. This is suitable for the intended use so represents a direct, long-term, permanent, local wind cumulative effect of negligible neutral level (**Not Significant**).

10.8.15 Conditions for on-Site entrances at wind tunnel location 98 (see Appendix 10.5) records conditions which are suitable for leisure walking in winter. As described in Section 10.5 with respect to the conditions for Scenario 2, there would actually be "pocket" of conditions which would be suitable for standing between the actual entrance location and the location of the wind tunnel probe. As such, these would be suitable for the intended use. The other on-Site entrances (wind tunnel location 23 and 24 (see Appendix 10.5)) are suitable for standing in the windiest season, so all on-Site entrances would be suitable for the intended use. This represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (**Not Significant**).

10.8.16 Conditions for the proposed roof terraces (probes 251 to 254 (see Appendix 10.5)) are suitable for sitting in summer. This is suitable for the intended use so represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (**Not Significant**).

Pedestrian Wind Comfort (Off-Site)

10.8.17 There is one off-site thoroughfare location (probe 68, on the north of Whitworth Street West (see Appendix 10.5)) which shows conditions suitable for business walking in the windiest season. As this is a single isolated probe, the region of business walking is not considered sufficiently extensive to impact the usability of the thoroughfare. Conditions for all other off-Site thoroughfares (wind tunnel locations 22, 32, 58 to 76, 69 to 93, 95, 96, 99, 100, 102, 105, 106 to 125 (see Appendix 10.5)) range between suitable for sitting, standing and leisure walking in the windiest season. This is suitable for the intended use so represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (**Not Significant**).

10.8.18 Conditions for off-Site pedestrian crossings (wind tunnel locations 15 to 21 (see Appendix 10.5)) range between suitable for standing and leisure walking in the

windiest season. This is suitable for the intended use so represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (**Not Significant**).

10.8.19 Conditions for off-Site roadways (wind tunnel locations 41 to 57 (see Appendix 10.5)) range between suitable for standing and leisure walking in the windiest season. This is suitable for the intended use so represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (**Not Significant**).

10.8.20 Conditions for the off-Site entrance to the Hacienda Apartments (wind tunnel location 39 (see Appendix 10.5)) are suitable for business walking in the windiest season. This is two categories windier than the target condition, but is consistent with the baseline conditions so is not attributable to the Proposed Development and represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (**Not Significant**).

10.8.21 Conditions for the off-Site entrance to 28 Hewitt Street (wind tunnel location 34 (see Appendix 10.5)) are suitable for standing in the windiest season. This is suitable for the intended use, having been one category windier than the target condition in the future baseline. Therefore, this represents a direct, long-term, permanent, local cumulative wind effect of minor beneficial level (**Not Significant**).

10.8.22 Conditions for all other off-Site entrances (wind tunnel locations 27 to 31, 33, 35 to 38, 103 (see Appendix 10.5)) are suitable for either sitting or standing in the windiest season. This is suitable for the intended use so represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (**Not Significant**).

10.8.23 Conditions for the Deansgate Station bus stop on Whitworth Street West (wind tunnel location 12 (see Appendix 10.5)) are suitable for leisure walking in the windiest season. This is one category windier than the target condition but given the location of the bus stop relative to the Site and other cumulative schemes this increase in windiness can be attributed to other cumulative schemes rather than the Proposed Development so would be consistent with the future baseline. Therefore, this represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (**Not Significant**).

10.8.24 Conditions for the northern platform of Deansgate tram stop (wind tunnel location 13 (see Appendix 10.5)) are suitable for standing in the windiest season. This is

suitable for the intended use so represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (**Not Significant**).

10.8.25 Conditions for the southern platform of Deansgate tram stop (wind tunnel location 14 (see Appendix 10.5)) are suitable for leisure walking in the windiest season. This is one category windier than the target condition but is consistent with the baseline conditions so is not attributable to the Proposed Development and represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (**Not Significant**).

10.8.26 Conditions for the mixed amenity space in First Street (wind tunnel locations 8 to 11 (see Appendix 10.5)) are suitable for a mix of sitting and standing in summer. This is suitable for the intended use so represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (Not Significant).

10.8.27 Conditions for the amenity by Deansgate Locks (wind tunnel locations 2, 3, 5, 6 and 7(see Appendix 10.5)) are suitable for sitting in summer. This is suitable for the intended use so represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (**Not Significant**).

10.8.28 Conditions for the roof terraces on Hewitt Street (wind tunnel locations 25, 26 and 40 (see Appendix 10.5)) are suitable for sitting in summer. This is suitable for the intended use so represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (**Not Significant**).

10.8.29 Conditions for the future amenity around 2-4 Whitworth Street West (cumulative scheme 1) (wind tunnel locations 1 and 4(see Appendix 10.5)) are suitable for a mix of sitting and standing in summer. This is suitable for the intended use so represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (Not Significant)

Strong Winds (Off-Site)

10.8.30 There is an instance of strong winds (wind speeds in excess of 15m/s for more than 0.025% annually) by the entrance to the Hacienda apartments to the northeast of the Site, at wind tunnel location 39 (see Appendix 10.5). This is a pre-existing wind safety risk, which was identified in the baseline, so is not attributable to the Proposed Development and represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (**Not Significant**).

10.8.31 All other off-Site wind tunnel locations do not show any exceedance of the strong winds threshold. There are no material wind safety risks at these locations, so this represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (**Not Significant**).

Strong Winds (On-Site)

10.8.32 All on Site wind tunnel locations do not show any exceedance of the strong winds threshold. There are no material wind safety risks at these locations, so this represents a direct, long-term, permanent, local wind cumulative effect of negligible neutral level (**Not Significant**).

10.9 Summary

10.9.1 The potential impact of the Proposed Development on Wind Microclimate was assessed using physical wind tunnel testing.

10.9.2 Wind conditions were measured for the existing baseline conditions, as well as for with the Proposed Development included and also for a scenario where cumulative schemes were accounted for.

10.9.3 Wind conditions were recorded both on and off-Site for thoroughfares, crossings, roadways, building entrances (existing and proposed), bus and tram stops, ground level amenity and roof terraces (existing and proposed).

10.9.4 Embedded wind mitigation is included within the design of the Proposed Development in the form of two 50% porous barriers, 2400mm high, at the south and east of the Site (Appendix 10.4).

10.9.5 No significant wind effects were recorded, with respect to either pedestrian comfort or safety. Wind effects ranged from negligible neutral (Not Significant) to minor beneficial (Not Significant).

10.9.6 A summary of the likely significant residual effects of the Proposed Development on the receptors considered within this Chapter are summarised in Table 10.8 below.

Table 10.8: Summary of Residual Effects												
Receptor	**Description Of Impact**	**Geographical Significance**							**Impact**	**Nature**	**Significance**	**Mitigation Measures**
		I	**N**	**R**	**C**	**D**	**P**	**L**				
Construction Effects												
Thoroughfares, crossings and Roadways	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							x	Negligible Neutral	St	Not Significant	N/A
Existing off-site entrances	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							x	Negligible Neutral to Minor Beneficial	St	Not Significant	N/A
Bus stop on Whitworth Street West	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							x	Negligible Neutral	St	Not Significant	N/A
Deansgate tram stop platforms	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							x	Negligible Neutral	St	Not Significant	N/A
First Street mixed amenity	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							x	Negligible Neutral	St	Not Significant	N/A
Deansgate Locks amenity	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							x	Negligible Neutral	St	Not Significant	N/A

Table 10.8: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Hewitt Street roof terraces	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							x	Negligible Neutral	St	Not Significant	N/A
All wind receptors	Impacts on pedestrian safety due to changes in pedestrian level wind speeds							x	Negligible Neutral	St	Not Significant	N/A
Operational Effects												
Thoroughfares, crossings and Roadways	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							x	Negligible Neutral	Lt	Not Significant	N/A
Proposed entrances	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							x	Negligible Neutral	Lt	Not Significant	N/A
Proposed roof terrace	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							x	Negligible Neutral	Lt	Not Significant	N/A
Existing off-site entrances	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							x	Negligible Neutral to Minor Beneficial	Lt	Not Significant	N/A
Bus stop on Whitworth Street West	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							x	Negligible Neutral	Lt	Not Significant	N/A

Table 10.8: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Deansgate tram stop platforms	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							x	Negligible Neutral	Lt	Not Significant	N/A
First Street mixed amenity	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							x	Negligible Neutral	Lt	Not Significant	N/A
Deansgate Locks amenity	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							x	Negligible Neutral	Lt	Not Significant	N/A
Hewitt Street roof terraces	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							x	Negligible Neutral	Lt	Not Significant	N/A
All wind receptors	Impacts on pedestrian safety due to changes in pedestrian level wind speeds							x	Negligible Neutral	Lt	Not Significant	N/A

Key:

Geographical Significance: I = International N = National R = Regional C = County D = District P = Parish L = Low to Local

Nature: St = Short Term Mt = Medium Term Lt = Long Term R = Reversible Ir = Irreversible

11 SOCIO-ECONOMIC

11.1 Introduction

11.1.1 This Chapter has been prepared by Cushman & Wakefield and reports the likely significant socio-economic effects of the Proposed Development in the context of the Site and surrounding area. In particular it considers the likely significant effects on the local economy, population and services during the construction and operational phases of the Proposed Development relative to the baseline conditions. Consideration has also been given to appropriate mitigation measures in response to any adverse effects where required.

11.1.2 This Chapter (and its associated figures and appendices) is not intended to be read as a standalone assessment and reference should be made to the front end of this ES (Chapters 1 – 5), as well as the final chapter, 'Summary of Residual and Cumulative Effects' (Chapter 14).

11.2 Legislation, Policy and Guidance

11.2.1 The relevant legislation, policy and guidance are listed below, with details provided in Appendix 11.1.

Legislative Framework

11.2.2 The applicable legislative framework is summarised as follows:

- National Planning Policy Framework (NPPF) (December 2024)

Planning Policy

11.2.3 The applicable planning policy has been summarised as follows:

- Greater Manchester Combined Authority Places for Everyone Joint Development Plan (2024)
- Manchester Core Strategy (2012) and Addendum (2024) following adoption of Places for Everyone Joint Development Plan
- Manchester Unitary Development Plan – Saved Policies (1995)

Guidance

11.2.4 The applicable guidance has been summarised as follows:

- Our Manchester Strategy (2016)
- Guide to Development in Manchester Supplementary Planning Guidance (2007)

- Manchester Residential Quality Guidance (2017) – (not adopted as SPD however adopted as a material consideration in decision making for planning applications)
- Manchester Planning and Noise - Technical Guidance (2022)
- Whitworth Street West Strategic Regeneration Framework Area (2008)

11.2.5 Guidance in respect of the assessment methodology includes:

- HM Treasury Green Book (2026)
- Ministry of Housing, Communities and Local Government (MHCLG) Appraisal Guide and Technical Annex (2025)
- Homes & Communities Agency (HCA) Employment Density Guide (2015)
- HCA Calculating Cost per Job Best Practice Note (2015)
- Department for Business Innovation & Skills (BIS) Research to Improve the Assessment of Additionality (2009)
- NHS Rapid Health Impact Assessment Matrix (London Healthy Urban Development Unit, 2019)

11.3 Assessment Methodology and Significance Criteria

Scope of the Assessment

11.3.1 The majority of the socio-economic impacts derived from the Proposed Development are anticipated to have the most significant impact within the local area, with some lesser scale impacts across the wider Greater Manchester sub-region and North West region.

11.3.2 Manchester City Council adopted a Scoping Opinion (Appendix 4.2) on 23rd July 2025, within which they requested that socio-economic impact be scoped into the ES for the Proposed Development. MCC stated the following in respect of demographic, socio-economics and health:

11.3.3 "*It is considered that the demographic, socio-economic and health impacts of this scheme are significant enough to warrant assessment through the EIA process. This should include an assessment of direct and indirect construction and operational effects on the local and regional environment, including the economy, housing provision, student housing, education, employment, health and healthcare, crime, and ongoing regeneration within the City.*"

11.3.4 This assessment of the likely socio-economic benefits of the Proposed Development considers a range of potential impacts throughout the construction and operational phases of the scheme aligned to those factors identified within the Scoping Opinion:

- Housing Provision - including Student Housing
- Economic Activity and Employment
- Education – Qualifications and Skills
- Economy – Productivity and Local Expenditure
- Healthcare – GP and Dental Provision
- Crime

11.3.5 Further detail on the methodology of this assessment is set out later in this section.

Effects Not Considered within the Scope

11.3.6 Given the temporary nature of the construction phase of the Proposed Development, and the negligible demand construction workers are likely to place on housing, education and health care during the works, these factors have been scoped out of the construction phase of this socio-economic assessment. In addition, appropriate security and mitigation measures can justify the scoping out of the consideration of the impact on crime during the construction phase. This approach was agreed with MCC via email on the 22nd January 2026.

11.3.7 It has been recognised that whilst there may be some use of accommodation and health facilities by workers during the construction phase, this is likely to be limited and temporary in nature, and as such would not represent a significant or sustained socio-economic impact.

Extent of the Study Area

11.3.8 The study areas utilised within this assessment, for both defining the baseline conditions and the assessment of potential socio-economic impacts, are broadly defined by three spatial scales:

- The Site
- Local impact area – Manchester local authority area

- Wider impact area – Greater Manchester Combined Authority area including the 10 constituent local authorities of Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside, Trafford and Wigan

11.3.9 The selection of study areas has been informed by the availability and reliability of the latest publicly available data at a variety of spatial scales, alongside the strategic planning context and Cushman & Wakefield's professional experience and judgement of operational housing market and economic areas.

11.3.10 Whilst consistency in the use of these study areas has been sought where possible, given the wide range of socio-economic impacts assessed and the subsequent availability of data, some different study areas are used as required in some assessment cases (e.g. electoral wards, policing areas and distance radii for health care). This issue has been identified in the limitations section. Benchmarking to the regional (North West) national scale (England/UK) has also been referenced where beneficial to the analysis.

Consultation Undertaken to Date

11.3.11 The assessment of the socio-economic impacts of the Proposed Development has not required the undertaking of any consultations. This approach was agreed with MCC via email on the 22nd January 2026.

11.3.12 ***Assessment Methodology***

11.3.13 The method of baseline data collection and assessment is in accordance with current guidance and industry best practice.

11.3.14 As a desk based assessment, a range of published and publicly available data from reliable sources have been relied upon. These are clearly referenced throughout this chapter and at the baseline stage and include:

- Information provided by the applicant
- Office for National Statistics (ONS)
- Higher Education Statistics Agency (HESA)
- Manchester Retail and Leisure Study (2023)
- NatWest Student Living Index (2025)
- Student Income & Expenditure Survey (2021-22) (Gov.uk)
- Visit England

- National Health Service (NHS) Choices
- Home Office and Police.UK.

11.3.15 The estimation and assessment of anticipated socio-economic impacts for both the construction and operational phase have been derived from the specification of the Proposed Development, reliable published data sources, and Government and industry guidance. The approach to assessment and data sources for each impact is set out as follows:

Table 11.1 Socio-Economic Assessment Methodology

Impact	Assessment Methodology
Construction Phase	
Construction Employment	Detailed estimated construction costs provided by the Applicant's cost consultant, Gardiner & Theobold (dated March 2026), total £102,106,889, equating to £4,065 per sqm/£377 per sq ft for the Proposed Development (25,117 sqm/270,354 sq ft). Dividing the total construction cost by the average annual turnover per employee in the North West construction sector (£191,784) derived from ONS Business Population Estimates (2025) provides an estimated number of jobs directly created by the Proposed Development if it were to be completed in a single year. Dividing this figure by the anticipated 3 year (36 month) construction period calculates the estimated gross FTE construction jobs. Leakage, displacement and deadweight considerations are applied in line with MHCLG Appraisal Guide (2025). 0% deadweight is assumed as no jobs will be created if construction does not progress. Given the proximity of the Proposed Development to the Manchester administrative boundary, leakage effects are considered medium (50%) at the Manchester scale but low (10%) for GM. Displacement is assessed as low at 25%. A composite multiplier of 1.1 at the Manchester and 1.33 at the GM scale has been applied to account for indirect employment effects generated as a result of supply chain linkages and local spend during the construction period.
Economic Productivity	The latest available (2023) ONS GVA per capita estimate at the Manchester local authority level (£61,859) is applied to the estimated FTE construction jobs per annum figure to provide an indication of the income generated to the economy through the construction phase of the Proposed Development. GVA per capita data is not available at the local or sub-regional level.
Operational Phase	
Student Housing & Population	The Schedule of Accommodation for the Proposed Development establishes the number of rooms and occupancy. Up to one person per bed space is assumed for full occupancy.
Employment	The anticipated direct operational phase employment has been provided by the Applicant based upon their experience of similar schemes and their FTE requirement for jobs such as caretaker, security and concierge staff. Leakage, displacement and deadweight considerations are applied in line with MHCLG Appraisal Guide (2025). 0% deadweight is assumed as no jobs will be created if the PBSA scheme is not delivered. Given the proximity of

Table 11.1 Socio-Economic Assessment Methodology	
Impact	**Assessment Methodology**
	the Proposed Development to the Manchester administrative boundary, leakage effects are considered medium (50%) at the Manchester scale but very low (5%) for GM. Displacement is assessed as low-medium at 35%. A composite multiplier of 1.3 at the Manchester and 1.4 at the GM scale has been applied to account for additionality effects. Indirect FTE employment per annum generated by the uptake of part-time term time jobs by new residents has been estimated based on Natwest's Student Living Index (2025) findings in respect of the proportion of UK students with a part time job (64%) and average hours worked by students (68 hours per month) and an average 37.5 hour average working week.
Education	The Proposed Development will not directly enhance the skills and education of its residents and therefore the impact on education is assessed qualitatively based on professional experience of the likely effects on providing the supporting infrastructure required for students to excel at their studies and for the city to remain competitive as a university destination through the ability to attract and retain students.
Economy - Productivity	The latest available (2023) ONS GVA per capita estimate at the Manchester local authority level (£61,859) is applied to the estimated permanent net FTE jobs created through the on-going operation of the Proposed Development to provide an indication of the uplift in productivity generated to the economy.
Economy – Local Expenditure	The latest Student Income and Expenditure Study (Department for Education, 2021/22) used by Government to track student expenditure and debt is applied to the new population of resident students at the Proposed Development to estimate local annual expenditure. Visitor spend is estimated based on a conservative assumption of one overnight visit per new resident per annum applied to Visit Britain visitor spend data at the Manchester Local Authority level.
Healthcare	NHS Digital statistics from the GP Workforce Census together with information on acceptance of new patients at existing GP and dental surgeries to determine local capacity to serve new student population within an appropriate radius of the Site (rather than spatial boundary level). The assessment considers the potential health impacts in the context of the HUDU Rapid Health Impact Assessment Tool under the "access to health care" determinant.
Crime	The assessment of the effects of development on crime are considered qualitatively based on the baseline crime data (ward level) indicating the type of offences in the local area and the scope to 'design out' crime through scheme design information as provided by the applicant and applied through professional experience. The assessment considers the potential health impacts of crime in the context of the HUDU Rapid Health Impact Assessment Tool under the "crime reduction and community safety" determinant.

Significance Criteria

11.3.16 Effects that are deemed to be significant for the purposes of this assessment are those that are described as being of a moderate or major beneficial or adverse level. The level of effect generated by the Proposed Development at the local and wider scale have been considered as follows:

- **Major Beneficial** – Significant positive socio-economic impact at the local scale and moderate or significant benefits at the wider scale
- **Moderate Beneficial** – Modest socio-economic improvement at the local scale
- **Minor Beneficial** – Small positive impact on local socio-economic indicators
- **Negligible** – No real change in socio-economic indicators
- **Minor Adverse** – Small negative impact on local socio-economic indicators
- **Moderate Adverse** – Modest socio-economic disincentive at the local scale
- **Major Adverse** – Significant adverse socio-economic impact at the local scale and moderate or significant disbenefits at the wider scale

11.3.17 Effects are also given descriptors to confirm their nature (i.e. direct or indirect), temporal scale (short, medium or long-term), permanence (temporary or permanent), type (adverse or beneficial) and/or spatial scale (site, local, regional, national).

11.3.18 The significance criteria are qualitative in approach but have been informed by data derived from the baseline assessment and quantitative assessment of construction and operational phase impacts of the Proposed Development. Based on professional experience and judgement, consideration has been given to the scale and duration of the socio-economic effect at each spatial scale relative to the baseline; the value of the impact; and the ability to adapt to and/or mitigate the potential benefit or adverse effect.

11.4 Baseline Conditions

Existing Baseline

11.4.1 The current (2026) socio-economic status of the Site and its local and wider context represent the baseline conditions against which the scale and significance of the socio-economic effects of the Proposed Development can be established and assessed.

11.4.2 The existing baseline position of each of the potential socio-economic impacts identified within the scope of assessment is considered in turn within this section.

11.4.3 The Site currently comprises a turfed site secured by 2.4m high metal fencing. As such, under the current baseline conditions, the Site provides no socio-economic benefit to the local community.

Population

11.4.4 The Site currently comprises a vacant brownfield site and as such has no population.

11.4.5 The latest available ONS Mid-Year Population Estimates (2024) provide data on population and age structure within the study area and wider comparator areas. The data indicates a resident population of 589,000 people within the Manchester Local Authority Area.

11.4.6 Over the last five years (2019-2024) Manchester's population has increased by over 43,000 people representing a notably faster rate of growth (8.0%) than that of the wider Greater Manchester (5.7%); North West region (5.1%) and England (4.3%) trend.

11.4.7 The majority of Manchester's resident population (70.8%) is of working age (16-64 years). This compares favourably to that of Greater Manchester (64.2%); the North West (62.6%); and England (62.9%) and is reflective of its role as a major Regional Centre.

11.4.8 Of particular relevance to the Proposed Development and demonstrating the importance of Manchester as a university city, is the relatively high proportion of the resident population within the 18-24 year age bracket (16.9%) compared to the Greater Manchester (9.6%); regional (8.7%); and national (8.4%) rates.

11.4.9 The Proposed Development is anticipated to be completed and accepting of new resident students by Q3 2030. ONS 2022 Based Sub-National Population Projections (latest data available) indicate that Manchester's working age population is anticipated to grow by 2.1% to 2030, a faster rate of growth than Greater Manchester (1.3%), and significantly faster than the almost stable North West (0.1%) and England (0.1%) rates.

Housing Provision

11.4.11 The Site comprises a vacant brownfield site and as such currently provides no housing provision.

11.4.12 At the time of the 2021 ONS Census, there were 6,278 households within the Deansgate Ward within which the Proposed Development is situated. The 2021 Census aligns with 2022 and current ward boundaries. Reflecting the central urban location, the majority of these were privately rented (72.6%), slightly higher than the adjoining Piccadilly Ward (70.4%) which also makes up the City Centre – and a substantially higher rate than that of Manchester Local Authority area (32.3%) and the wider spatial benchmark areas (19.2% in the North West to 20.5% nationally) where the dominant tenure is owner occupation (60%+).

11.4.13 In terms of household composition, the latest (2021) ONS data indicates that the Deansgate Ward and Piccadilly Ward both have higher proportions of single person households (47.1% and 45.0%) than the Manchester Local Authority Area (33.3%) and national average (30.1%). The rate of households with dependent children is aligned across Manchester and England of 30.1% and 28.5% respectively whilst the City Centre wards have an extremely low proportion with 3.4% and 3.6% respectively for the Deansgate and Piccadilly wards.

11.4.14 Manchester City Council's latest Annual Monitoring Report (2024 - latest data available) indicates that there were 2,962 net housing completions across the district in 2023/24 (which takes account of demolitions) – higher than the previous year (1,891 units) but below the annual net housing target set for Manchester in the adopted Places for Everyone (PfE) Joint Development Plan (2024) of 3,533 units per annum.

Student Population and Housing

11.4.15 Data from the Higher Education Statistics Agency (HESA) indicates that 2.86 million students enrolled on a higher education course in the UK during the 2024/25 academic year (latest data available). Almost a quarter (24%) of enrolments were from students from outside of the UK. International students bring a substantial economic contribution to the UK and are more likely to choose private sector accommodation.

11.4.16 Accounting for 3% of the UK total, 85,700 students enrolled on a higher education course in Manchester in the 2024/25 academic year – 46,305 at the University of Manchester and 39,395 at Manchester Metropolitan University. Whilst outside of the

Manchester Local Authority area, a further 26,030 enrolments were made to the University of Salford. The positioning of the Proposed Development on the south western edge of the City Centre could also appeal to students studying in Salford.

11.4.17 As of September 2025 (latest data available), the ONS Annual Population Survey identifies a total of 32,600 residents of Manchester who are economically inactive (not working or seeking work) owing to being a student. Whilst it is recognised that not all of the 85,700 students enrolled at Manchester's universities will live within the City boundary, this is likely to be an under-representation of the City's total student population as many students do choose to engage in the labour market during their university studies.

11.4.18 HESA research also provides data on the term time accommodation of full time (including sandwich year) students. Nationally, during the 2024/25 academic year, 28.2% of students were living in temporary rented accommodation such as annual house shares. A further 19.4% were living at home with a parent/guardian; 20.4% in their own owned or rented residences; 15.0% in a provider maintained property and 8.8% in private sector halls such as that anticipated by the Proposed Development.

11.4.19 Research by Cushman & Wakefield's Student Accommodation Advisory Team highlights a continuing imbalance between student demand and purpose-built student accommodation (PBSA) supply in Manchester. Based on 2024/25 data, the student-to-bed ratio (SBR) stands at 2.34:1, above the national average of 2.05:1, leaving 35,546 students unable to access a PBSA bed. This closely aligns with HESA data reporting 34,450 students living in private rented accommodation.

11.4.20 Even on the assumption of the delivery of the current PBSA development pipeline (18,071 units), modelling to 2030/31 indicates the SBR would only reduce to 2.20:1, remaining above the national average, and taking into account the anticipated growth of student population. Under this scenario, reliance on returning students is low, but approximately 36,954 students in 2030/31 may still require private sector accommodation, further heightening ongoing pressure on the housing market, reducing Council Tax revenue and potentially impacting the student experience.

11.4.21 Reflecting this imbalance, rental growth in the PBSA private sector has been particularly strong, with increases of 13.9% and 11.5% between 2022/23-2023/24 and 2024/25-2025/26, substantially exceeding historic norms (c.1-3% from 2013-2019 in Manchester) and the national average (1.2% between 24/25-25/26). In 2025/26,

growth moderated to 2.7%, slightly below previous levels but still above the wider UK private sector market (1.5%), highlighting sustained demand pressures.

Economic Activity and Employment

11.4.22 The scale of the potential local labour force can be measured by the proportion of those who are economically active. This group includes all those who are in employment, including self-employed, or unemployed but actively seeking work. Those who are economically inactive are not seeking employment for a variety of reasons.

11.4.23 The latest data from the ONS Annual Population Survey (October 2024 – September 2025) indicates that 78.7% of Manchester's working age population (16-64 years) are economically active and 93.5% are in employment (please see Table 11.2). This is only a slightly lower rate than that of the wider Greater Manchester, North West and national benchmark averages where those in employment exceeded rates of over 95%.

11.4.24 Correspondingly, the unemployment rate amongst 16-64 year olds in Manchester is higher at 6.5% than that of Greater Manchester (4.8%); the North West (4.2%); and England (4.4%).

Table 11.2 Economic Activity and Employment - % Working Age Population (2025)

	Manchester	Greater Manchester	North West	England
Economically Active:	78.7	75.7	77.5	79.3
In Employment	*93.5*	*95.2*	*95.8*	*95.6*
Unemployment Rate	*6.5*	*4.8*	*4.2*	*4.4*
Economically Inactive:	21.3	24.3	22.5	20.7
Student	*39.0*	*28.4*	*23.6*	*27.0*

Source: ONS Annual Population Survey (October 2024 – September 2025)

11.4.25 Of particular relevance to the Proposed Development, the majority of those who are economically inactive in Manchester who not seeking employment due to being a student is 39.0%. This is substantially higher than the wider benchmark areas which range from 23.6% in the North West to 28.4% across Greater Manchester and is reflective of the City as a University destination and high concentration of student population.

11.4.26 The ONS Business Register and Employment Survey identifies the industry of those in employment (please see Table 11.3). In 2024 (latest data available), the greatest

sector of employment within Manchester was Professional, Scientific and Technical Activities (13.3% of employee jobs) - a higher proportion than the wider spatial areas (9-11%). Health employs the second largest proportion of jobs in Manchester at 11.8%, however at a lower rate than all of the comparator areas (13-16%).

Table 11.3 Largest Industries of Employment, 2024 (%)

Industry	Manchester	Greater Manchester	North West	England
Professional, scientific & technical	13.3	10.9	9.6	9.7
Health	11.8	15.4	15.6	13.5
Business administration & support services	11.4	9.8	8.6	8.7
Retail	10.7	14.0	14.0	13.7

Source: ONS Business Register and Employment Survey (2024)

11.4.27 In respect of construction, 2.2% of Manchester jobs, equating to 10,000 people were employed within this sector in 2024. This rate is less than half that of the wider benchmarks of between 4.8% across Greater Manchester and 5.0% nationally.

11.4.28 The employment figures demonstrate a high proportion of people employed in high value industrial sectors and roles. This indicates a skilled and educated workforce and could be interpreted to reflect the large universities and higher educational facilities within the Local Authority and surrounding areas.

Education

11.4.29 Qualification levels provide a useful indicator of the skills of the local labour market. The latest ONS Annual Population Survey indicates that in 2021 (latest data available) 45.1% of Manchester's working age population (16-64 year olds) had achieved NVQ4+ level qualifications. This is notably higher than that of Greater Manchester (39.1%); the North West (38.6%) and England (43.2%).

11.4.30 NVQs are focused on practical skills but the highest NVQ level 6 is equivalent to an academic Bachelors degree, while Levels 4 and 5 equate to the first and second years of a Bachelors degree respectively. The higher qualification rate (NVQ4+) achieved in Manchester could be a reflection of how the Manchester Universities are supporting the local population to attain higher level qualifications and skills.

Productivity

11.4.31 Gross value added (GVA) is a measure of productivity based on the income generated to the economy through the production of goods and services. The ONS produces annual total GVA and GVA per capita estimates to the local authority level.

11.4.32 In 2023 (latest available data), Manchester generated a total economic output of £35.8 million equating to £61,859 gross GVA per head of population. This is considerably higher than the wider benchmarks which range from a GVA of £32,024 per head in the North West to £36,632 per head nationally and is reflective of the higher value service sector industries that are prevalent within the City. This data is shown in Table 11.4.

11.4.33 Manchester's annual growth in GVA of 11.2% also exceeded that of Greater Manchester (10.2%); the North West (9.7%) and England (9.1%).

Table 11.4 GVA Productivity (2023)

	Manchester	Greater Manchester	North West	England
Total GVA Per Head	£61,859	£34,033	£32,024	£36,632
Total GVA (£ million)	£35,800	£100,350	£243,300	£2,113,300

Source: ONS Regional GVA

Local Expenditure

11.4.34 After the costs of accommodation, retail spend accounts for much of the expenditure within a local economy. Based on the Manchester Retail and Leisure Study (2023 – latest study) total retail spend reached £149.7 million for convenience goods expenditure in Manchester City Centre (Zone 1). This figure is anticipated to grow by 11.9% to £161.5 million by 2033. As would be anticipated for a major regional city, comparison spend (54.5%) exceeded that of convenience spending (45.5%) Manchester City Centre (Zone 1) at £193.1 million in 2023, with an expected growth of 26.9% to £254.2 million by 2033.

11.4.35 Leisure service expenditure totalled £85.7 million in Manchester City Centre in 2023. The total expenditure per capita on cafés/restaurants was £820, which is expected to grow to £891 per capita by 2033. Expenditure in licensed premises was £510 per capita in 2023 and is expected to increase by 8.9% to £555 by 2033.

11.4.36 There is associated expenditure on food, social and other living costs linked to the provision of student accommodation. The Natwest Student Living Index (2025 – latest study) estimated an average spend per month, on entertainment, going out, travel,

food and items of £83.30 per student in 2025. To note, there is limited information available at the Manchester level and therefore national figures/ percentages have been used for consistency.

11.4.37 The Natwest Student Living Index 2025 also showed the amount of students employed in part-time work has increased, with an average of 64% of students in part time work in 2025 compared to 56% of students in 2024. The average amount of time spent in part time work is 68 hours per student per month in the UK in 2025.

11.4.38 Visit Britain data estimates that the Manchester Local Authority area attracted an average of 50.1m day visits in 2024 (latest data available). The value associated with these day visits averaged £2,953m per year, or £59 per person per year. Marketing data shows that there was an average of 6.4 million overnight trips in 2024 in Manchester Local Authority area, with an associated value averaging £2,097 million per year, or £327 per person including accommodation. This includes spending in shops, restaurants, entertainment venues, at attractions and on local transport.

Health Care

11.4.39 In terms of health care, the new population generated by the Proposed Development is likely to have the most substantial impact on General Practitioner (GP) and dental provision at the local scale. In each case, a 1 mile radius from the Proposed Development is considered a reasonable walking distance for the purposes of this assessment.

11.4.40 There are currently 6 GP practices within a 1 mile radius of the Site (please see Table 11.5) with a total of 51 GPs and 73,350 registered patients (where information is available). All are currently accepting new NHS patients.

Table 11.5 GP Provision within 1 Mile of Proposed Development (March 2026)

GP Practice	Distance (Miles)	Patients on Roll	No. of GP's	Accepting New Patients
The Arch Medical Practice	0.5	24,671	6	Yes
The Docs	0.5	14,723	10	Yes
Cornbrook Medical Practice	1.0	18,024	16	Yes
Blackfriars Medical Practice	1.0	~	5	Yes
City Health Centre	1.0	~	11	Yes
Vallance Medical	1.0	15,932	3	Yes
Total:	**6**	**73,350**	**51**	**~**

Source: NHS Choices
~ Data not available

11.4.41 The latest NHS Digital statistics from the GP Workforce Census indicates that as at January 2026 (latest data available), there were 38,089 FTE equivalent GPs in England, a decrease of 0.4% since the previous January. The total number of registered patients is 63.9 million therefore meaning the ratio of fully qualified GPs to registered patients 1 GP per 1,677 patients.

11.4.1 Where data is available the GP to patient ratio at the practices within 1 mile of the Proposed Development is 1,438 which is in keeping with the national average indicating a sufficient provision of GPs in the local area.

11.4.2 In terms of dental services, there are currently 10 dental practices with 49 dentists operating within a 1 mile radius of the Proposed Development (as shown in Table 11.6). Five are currently accepting new patients (where information is available).

Table 11.6 Dentists within 1 Mile of Proposed Development (March 2026)

Dental Practice	Distance (Miles)	No. of Dentists	Accepting New Patients?
207 Dental Care	0.5	5	Yes
City Centre Dental Practice	0.5	8	No
Bupa Dental Care	1.0	7	No
Manchester DP Ltd	1.0	8	No
Revive Dental Care	1.0	6	Yes
Ocean Dental	1.0	3	No
Mydentist	1.0	3	Yes
Parsonage Dental Practice	1.0	1	Yes
Archway Dental Practice	1.0	1	No
Vallance	1.0	7	Yes
Total:	**10**	**49**	~

Source: NHS Choices

11.4.3 Given the historic and anticipated rate of population growth across the City, and the resulting likely increase in demand for local GP and dental services, this baseline position could change over the course of the delivery of the Proposed Development. The ability for the supply of health care provision to respond to and meet this demand will determine whether or not the capacity will improve or worsen from the current baseline.

Crime

11.4.4 The Site falls within the 'Southern Gateway' neighbourhood policing area, which covers about half of the Deansgate ward. The national website for policing (Police.UK) does not identify any current policing priorities for this area but indicates that most

common crimes over the last three years (March 2023 to January 2026 – latest data available) to be violence and sexual offences (50 incidents); bicycle theft (47); public order (46); theft from the person (31); and drugs (28) offences.

11.4.5 Home office data for 'police recorded crime' shows that, for Greater Manchester, of the total recorded crime offences for the year ending September 2025 (315,498) violence against the person comprised the greatest proportion of offences (126,093/40%) which is reflective of figures for the North West (41%) and England (37%). The second most prevalent crime at the Greater Manchester level was theft (79,555/25.2%), followed by violence without injury (54,226/17.2%), which is the same across the North West and England too. There were 12,275 recorded burglaries in Greater Manchester during this timeframe, accounting for 3.9% of all crimes. This figure is higher than the North West (3.8%) but lower than nationally (4.4%).

Future Baseline

11.4.6 Where necessary future baseline projections have been included in the relevant section above, in particular with regard to the current PBSA development pipeline and the impact on the student-to-bed ratio (SBR) which would remain above the national average.

11.4.7 There is not anticipated to be any substantial change in the baseline conditions of the Site or its immediate surroundings either in the absence of the Proposed Development, or in advance of commencement of proposed construction works (anticipated third quarter of 2027).

Sensitive Receptors

11.4.8 There are a multitude of factors that can contribute to an individual's social, health and economic outcomes beyond that of the build environment. However, the sensitive receptors for the Proposed Development are considered to be as follows:

- Existing residents and businesses
- Future resident and visitors to the site
- Individuals active within the local labour market (construction and operational)
- Higher education facilities – Manchester universities
- Healthcare facilities – GP surgeries and dental practices

Limitations

11.4.9 There are a number of limitations associated with estimating and assessing the socio-economic impacts of physical development. These are discussed throughout this Chapter and can be summarised as follows:

- As a desk-based assessment, great reliance is placed on published data, information and guidance – the true impacts of development will not be known until after delivery, and therefore a conservative approach has been undertaken throughout this assessment to ensure the worst case scenario is accounted for.
- Data is limited by its availability to desired dates and administrative boundaries meaning different study areas and dates are used for different assessments, but consistency is sought where possible.
- Housing markets and economic areas do not conform to the same administrative boundaries but the availability of reliable data to these spatial scales has been used determine the study areas of this assessment.
- Qualitative assessments are based on professional experience and judgement.
- Some impact assessments are based upon information provided by the applicant including schedule of accommodation and construction costs. It is assumed that this information is correct and reliable but recognised that it is subject to potential change as the scheme progresses.
- A lack of formal guidance or recognised criteria for assessing the socio-economic impacts of development means an element of subjectivity is unavoidable.

11.4.10 The assessment of the socio-economic impacts of the Proposed Development is considered as robust as can be within the context of the identified limitations above.

11.5 Assessment of Effects

11.5.1 This section sets out the assessment of effects for each identified economic and social indicator under each relevant phase of the Proposed Development – construction and operational.

Assumptions

Embedded Mitigation

11.5.2 Owing to the nature of the socio-economic assessment, no assumptions with regard to embedded mitigation are made.

Construction

11.5.3 Any primary or secondary mitigation deemed necessary to avoid or minimise adverse effects arising from the construction of the Proposed Development are outlined in Section 11.6 'Mitigation & Monitoring'. Those measures are taken into account before reporting the residual (i.e. post-mitigation) construction effects of the Proposed Development.

Operation

11.5.4 In assessing the likely operational impacts, embedded mitigation measures that could impact upon some socio-economic and/or health outcomes are incorporated into the design and layout of the Proposed Development.

11.5.5 Any additional or secondary mitigation deemed necessary to avoid or minimise adverse effects arising from the operation of the Proposed Development is outlined in Section 11.6 'Mitigation & Monitoring'. Those measures are taken into account before reporting the residual (i.e. post-mitigation) operational effects of the Proposed Development.

Assessment of Construction Phase Effects

11.5.6 The potential temporary socio-economic impacts of the construction phase of the Proposed Development, including construction employment and productivity are assessed within the following section.

Employment

11.5.7 Whilst construction jobs are transitory in nature and therefore not a permanent project output, the jobs created and safeguarded within the sector during construction will have a positive economic benefit.

11.5.8 The estimation of construction jobs has been calculated in accordance with the approach set out in the Assessment Methodology, informed by estimated construction costs, employee turnover within the North West construction sector and anticipated development programme. The calculation suggests that the Proposed Development could generate 532 FTE gross job years, equating to 178 FTE gross construction jobs per annum over the 3 year build programme. This represents an average annual employment figure given that the nature and scale of construction jobs required will vary over the course of the development programme.

11.5.9 The baseline identified 10,000 jobs in construction in Manchester in 2024, representing 2.2% of the district's jobs. The construction jobs generated by the Proposed Development will temporarily uplift this figure by 1.8% for the three years of development but recognising that some of these jobs will replace those on current construction schemes and/or include jobs from outside of the Manchester area. Further, unemployment rates within Manchester were high compared to the wider benchmark averages. The construction employment could positively support some of this cohort into paid work during the build period.

11.5.10 Applying leakage, displacement and deadweight considerations to the temporary construction jobs in line with MHCLG Appraisal Guide (2025), together with a composite multiplier to take account of the additional indirect employment generated through supply chain linkages and additional spend during construction generates a net employment figure of 73 FTE per annum at the Manchester and 159 FTE per annum at the Greater Manchester scale for the 3 years during construction.

11.5.11 Based on professional judgement the generation of direct and induced construction employment during the construction phase of the Proposed Development will have a temporary (short-medium term 3 year) but **moderate beneficial** effect (**significant**) at the local scale and a **minor beneficial** effect (not significant) at the Manchester and GM level.

Productivity

11.5.12 The construction phase of the Proposed Development will contribute to the economy in the form of GVA. The baseline identified Manchester generated a total economic output of £35.8 million equating to £61,859 gross GVA per head of population in 2023. Applying this to the net construction jobs provides an estimated £4.5 million GVA per annum into the Manchester (local authority) economy over the three year construction phase.

11.5.13 Based on professional judgement this constitutes a short term **moderate beneficial** effect (significant) to the Manchester economy as a result of the physical delivery of the Proposed Development.

Assessment of Operational Phase Effects

11.5.14 The longer-term operational phase impacts generated following completion and occupation of the Proposed Development are assessed within this section.

Student Housing and Population

11.5.15 The provision of sufficient and suitable housing to accommodate the scale and type of population growth witnessed and anticipated in Manchester is a key consideration in meeting both housing needs and the City's economic growth aspirations. The strategic policy context further supports the drive to deliver substantial new housing across the City.

11.5.16 The Proposed Development incorporates a mix of room sizes from one bed to 4 bed. On the assumption that the Proposed Development will be fully occupied on completion and accommodate one person per bed-space, the 643 unit, 818 bed-space scheme will generate a new resident student population of up to 818 people across a range of ages, including those who are economically active. Given that there are currently no residents at the Site these will be net additional bed spaces and residents.

11.5.17 The Proposed Development will provide a positive contribution to accommodating the scale and type of population growth witnessed and anticipated in Manchester, whilst serving to diversify the local housing offer and improve choice within this part of the City – a key requirement to meeting economic growth aspirations.

11.5.18 Based on professional judgement **a moderate beneficial effect (significant)** will be made to diversifying local student housing provision. Whilst relatively minor in terms of the scale of Manchester's large total student population, just 8.8% of full time students occupy similar private sector halls whilst just over a quarter are in temporary rented accommodation. The new high quality development proposed has the potential to support this gap in the market, better meet student needs and potentially release student occupied homes elsewhere in the City back into an increasingly supply constrained housing market, thus increasing Council Tax receipts to the public purse.

11.5.19 Based on professional judgement the Proposed Development is consequently considered to have a permanent **moderate beneficial effect** (**significant**) on student housing and population at the local site and Manchester scale. The beneficial effect at the wider sub-regional scale i.e Greater Manchester will be **minor (not significant)**.

Employment

11.5.20 The Applicant anticipates the Proposed Development to generate in the order of 14-16 direct gross FTE jobs based on their substantive experience of staffing similar PBSA schemes. This will include employees such as concierge, security and caretaker staff. There will also be cleaners and maintenance staff which would be provided by

subcontractors, however in order to provide a conservative estimate of employment such jobs have not been estimated.

11.5.21 Additionally, it is likely that supplementary temporary staff will be employed to manage large student arrival and departure days at the beginning and end of each academic term. These additional temporary staff have also not been taken into consideration within this assessment.

11.5.22 Applying deadweight, leakage, displacement and additionality considerations to the anticipated 14-16 FTE gross direct jobs created through the operational phase of the Proposed Development provides a net FTE job figure of 6-7 at the Manchester level and 12-14 at the sub-regional scale i.e. Greater Manchester level. Based on professional judgement this represents a **negligible beneficial effect (not significant)** at the Manchester and sub-regional scale.

11.5.23 Indirect employment effects will also be generated by the Proposed Development through the uptake of jobs by the new student residents. Of the potential 818 students accommodated within the scheme, it is estimated based on baseline evidence that 523 (64%) will hold a part-time job during term time and will work on average 68 hours per month, generating a total of 35,564 hours worked per month. This equates to an estimated 237 FTE jobs based on a 150 hour working month (37.5 hour working week) that would be supported by students living within the Proposed Development.

11.5.24 Based on professional judgement therefore, there is a long term **minor beneficial** effect (**not significant**) on the wider population as a result of student employment levels.

Education

11.5.25 The Proposed Development will not directly enhance the skills and education of its residents. However, the provision of an additional 643 new student housing units with the capacity to accommodate up to 818 students will support Manchester's ability to attract and retain its large student population.

11.5.26 The scheme provides the supporting infrastructure required for students to have the best chance of excelling during their studies given ease of accessibility to both Manchester's universities and that of Salford together with a safe, high quality and well managed environment in which to study. In turn, the Proposed Development will increase accommodation choices for students in the City and enhance the reputation

and attractiveness of Manchester as a higher education destination, thus retaining its international competitiveness.

11.5.27 Based on professional judgement the effect of the Proposed Development on education has been assessed qualitatively and is considered to be indirectly **minor beneficial** (**significant**) at the Manchester scale.

Productivity

11.5.28 The jobs created and sustained through the operation phase of the Proposed Development will contribute to the economy in the form of GVA uplift. Applying Manchester's average £61,859 gross GVA per head of population established in the baseline to the estimated net direct jobs created (6-7) at the scheme provides an estimated £0.36-0.42 million GVA per annum uplift to the economy at the City scale and £0.75-0.85 million at the sub-regional ie Greater Manchester level. This benefit will persist year on year owing to the continued operation of the Proposed Development.

11.5.29 The impact of direct employment through the operation of the Proposed Development on local productivity and wealth creation is positive. However, the magnitude of GVA uplift is very small relative to the productivity of the City and wider benchmarks established within the baseline. As such, based on professional judgement, the impact is considered to present a direct and long term **minor beneficial** effect (**not significant**) at the local level and sub-regional scale ie Greater Manchester level.

Local Expenditure

11.5.30 The additional new students (up to 818) residing at the Proposed Development will generate additional local expenditure on living expenses, food, retail and leisure activities.

11.5.31 The Student Income and Expenditure Study (2021/2022) estimates that full time students spend on average £5,841 per annum on living costs which includes food, personal items, entertainment, household goods, non-course travel and other living costs. An average of £280 per annum is spent on participation costs such as books, computers and equipment, as well as an average of £401 incurred for facilitating course related travel. This generates an average total annual expenditure per student of approximately £6,522.

11.5.32 Assuming the Proposed Development is fully occupied with full time students with average UK student expenditure, it is possible to calculate that the total likely expenditure will be in the order of £5.33 million per annum. In the context of the Manchester Retail and Leisure Study data, existing convenience and comparison expenditure in the City Centre is £342.8 million, therefore the additional expenditure represents a 1.5% increase which would benefit local businesses, as well as bringing positive supply chain effects to the Manchester area.

11.5.33 Given the evidenced shortage of student bed spaces within Manchester, under both the current and future baseline scenario, it is not unreasonable to assume full occupancy of the Proposed Development. However, in order to provide a worst-case scenario, should occupancy only reach 70% (573 resident students), this would still generate an additional annual expenditure of c.£3.73 million per annum equating to a 1% uplift in City Centre convenience and comparison expenditure.

11.5.34 Based on professional judgement the effect of additional expenditure during the operational phase is considered to be **moderate beneficial (significant)** to the City Centre and Manchester economies, and permanent in nature.

11.5.35 The Proposed Development will also support Manchester's important visitor and tourism economy through the spend of visiting friends and family to the new resident student population.

11.5.36 It can be conservatively assumed that each student will receive one visit per year. Visitors to the Manchester Local Authority or Greater Manchester area spend on average £59-327 per day depending on if they are visiting for the day or staying for the night in paid for accommodation. An increase in the number of visits to Manchester as a result of the Proposed Development could therefore generate an additional £48,262 - £267,486 per annum in additional tourist expenditure. This includes spending in shops, restaurants, entertainment venues, at attractions and on local transport.

11.5.37 Based on professional judgement whilst this is a long term economic benefit to the City, it's impact may be considered **negligible beneficial (not significant)** relative to the scale of Manchester's visitor and tourism spend identified within the baseline.

Healthcare

11.5.38 Aligned with the "access to health and social care services and other social infrastructure" determinant of the HUDU Rapid Health Impact Assessment Tool, the

Proposed Development does not include the provision of a healthcare facility, but the assessment does consider the impact on health services including existing healthcare capacity in order to avoid exacerbating pressure on existing services and worsening health outcomes and inequalities.

11.5.39 The Manchester Student Need Assessment (Cushman & Wakefield April 2026) indirectly assesses the capacity, location and accessibility of post 19 education needs and concludes growing demand for university education in Manchester, particularly from international students, which is driving demand for PBSA. The Proposed Development can contribute to supporting this growth.

11.5.40 Specific capacity data for GP and dentist surgeries is not available from NHS sources. Therefore, as a 'worst case scenario' it is assumed that all students moving into the Proposed Development will need to register with a GP and Dentist.

11.5.41 Within 1 mile of the Site there are 6 GP surgeries and at least 5 dental surgeries accepting new NHS patients. The anticipated number of residents at the Proposed Development is 818. This would mean on average an additional 117 patients per GP surgery and a maximum of 164 new patients per dental surgery to absorb the additional population.

11.5.42 It is considered that the majority of the additional demand could be absorbed by the existing healthcare facilities. In addition, data indicates that there are other medical facilities accepting new patients slightly outside the study area which could potentially serve the Proposed Development which is in a highly accessible location and well served by public transport. Furthermore, the targeted demographic of the Proposed Development is a younger age group who are considered less likely to put pressure on healthcare services in the same way that an older demographic might.

11.5.43 Based on professional judgement the effect of the Proposed Development on healthcare provision, both GP and dental provision, is assessed to be **minor adverse** (**not significant**) at the local level.

Crime

11.5.44 Aligned with the "crime reduction and community safety" determinant of the HUDU Rapid Health Impact Assessment Tool, the Proposed Development incorporates design elements that will help people feel safe and secure and support the mental wellbeing of residents by reducing crime through natural surveillance and social interaction. As such Greater Manchester Police Design for Security will make

representations to Manchester Planning to require the inclusion of a condition requiring the completed development to achieve Secured by Design accreditation.

11.5.45 The Site is a long term cleared and vacant brownfield site in the 'Southern Gateway' policing area of the City. The Proposed Development will create a physical environment, with a new active population that will generate activity and visibility throughout the day. This will provide a positive impact on perceptions, feelings of safety and fear of crime on Site and in the streets immediately surrounding the Site.

11.5.46 The Proposed Development will provide on-site management services including 24 hour security, therefore offering safety and security on Site for new residents. Further, building to Secured by Design standards will incorporate measures to 'design out' crime through electronically accessed controlled fob system for the main entrance, appropriate lighting, natural surveillance, active frontages and CCTV.

11.5.47 Each of these factors will have a notable positive impact on some of the most prevalent types of crimes within the Southern Gateway policing area, in particular violence against the person, theft offences and violence without injury. As such, based on professional judgement, the implementation of the Proposed Development can be considered to have a permanent **minor beneficial** effect (not significant) on crime at the local level.

11.6 Mitigation and Monitoring

11.6.1 The socio-economic impacts of the Proposed Development throughout both the construction and operational phase have been assessed to be of between minor adverse to moderate beneficial. There are no significant adverse effects of development anticipated in socio-economic terms. Therefore, it is considered that no mitigation measures are required in respect of either the construction or operational phase of the Proposed Development.

Construction Mitigation

11.6.2 No significant adverse effects were identified during the construction phase after consideration of primary mitigation and therefore no mitigation measures are required.

Construction Monitoring

11.6.3 No construction monitoring is proposed.

Operational Mitigation

11.6.4 No significant adverse effects were identified during the operational phase after consideration of primary mitigation and therefore no mitigation measures are required.

Operational Monitoring

11.6.5 No operational monitoring is proposed.

Residual Effects

11.6.6 The residual post-mitigation effects of both the construction and operational phase of the Proposed Development on the local (Manchester) impact area are summarised in Table 11.7.

11.6.7 As set out within the summary table, the significant residual socio-economic effects resulting from the Proposed Development are as follows:

- Construction phase employment – moderate beneficial
- Construction phase productivity – moderate beneficial
- Diversification of student housing provision – moderate beneficial
- Additional student expenditure – moderate beneficial

11.7 Assessment of Cumulative Effects

Inter-cumulative effects

11.7.1 Consideration has also been given to the potential for likely significant inter-development cumulative effects to arise as a result of the Proposed Development alongside other identified cumulative schemes (see Table 14.3 in Chapter 14) during both the construction and operational phases.

11.7.2 Manchester is a rapidly growing and changing city, and as such, the Proposed Development will not be delivered in isolation. The socio-economic effects of the subject scheme together with that of other recent, on-going or proposed developments and/or initiatives may result in the cumulative exaggeration of some effects during both the construction and operational phase. These are considered qualitatively as follows:

- **Construction Phase** – Where developments come forward simultaneously or overlap in the locality, there is potential for cumulative benefits in construction

employment and spend within the local supply chain as labour and materials are drawn together spatially to create a 'cluster' of inter-reliant activity that can support economies of scale, create synergy and in turn enhance productivity and output in the form of GVA. Based on professional judgement this could create a temporary but moderate beneficial effect (significant). Further, enhanced skills and experience acquired by employees during the construction phase could improve their employability on other local developments, in turn contributing to a longer term reduction in Manchester's higher unemployment rate.

- **Operational Phase** – The cumulative impact of housing delivery in the local area from the Proposed Development and other schemes will have the combined benefit of contributing to Manchester's housing delivery targets and related economic growth aspirations. Together, the schemes will diversify and enhance the mix and quality of the City's housing offer, consequently having a catalytic effect of attracting more residents, increasing footfall and spend, and creating more jobs, thus raising perceptions of Manchester as a place to live, study and work and in turn, increasing sale and rental values, enhancing market confidence and encouraging further investment and physical development.

11.7.3 The cumulative impact on increased population, job creation and local spend from the proposed and other local developments, is likely to create a synergy and 'critical mass' of socio-economic benefits that is sufficient to encourage new local businesses to be established and enable existing businesses to be sustained and to grow resulting in further indirect benefits in the form of additional employment and productivity. These represent a moderate beneficial (significant) cumulative effect on the identified receptors.

11.7.4 The impact of the Proposed Development on local health care facilities has been considered in isolation within this assessment. In practice, the delivery of other local development schemes will have a cumulative impact on the demand for health services and capacity of those services to meet that demand which could create a moderate (significant) adverse cumulative effect for health facility receptors at the Manchester level on professional judgement.

Intra-cumulative effects

11.7.5 None of the other assessments consider the receptors that the socio-economic assessment considers, thus there is no scope for intra-cumulative effects.

11.7.6 Elements of assessments of relevant disciplines with impact pathways of socio-economic effects (i.e. an increase in population) (such as Noise & Vibration and Townscape & Visual) were included within the Assessment of Effects section of the relevant chapter of this ES.

11.8 Summary

11.8.1 This Chapter has provided an assessment of the likely socio-economic effects of the Proposed Development in the context of the Site, Manchester and the wider sub-regional geography during the construction and operational phases of the scheme relative to the baseline conditions.

11.8.2 A summary of the likely significant residual effects of the Proposed Development on the receptors considered within this Chapter are summarised in Table 11.7 below.

11.8.3 Overall, the analysis demonstrates that the Proposed Development is not anticipated to have any significant adverse socio-economic effects, but a series of predominantly significant beneficial effects on the local and sub-regional area.

Table 11.7: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	ation Measures
		I	N	R	C	D	P	L				
Local labour market	Construction - Direct and Induced employment						X	X	Moderate	St, Ir	Significant	
Local labour market	Construction - Direct and Induced employment				X	X			Minor	St, Ir	Not Significant	
Existing businesses	Construction – Gross Value Added (GVA)					X	X	X	Moderate	St, Ir	Significant	
Student population	Diversifying local student housing provision					X	X	X	Moderate	Lt, Ir	Significant	
Student population	Diversifying local student housing provision			X	X				Minor	Lt, Ir	Not significant	
Labour market	Operational phase - FTE gross direct jobs				X	X			Negligible	Lt, R	Not significant	
Labour market	Student employment levels					X	X	X	Minor	Lt, R	Not significant	
Education providers	Education					X			Minor	Lt, R	Not significant	
Local economy	Overall GVA uplift				X	X	X	X	Minor	Lt, Ir	Not significant	
Businesses	Operational phase – Additional expenditure					X	X	X	Moderate	St, Ir	Significant	
Business and Visitors	Visitor and Tourism economy					X	X		Negligible	Lt, R	Not significant	
Health facilities	Healthcare provision					X	X	X	Minor	Lt, R	Not significant	
Residents	Crime					X	X	X	Minor	Lt, Ir	Not significant	

Geographical Significance: I = International N = National R = Regional C = County D = District P = Parish L = Low to Local
Nature: St = Short Term Mt = Medium Term Lt = Long Term R = Reversible Ir = Irreversible

12 CLIMATE CHANGE

12.1 Introduction

12.1.1 This Chapter has been prepared by Mainer Associates and reports the likely significant effects of the Proposed Development in terms of Climate Change in the context of the Site and surrounding area. In particular, it considers the likely significant effects of the Proposed Development on the local and global climate and explores how these impacts are assessed. This includes the specific methodology used, the baseline conditions the project will be assessed against and a summary of the likely significant effect.

12.1.2 This chapter will also explore the mitigation measures that will be required to minimise, avert or offset any significant negative effects identified by the analysis. In addition, this will determine which monitoring methods are needed to keep track of any likely residual effects.

12.1.3 This Chapter (and its associated figures and appendices) is not intended to be read as a standalone assessment and reference should be made to the front end of this ES (Chapters 1 – 5), as well as the final chapter, 'Summary of Residual and Cumulative Effects' (Chapter 14).

12.2 Legislation, Policy and Guidance

12.2.1 The relevant legislation, policy and guidance are listed below, with details provided in Appendix 12.1.

Legislative Framework

12.2.2 The applicable legislative framework is summarised as follows:

- The Climate Change Act 2008[1]
- The Planning and Energy Act 2008[2]
- The Carbon Plan: Delivering our low carbon future (2011)[3]

Planning Policy

12.2.3 The applicable planning policy is summarised as follows:

- National Planning Policy Framework (December 2024)[4]
- Manchester Core Strategy 2012-2027 (Amended 2024)[5]

- EC1: Employment and Economic Growth in Manchester
- C2: District Centres
- EN4: Reducing CO2 Emissions by Enabling Low and Zero Carbon Development
- EN5: Strategic Areas for low and zero carbon decentralised energy infrastructure
- EN6: Target Framework for CO2 reductions from low or zero carbon energy supplies
- EN8: Adaptation to Climate Change
- EN14: Flood Risk
- Greater Manchester Combined Authority, Places for Everyone Joint Development Plan (Adopted 2024)[6]
- The most significant planning policies are as follows:
    - JP-S1: Sustainable Development
    - JP-S2: Carbon and Energy
    - JP-S3: Heat and Energy Networks
    - JP-S6: Resource Efficiency.

Guidance

12.2.4 The applicable guidance is summarised as follows:

- The Carbon Plan: Delivering our low carbon future (2011)[3]
- Institute of Environmental Management & Assessment (IEMA) Guide: Assessing Greenhouse Gas Emissions and Evaluating their Significance (2022)[7]
- Institute of Environmental Management & Assessment (IEMA) Environmental Impact Assessment Guide to Climate Change Resilience & Adaptation (2020)[8]
- British Standard BS EN15978:2011 (Sustainability of construction works – Assessment of environmental performance of buildings – Calculation method) (2011)[9]
- RIBA 2030 Climate Challenge - Version 2 (2021)[10]
- UK Net Zero Carbon Buildings Standard (UKNZCBS) – Version 1 (2026)[11]
- BREEAM UK New Construction – Version 6.1 (2024)[12]

12.3 Assessment Methodology and Significance Criteria

Scope of the Assessment

12.3.1 This chapter has been prepared in accordance with MCC's adopted Scoping Opinion (Appendix 4.2).

12.3.2 The scope of this assessment includes:

- Identification of the Baseline Scenario and Cumulative Effects
- Identification of the Source of Effect
- Identification of Receptors, Magnitude of Impacts (GHG emissions; Climate Change Resilience), and sensitivity of the receptors
- Site Targets / Limits
- Site Baseline Conditions
- Identification and Evaluation of Likely Significant Effects throughout the development's life cycle
- Mitigation Measures
- Residual Effects
- Monitoring
- Cumulative Effects
- *Climate* Resilience

Effects Not Considered within the Scope

12.3.3 Owing to the Proposed Development itself as an individual receptor, the impact of climate change, and the Proposed Development's resilience to this, has been assessed using a methodology as used by the BREEAM standard, which assesses a range of hazards resulting from climate change. This methodology is similar to that which has been published in IEMA's Climate Change Resilience (2020)[8]. Each category is assessed against the probability and severity of impacts upon the following different elements of the Proposed Development:

- *Structural stability*
- *Structural robustness*
- *Weatherproofing and detailing*
- *Material durability*
- *Health and safety of building occupants and others*
- *Impacts on building contents and business continuity*

12.3.4 The full report detailing the findings of this risk assessment, and recommended measures to be incorporated within the Proposed Design to mitigate the effects of climate change, has been provided in Appendix 12.3.

Scenarios Tested

12.3.5 The Scenarios are defined as below:

- Scenario 1: Baseline (current state)
- Scenario 2: Baseline + Proposed Development
- Scenario 3: Baseline + Proposed Development + 'Type 2' Cumulative Effects

12.3.6 The Cumulative Effects types are defined as below:

- Type 1 Cumulative Effects: Combined effects/impacts from **the Proposed Development only,** on the sensitive receptors
- Type 2 Cumulative Effects: Combined/cumulative effects from **the Proposed Development, and other proposed, or potential, future developments in the area**, on the sensitive receptors

12.3.7 The baseline scenario for this assessment, in relation to climate change, is where the Proposed Development does not proceed and the Site remains as it is currently. This is due to the Site currently being vacant following the demolition of an unoccupied existing building. Therefore, the empty site in its current state has no significant GHG emissions associated with it, hence Scenario 1 (the site in its current state) is the baseline for this assessment.

12.3.8 Scenario 2 will be assessed, utilising the above methodologies, which comprises of the baseline plus the Proposed Development. Due to the cumulative impacts of climate change across the globe, assessing Scenario 3 (which is defined as: The baseline plus

the Proposed Development and the Type 2 Cumulative Effects) would present a more robust assessment, however assessing the cumulative impacts of the Proposed Development, and all other future developments in the area, would not be feasible given the quantity of data and collaboration required. As such, the climate change studies produced as part of this application will assess the Proposed Development only (Scenario 2).

12.3.9 Type 1 Cumulative Effects are included in the assessment due to the nature of climate change and how the significance of an effect is assessed within this discipline. Furthermore, there are multiple likely significant effects acting upon the 'embodied carbon emissions' sensitive receptor. These include:

- Emissions associated with the manufacture of construction materials, the transport of materials to the construction site, on-site works and the disposal of construction waste (Life cycle modules A1-A5)
- Climate change as a result of the greenhouse gases (referred to throughout the remainder of this report as GHGs) produced in operation (Life cycle modules B4-B5)
- Emissions associated with decommissioning, deconstruction and demolition (Life cycle modules C1-C4)
- Local air quality impacts arising from the construction and operation of the Proposed Development
- Noise impacts arising from the construction and operation of the building on local stakeholders
- Visual/aesthetic impacts arising from the construction of the Proposed Development
- Additional vehicular and public transport demand arising from the users of the Proposed Development
- Additional demand on local wastewater and rainwater systems arising from the use and drainage within the boundary of the Proposed Development
- Ecological impacts (habitats and soft landscaping) resulting from the Proposed Development

Extent of the Study Area

12.3.10 The receptor of climate change impacts resulting from the Proposed Development is the global climate. The study area is therefore not limited by geographical (local) area, but encompasses any increase, or decrease, in GHG emissions as a result of the Proposed Development (IEMA, 2022)[7].

12.3.11 Local climate change receptors are impacted by changing local air quality, which is accentuated by the Proposed Development's location within a metropolitan city centre.

Source of Effect

12.3.12 '*Assessing Greenhouse Gas Emissions and Evaluating their Significance*' (IEMA, 2022)[7] confirms that the global receptor should always be considered as sensitive, given that the severity of the consequences of global climate and the fact that all emissions are part of a cumulative contribution to climatic change. This includes emissions associated with:

- Emissions associated with the manufacture of construction materials, transport of materials to the construction site, on-site works and the disposal; of construction waste (Life cycle modules A1-A5)
- Climate change as a result of the (GHGs) produced in operation (Life cycle modules B4-B5)
- Emissions associated with buildings' (operational) energy use (Life Cycle Stage B6)
- Emissions associated with decommissioning, deconstruction and demolition (Life cycle modules C1-C4)

12.3.13 This means that any GHG emissions from the Proposed Development, either through embodied or operational carbon emissions will contribute to climate change. This includes emissions of any GHG throughout all the lifecycle stages of the project, either directly from the construction works, or indirectly through materials used in the Proposed Development, or the generation of energy used in construction and operation.

12.3.14 Local air quality is cumulatively impacted by a range of different factors. As with the global receptor, local air quality is also affected by embodied and operational carbon

emissions arising from the construction and operation of the development, respectively.

12.3.15 Air quality is also impacted by other sources of pollution arising from the construction and use of the building, such as, among others:

- Transport emissions
- Drainage quality
- Ecological impacts
- Heat/Power Sources/Generation
- Refrigerants, among others.

Consultation Undertaken to Date

12.3.16 No topic specific public consultation has been undertaken in preparation of this chapter. However, associated reports by consultants within the design team have been used to influence findings of this Chapter, as listed below in Table 12.1.

Table 12.1 – Reports Used to influence findings of Climate Change Chapter

Report Name	Consultancy
Sustainability and Circular Economy Statement	Mainer Associates
BREEAM Wst 05 Adaptation to Climate Change	Mainer Associates
Energy Statement Whitworth Street West	Amber
Building Life Cycle Assessment Report	Ensphere
BREEAM Design Stage Progress Report	Ensphere
ES Chapter 6 Air Quality	PEC Ltd
Preliminary Ecological Appraisal	Wardell Armstrong (Part of SLR)
Flood Risk Assessment & Drainage Strategy	SHEAR Design
Transport Statement	Stantec

Assessment Methodology

12.3.17 The method of baseline data collection and assessment is in accordance with current guidance and industry best practice. Albeit that, professional judgement has been employed to fully account for embodied carbon stages that are not included within the BREEAM Mat 01 Life Cycle Assessment. Further details on the assessment methodology are set out above.

Significance Criteria

12.3.18 The IEMA 2nd Edition guidance on Assessing Greenhouse Gas Emissions and Evaluating their Significance (IEMA, 2022)[7] will be used as a basis for assessing the significance of both the construction and operational impacts.

12.3.19 *Effects that are deemed to be significant for the purposes of this ES are those listed as moderate adverse, or major adverse.*

12.3.20 *Effects are also given descriptors to confirm their nature (i.e. direct or indirect), temporal scale (short-, medium- or long-term), permanence (temporary or permanent), type (adverse or beneficial) and/or spatial scale (site, local, regional, national).*

12.3.21 *For the purposes of the ES, effects throughout the lifespan of the Proposed Development can all be linked to Embodied Carbon and GHG emissions. As such, these are all classed as 'permanent' or 'long-term' effects.*

12.3.22 Chapter 6 of this ES, completed by PEC Ltd, details the assessment of air quality impacts from exposure to emissions from construction dust arising from the construction stage of the development. The Air Quality Objective (AQO) was used as the criteria to assess significance against, and any exceedance of limits as set out in the AQO is deemed as a significant effect.

12.3.23 Indoor Air quality is assessed within the BREEAM assessment process, within credit Hea 02. '*Emissions from Construction Products*' and '*Post-Construction Indoor Air Quality Measurement*' are currently targeted within Ensphere's '*BREEAM Design Stage Progress Report*'.

12.3.24 Additionally, the BREEAM Pol 02 '*Local Air Quality'* credit, which assesses the impact from non-combustion building systems on the surrounding environment, has also been included within the BREEAM targets.

Receptors and Receptor Sensitivity

Global Receptor

12.3.25 Determining which receptors will likely be affected by a change caused by the Proposed Development presents a challenge with regards to GHG emissions. GHG emissions have a global effect and, as such, identifying a specific receptor to attribute any effects to is not feasible. Therefore, IEMA (2022)[7] (now officially known as ISEP)

recommends that the receptor of the effects resulting from the Proposed Development should be the global climate/atmosphere.

12.3.26 As it is difficult to use conventional methods to determine sensitivity of global receptors, IEMA guidance (2022)[7] has been used to determine sensitivity. Given the severity of the extent (worldwide), and consequences of climate change, IEMA have recommended that the receptor sensitivity should be determined as being 'high'.

Local Receptor

12.3.27 As a city-centre development, the local surroundings around the Proposed Development will be constantly inhabited. The city centre district of Manchester has a population of 552,000 (Census, 2021). In addition to this, local businesses, amenities, and public transport links mean that the surrounding context will be further inhabited by large populations. As such, when combining the sensitivity of the local receptor, the sensitivity can be deemed as moderate-to-high.

Magnitude of Impact (GHG Emissions)

12.3.28 Given that the sensitivity of the global atmosphere as a receptor is high, and the severity of the potential impacts, examining the magnitude of the GHG emissions is not sufficient as the production of any amount of GHG's could produce a significant effect (IEMA, 2022)[7]. Therefore, we must assess the magnitude of GHG emissions in the context of how the Proposed Development is able to contribute towards achieving 'Net zero' by 2050.

12.3.29 As the local receptor sensitivity has been deemed as moderate-to-high sensitivity, we must assess individual contributors to the local environment and air quality. Therefore, the Proposed Development is assessed using the BREEAM standard, which consists of individual credits attributed to a wide range of sustainability-based issues associated with the local, and global environment.

Significance of Effects

12.3.30 IEMA (2022)[7] provides 5 levels of GHG emissions significance, which are determined not only based on if the project emits GHG's, but also the relative significance of the emission towards the UK's Net zero trajectory.

12.3.31 To provide this context, Mainer followed the IEMA (2022)[7] guidance, our professional judgement to determine how this could be done best. As the BREEAM standard is being assessed for the Proposed Development, it was determined that

embodied carbon emissions should be assessed using the BREEAM Mat 01 methodology for Life Cycle Assessments[12]. This is because it will substantially contribute to the BREEAM target rating, whilst also helping to determine a project baseline for embodied carbon emissions.

12.3.32 This can also be compared against different/alternative material options for the Proposed Development, in order to find specification solutions which lowers these emissions across different building aspects/elements and contribute to the shift toward the UK Net Zero trajectory.

12.3.33 As such, the levels of significance and the significance criteria for the assessment of the Proposed Development will be accordance with the RIBA 2030 Climate Challenge (Version 2) (2021)[10], as described in Table 12.2 below.

Table 12.2: Levels of significance as defined in IEMA guidance with inclusion of RIBA climate Challenge v2 goals as examples

Level of Significance	Description	Criteria for Assessing
Major Adverse	"The project's GHG impacts are not mitigated or are only compliant with regulatory minimum requirements. The project does not provide further reductions required by existing local and national policy." "A major adverse project will not make a meaningful contribution to the UK's trajectory towards net zero."	The project's GHG emissions are in line with the 'Business as Usual' thresholds set out within the RIBA 2030 Climate Challenge[10].
Moderate Adverse	"The project's GHG impacts are partially mitigated and may partially meet the applicable existing and emerging policy requirements but would not fully contribute to decarbonisation in line with local and national policy goals." "A project with moderate adverse effects falls short of fully contributing to the UK's trajectory towards net zero."	The project's GHG emissions are in line with the '2025' targets set out within the RIBA 2030 Climate Challenge[10].
Minor Adverse	"The project's GHG impacts would be fully consistent with applicable existing and emerging policy requirements and good practice design standards." "A project with minor adverse effects is fully in line with measures necessary to achieve the UK's trajectory towards net zero."	The project's GHG emissions are in line with the '2030' targets set out within the RIBA 2030 Climate Challenge[10].
Negligible (Adverse)	"The project's GHG impacts would be reduced through measures that go well beyond existing and emerging policy and design standards" "Such that radical decarbonisation or net zero is achieved well before 2050. A project with negligible (adverse) effects provides GHG performance that is well 'ahead of the curve' for the trajectory towards net zero and has minimal residual emissions."	The project has minimal residual GHG emissions, therefore exceeding the '2030' targets set out within the RIBA 2030 Climate Challenge[10].

Table 12.2: Levels of significance as defined in IEMA guidance with inclusion of RIBA climate Challenge v2 goals as examples		
Beneficial	"The project's net GHG impacts are below zero and it causes a reduction in atmospheric GHG concentration, whether directly or indirectly, compared to the without-project baseline" (Scenario 1). "A project with beneficial effects substantially exceeds net zero requirements with a positive climate impact."	The project is 'Carbon Negative' across the whole-life cycle of the building

12.3.34 Table 12.3 below provides the quantitative RIBA 2030 Climate Challenge boundaries utilised to determine significance.

Table 12.3: RIBA Climate Challenge (2021)[10] target metrics for domestic/residential developments and associated IEMA aligned levels of significance			
Level of Significance	**Operational Energy Target (RIBA, 2021)**	**Embodied Carbon Target (RIBA, 2021)**	**Potable Water Use**
Major Adverse	< 120 kWh/m^2/yr	< 1200 KgCO_2e/m^2	< 125 l/person/day
Moderate Adverse	< 60 kWh/m^2/yr	< 800 KgCO_2e/m^2	< 95 l/person/day
Minor Adverse	< 35 kWh/m^2/yr	< 625 KgCO_2e/m^2	< 75 l/person/day
Negligible	Minimal residual emissions	Minimal residual emissions	Minimal residual emissions
Beneficial	< 0 kWh/m^2/yr	< 0 KgCO_2e/m^2	-

12.3.35 Where figures were not available from the BREEAM LCA carried out as described elsewhere in the report, professional judgement, based on past project experience, has been applied when determining levels of effect / significance.

12.3.36 In line with the IEMA (2022)[7] guidance, only 'major adverse' and 'moderate adverse' effects will be deemed significant. Therefore, effects that are 'minor adverse', 'negligible', or 'beneficial' will not be considered significant.

12.3.37 In addition to the above significance criteria, this assessment will compare the operational energy emissions to newly established criteria in the form of Version 1 of the UK Net Zero Carbon Building Standard (March 2026)[11], which provides useful insight into how the Proposed Development aligns with new and future carbon standards. These limits are set out in Table 12.4.

Table 12.4: UK Net Zero Carbon Building Standard, Version 1 (2026) – Operational Energy Limits	
Year (commencement on site)	**Operational Energy Limits for Flats**
2026	< 50 kWh/m^2/yr
2027	< 49 kWh/m^2/yr
2028	< 48 kWh/m^2/yr
2029	< 48 kWh/m^2/yr
2030	< 47 kWh/m^2/yr

12.3.38 The Predicted, and Actual Operational Energy Usage figures has been assessed by the BREEAM Assessor, as part of the BREEAM Assessment Process (covered under the credit Ene 01.2, which has been awarded, according to Ensphere's '*BREEAM Design Stage Progress Report*'. These predicted arisings can be compared against the UKNZCBS Limits set.

12.4 Baseline Conditions

Existing Baseline

Historical Climate Data

12.4.1 The existing baseline for climate change resilience is set as the current climate environmental conditions in the location of the Proposed Development. Historic climate date obtained from the Met Office website (accessed September 2025)[13] recorded by the closest meteorological station to the Proposed Development (Woodford) for the 30-year climate periods (1981-2010 and 1991-2020) is summarised in the below Table 12.5 and shows an increase in the average annual maximum daily temperature.

Table 12.5: Historic Climate Data Recorded by the Woodford Meteorological Station				
Climate Period	**1981-2010***		**1991-2020**	
Climatic Factor	**Month**	**Figure**	**Month**	**Figure**
Average annual maximum daily temperature	-	13.23 °c	-	13.62 °c
Warmest month (average maximum temperature)	July	20.23 °c	July	20.66 °c
Coldest month (average minimum temperature)	December	0.57 °c	January	1.07 °c
Mean annual rainfall levels	-	867.05 mm	-	868.40 mm
Wettest month on average	October	98.83 mm	December	96.98 mm
Driest month on average	February	51.46 mm	March	52.53 mm

*Datapoints representing 1981-2010 are no longer provided on the Met Office website, therefore they have been requested directly from Met Office and attached in Appendix 12.4.

12.4.2 The Met Office baseline climate averages for the NW England and N Wales District (Met Office website, accessed September 2025) identify gradual warming between 1961 and 2020. Information on mean maximum annual temperatures (°C) and average annual rainfall (mm) is summarised in the below Table 12.6.

Table 12.6: Historic Climate Data for the North-West England and North Wales District		
Climate Period	**Mean Maximum Annual Temperatures**	**Mean Annual Rainfall**
1961-1990	11.75 °c	1260.17 mm
1971-2000*	12.04 °c	1275.10
1981-2010*	12.35 °c	1304.79
1991-2020	12.66 °c	1337.94 mm

*Datapoints representing 1971-2000 and 1981-2010 are no longer provided on the Met Office website, therefore they have been requested directly from Met Office and attached in Appendix 12.4.

Flood Risk

12.4.3 The UK Government Environment Agency (EA) has published a long-term flood risk map[14] covering the country, which determines a site's specific flood risk. At the baseline site of the Proposed Development, the flood risk has been analysed in Table 12.7 below:

Table 12.7: Flood Risk Mapping at the Baseline Site			
Source of Flooding	**Surface Water Flooding**	**River/Tidal Flooding**	**Reservoir Flooding**
Flood Risk	<0.1% Chance of Flooding	<0.1% Chance of Flooding	<0.1% Chance of Flooding

Air Quality

12.4.4 The Department for Environment, Food & Rural Affairs (DEFRA) has produced air quality mapping, which assesses the concentration of numerous background air pollutants present in an area. Table 12.8 below shows the summary of background air pollution at the Site, compared against the safe limit levels for the United Kingdom as set out by DEFRA, as well as by the World Health Organisation:

Table 12.8: Mean DEFRA Background Air Quality Values within a 2km Radius of the Proposed Development, 2023 Data		
Pollutant	**Annual Mean Particulate Concentration**	**National Recommended Limits (WHO)**
Nitrous Oxide (NOx/NO2)	30.73 µg/m^{-3}	40 µg/m^{-3}
PM10	13.20 µg/m^{-3}	40 µg/m^{-3}
Carbon Monoxide	0.24 mg m^{-3}	10 mg m^{-3}
Ozone	4.19 days greater than 120 µg/m^{-3}	25 days greater than 120 µg/m^{-3} (**target**)
Sulphur Dioxide	3.62 µg/m^{-3}	350 µg/m^{-3} (hourly) limit not to be exceeded more than 24 times per year 125 µg/m^{-3} (daily) limit not to be exceeded more than 3 times per year

Water Demand

12.4.5 The Environment Agency published a determination of areas, and water suppliers at risk of water stress in July 2021[21]. This confirmed the areas supplied by United Utilities are not seriously water stressed for metering.

Future Baseline

Climate Projections

12.4.6 UK Climate Projections published in 2018 (UKCP18)[16] have been developed by the UK Climate Impacts Programme (UKCIP) to provide projections for future climate scenarios and trends. Table 12.9 below provides a summary of predications for summer and winter changes by the 2070s (Met Office, 2018)[16].

Table 12.9: Future Climate Estimates Under a High Emissions Scenario (within a 25km Catchment containing the Site)			
Summer Precipitation Change (1-day total)	**Winter Precipitation Change (1-day total)**	**Summer Temperature Change**	**Winter Temperature Change**
- 0 – 1 mm	+ 3 – 4 mm	+ 2 – 3 ºC	+ 1 – 2 ºC

12.4.7 Supporting data has been provided in Appendix 12.2.

Transport Trip Generation

12.4.8 As the Proposed Development is to be situated on a currently vacant site, there is no existing transport demand. Therefore, additional transport demand arising from the development will be seen on the surrounding metropolitan city centre. Trips will be

"primarily associated with walking, cycling and public transport movements, which can be readily accommodated within the existing network" ('*Transport Statement*', Stantec, 2026). As such, the development is "not expected to give rise to cumulative impacts that could be considered severe".

12.4.9 Travel Patterns and loads have been predicted within the Transport Statement, as produced by Stantec, which confirms that the proposal is presented as a car-free development. As such, there will be no additional transport demand / trip generation from cars, aside from "a minor increase in vehicle movements associated with servicing, deliveries, and maintenance activities".

12.4.10 Stantec's Transport Statement has predicted the future trip generation arising users of the Proposed Development, from non-vehicular modes of transport, as seen in Table 12.10:

Table 12.10: Predicted Transport Patterns arising from the Proposed Development

Means of Transport	Number of Trips
Walk	622
Cycle	47
Public Transport	747

Sensitive Receptors

12.4.11 As Climate change impacts specific regions, as well as globally, there are no individual sensitive receptors identified. Instead, the global, and local receptors are to be assessed holistically, as determined in Sections 12.3.24 – 11.3.26, which confirms that the sensitivity of the global receptor is determined as 'high', and the sensitivity of the local receptor is determined as 'moderate-to-high'.

Limitations

12.4.12 The following limitations in the data used in the compilation of this chapter have been noted:

- Limitation 1 – The assessment of embodied carbon emissions has been undertaken to comply with the BREEAM Mat 01 credit requirements. BREEAM Mat 01 Life Cycle Assessments (LCA) use a restricted scope, that does not include all elements of a building's final design, nor does it include all elements of a building's whole life cycle, instead focusing solely on materials-based embodied emissions. Furthermore, the datasets used in the BREEAM LCA Database are

limited, and as such often does not reflect the true nature of specific products specified. The assessed data does not therefore represent the entirety of the Proposed Development's true embodied and Whole Life Carbon emissions, which are likely to be substantially higher, and will vary depending on the final construction materials, methods, and operational performance of the building. Consequently, Mainer has applied a conservative worst-case estimate to embodied carbon emissions, based on previous similar projects.

- Limitation 2 – This assessment is based on data provided by other parties involved in the Proposed Development, therefore the accuracy of the GHG emission quantities is in part determined by the information provided to Ensphere, and the most up-to date information they have access to. Due to the early stage of the development, this data will likely not reflect true values, as the materials quantities and design are either not finalised, or not available at this stage (such as the M&E quantities).
- Limitation 3 - Actual operational GHG emissions are likely to be different to the estimations provided, depending on both design development at later RIBA Stages, and operational use of the buildings. It is not currently possible to fully understand how energy use and emissions will vary, but it has been assumed that energy use will remain consistent throughout the assessment period. Unregulated energy use could vary substantially when the Proposed Development is operational, but it is not possible to accurately predict this energy usage. It is also worth noting that GHG emissions relating to energy use can vary drastically depending on the decarbonisation of the UK electricity grid.

12.5 Assessment of Effects

Assumptions

12.5.1 The following assumptions and limitations are relevant to this technical assessment:

- Assumption 1 – This assessment has been based on data / reports completed by third parties, which has been assumed to be accurate.
- Assumption 2 - Operational regulated GHG will be calculated using an assessment based on the estimated demand figures with an analysis of typical loading profiles, normal working practices, and impact of external climate conditions. The energy

data used has been extracted from the '*Energy Statement Whitworth Street West*' produced by Amber (as per Table 11.1).

Embedded Mitigation

Construction

12.5.2 In assessing the likely construction impacts, the following mitigation has been assumed as being 'inherent', and is therefore considered within the pre-mitigation assessment:

- BREEAM 'Outstanding' has been targeted, as per Ensphere's '*BREEAM Design Stage Progress Report, October 2025*'. Compliance with all targeted credit issues and associated requirements is assumed. The BREEAM Assessor has assigned responsibilities to each credit item within the tracker document.

12.5.3 Any additional or secondary mitigation deemed necessary to avoid or minimise adverse effects arising from the construction of the Proposed Development is outlined in Section 12.6 'Mitigation & Monitoring'. These measures have been taken into account before reporting the residual (i.e. post-mitigation) construction effects of the Proposed Development.

Operation

12.5.4 In assessing the likely operational impacts, the following aspects of the design of the Proposed Development are noted as 'inherent' or 'embedded' mitigation relevance to this topic and are therefore considered within the pre-mitigation assessment:

- As per Section 11.5.2, all targeted BREEAM credit items relating to the operation of the development are assumed to be complied with. Responsibilities have been assigned to members of the design team within the BREEAM assessor's tracker document.

12.5.5 Any additional or secondary mitigation deemed necessary to avoid or minimise adverse effects arising from the operation of the Proposed Development is outlined in Section 12.6 'Mitigation & Monitoring'. These measures have been taken into account before reporting the residual (i.e. post-mitigation) operational effects of the Proposed Development.

Assessment of Effects

Construction Phase

Embodied Carbon Emissions

12.5.6 The Proposed Development will generate GHG emissions during the construction phase associated with manufacture and transport of construction materials, the on-site works (including site preparation), and the removal and disposal of construction waste (Life-Cycle Stages A1-A5).

12.5.7 Throughout the assessed BREEAM Methodology, there are credits which overlap with the assessment for embodied, and operational carbon. Most notably, the Mat 01 Life Cycle Assessment (LCA) credit, which was the chosen methodology to assess the project's embodied carbon performance.

12.5.8 Additionally, the Mat 03 – Sustainable Procurement credit includes the requirement to "procure construction products locally where possible". Sourcing materials locally will benefit the project's embodied carbon performance by reducing emissions under life cycle module A4, which relates to the emissions from the transport of materials, as a locally sourced product would have lower A4 GHG emissions than one sourced nationally, or internationally.

12.5.9 Embodied carbon emissions were calculated using information provided to Ensphere by the design team in order to complete a BREEAM Mat 01 Life Cycle Assessment (LCA). Given the early design stage of this development, these quantities are estimates and likely to change from normal design development at later RIBA stages, and as more accurate and complete data becomes available.

12.5.10 Please note, that due to limitations associated with the BREEAM Mat 01 tool and methodology, the construction phase embodied carbon emissions reported cover building modules A1-A4 only.

12.5.11 Table 12.11 provides the embodied carbon emissions associated with Life cycle modules A1-A4:

Table 12.11: Embodied Carbon Emissions for the Proposed Development during the construction (A1-A4) project phases (BREEAM Mat 01 Superstructure, Substructure, Hard Landscaping Scope)

Project Life cycle modules	Embodied Carbon (tCO_2e)	Embodied Carbon ($kgCO_2e/m^2$ GIA)
A1-A4	3641	161.48

12.5.12 The embodied carbon emissions associated with the Proposed Development's up-front (construction) (A1 – A4) phase (for items within scope of the BREEAM Mat 01 Life Cycle Assessment only) have been estimated as approximately 3641 tCO_2e (161.48 $kgCO_2e/m^2$).

12.5.13 As this information reflects that collected for a BREEAM Mat 01 LCA, which uses a reduced scope of building works, the actual embodied carbon figures are likely to be noticeably higher than those reported in Table 12.11. Mainer have consequently assumed a conservative worst-case estimate across all embodied carbon impacts, based on previous similar projects and assessments undertaken. Details of this are provided in Section 12.5.38-12.5.39.

Site Material Waste

12.5.14 Excess/waste materials, and material packaging contribute their own embodied carbon GHG emissions during the construction stage (Life Cycle Stage A5). This is also monitored within the Wst 01 credits of the BREEAM Standard, with credits being awarded based on the quantity of construction waste generated, and the percentage diverted from Landfill.

12.5.15 According to the targeted credits within Ensphere's '*BREEAM Design Stage Progress Report, October 2025*', Table 12.12 provides the predicted/targeted volumes of construction waste generated, and percentages of this to be diverted from landfill.

Table 12.12: Predicted Quantities of Site Waste during construction of the Proposed Development

Predicted Site Waste per 100m2 GFA	**% of Waste Diverted from Landfill**		
	Non-Demolition Waste	**Demolition Waste**	**Excavation Waste**
≤ 1.6 m^3 OR ≤ 1.9 tonnes	≥ 85% of Volume OR ≥ 90% of Tonnage	N/A - No Demolition Proposed	≥ 95% of Volume OR Tonnage

12.5.16 Given the early stage of design, these quantities are predictions which have been calculated according to the BREEAM targets and should be incorporated within the project Site Waste Management Plan (SWMP). Site Waste should be monitored throughout all of the on-site phases of the Proposed Development through regular reporting and updating of the SWMP.

Site and Construction Operations

12.5.17 During the construction phase of the Proposed Development, emissions will be generated from construction site operations and use of machinery, which are

labelled as Life Cycle Stage A5. Within BREEAM Man 03 credit, there is a requirement to monitor construction site impacts. Prior to commencement of construction, targets should be set across the following categories:

- Site Electricity Use
- Site Water Use
- Site Fuel Use
- Site Material Supply Transportation
- Site Waste Removal Transportation

Operational Phase

Embodied and Operational Carbon Emissions

12.5.18 The Proposed Development will emit GHGs during the operational phase through emissions associated with operational energy, and water usage (Life Cycle modules B6 and B7, respectively).

12.5.19 The Proposed Development will also have GHG emissions throughout its life span associated with refrigerant usage, refurbishment, repair and replacement of broken/worn materials etc., which are covered in Life-Cycle Stages B1-B5.

12.5.20 The emissions associated with these phases were estimated by following the BREEAM Mat 01 LCA guidance and information provided by the design team. Please note, that due to limitations associated with the BREEAM Mat 01 tool and methodology, the in-use embodied carbon emissions reported cover Life cycle modules B4-B5 only. The estimated Embodied Carbon associated with the in-use phase is approximately 845 tCO_2e (37.48 $kgCO_2e/m^2$), as calculated by Ensphere and seen in Table 12.13.

12.5.21 For comparison to the benchmarks set out in Table 12.3, Mainer have assumed a worst-case estimate across all embodied carbon impacts (therefore including all operational phase embodied carbon emissions) across the Proposed Development, based on previous similar projects and assessments undertaken. Details of this are provided in Section 12.5.38-12.5.39.

Table 12.13: Embodied Carbon Emissions associated with the Proposed Development's in-use phase (B4-B5) (BREEAM Mat 01 Superstructure, Substructure, Hard Landscaping Scope)		
Project Life cycle modules	**Embodied Carbon (tCO_2e)**	**Embodied Carbon ($kgCO_2e/m^2$ GIA)**
B4-B5	845	37.48

12.5.22 In terms of the operational energy GHG emissions, the BREEAM Ene 01 credit assesses energy performance, including the prediction of operational energy, for the Proposed Development.

12.5.23 The operational carbon emissions associated with the Proposed Development have been estimated using the Building Primary Energy Rate (BPER), calculated by Amber who produced a preliminary Part L calculation. The BPER was estimated as 634,802 kWh/yr. Table 12.14 provides the total annual operation energy use for the entire Proposed Development.

Table 12.14: Annual Operational Energy use for the Proposed Development		
Total Annual Operational Energy of the Proposed Development (kWh/yr)	**Proposed Development GIA (m^2)**	**Energy Consumption / DPER ($kWh/m^2/yr$)**
634,802	22,547	28.15

12.5.24 The whole life operational carbon emissions associated with the operational energy use over the whole life cycle (60 years) have been calculated based on the annual operational energy for the Proposed Development, multiplied by an assumed building service life of 60 years, using energy emissions factors as set out per kWh of energy use, in line with recommendations set out in the '*RICS Professional Standard: Whole Life Carbon Assessment for the Built Environment, 2nd Edition (2023)*'. Calculating this at an early stage has allowed measures to reduce the GHG emissions associated with operational energy to be meaningfully appraised and implemented., as seen in the 'Be Lean', 'Be Clean', 'Be Green' sections of the '*Energy Statement Whitworth Street West*', prepared by Amber. The appraisal of such measures is also covered in BREEAM Ene 04 credit, which covers passive design and Low / Zero Carbon (LZC) technology appraisals.

12.5.25 As per the RICS guidance, it is assumed that the ongoing decarbonisation means that the UK electricity grid will continue to get less carbon intensive into the future, ultimately meeting the national climate goals of becoming fully decarbonised by 2035 (gov.uk)[19]. As this represents a future changeable scenario, the operational

carbon emissions relating to energy use have been reported using this predicted decarbonised scenario, alongside a worst-case non-decarbonised scenario.

12.5.26 As confirmed by Amber's '*Energy Statement Whitworth Street West*' calculations, the whole life operational carbon emissions from energy use for the decarbonised scenario are estimated to be 126,960 $kgCO_2$/yr. Across a default 60-year service life of the building, this equates to 7,618 tCO_2e , with an intensity of 337.85 $kgCO_2e/m^2$. Please note, that this is a predicted forecast, the final operational energy emissions could vary drastically from this, depending on the future of the UK energy grid (decarbonised vs non-decarbonised).

Table 12.15: Whole Life Operational Carbon Emissions Associated with the Proposed Development (60-year life span)

Life Cycle Stage	Embodied Carbon (tCO_2e)	Embodied Carbon ($kgCO_2e/m^2$ GIA)
B6	7,618	337.85

Transport Emissions

12.5.27 As per Sections 12.4.7-12.4.9 (Transport Trip Generation), the Proposed Development will rely on non-vehicular modes of transport (walking / cycling / public transport). Minimal emissions are expected to arise from transport (Negligible Adverse), arising from servicing, maintenance, and delivery vehicles only.

12.5.28 Additionally, as calculated for the BREEAM Tra 01 credit, the Greater Manchester Accessibility Level (GMAL) for the site is 62.69, which is a high figure, owing to the city-centre location. As such, there is likely to be no substantially increased demand on the local public transport capabilities or the surrounding infrastructure.

Flood Risk

12.5.29 The BREEAM Pol 03 credit assesses the drainage capabilities of the Proposed Development, including a requirement for a Flood Risk Assessment and mitigation of the rate and volume of surface water run-off and pollution prevention.

12.5.30 As per Table 12.7, the flood risk of the Site is low. Nevertheless, a full '*Flood Risk Assessment & Drainage Strategy*' (Table 12.1) has been prepared by SHEAR Design.

12.5.31 This also links to the BREEAM Wst 05 credit, for which an Adaptation to Climate Change Report has been completed (Appendix 12.3). Within this report, the effects of Flood Risk and water damage on the site have been assessed. Where the drainage

strategy of the Proposed Development minimises the risk of flooding, this will also minimise the threat of damage that flooding can produce.

12.5.32 Additionally, within Ensphere's '*BREEAM Design Stage Progress Report, October 2025*', credits relating to rate of surface water run-off, volume of surface water run-off, and minimising watercourse pollution have all been targeted. As a brownfield site, this means that the Proposed Developmnet will achieve a 30% improvement on baseline rate and volume of run-off. The 'minimising watercourse pollution'[12] credit ensure best practice was followed in the drainage strategy as completed by SHEAR design. Consequently, the impact of the Proposed Development on drainage systems will be beneficial (not significantly adverse).

Air Quality

12.5.33 The BREEAM Pol 02 credit assesses the local air quality of the area surrounding the Proposed Development. Table 12.8 confirms that the air quality around the Site is below the recommended limit by the World Health Organisation (WHO)[15]. Despite this, the Site is deemed by the BRE as being within a 'high pollution location'[12]. Limits are therefore set out for the GHG and particulate emissions the Proposed Development can produce when generating energy via combustion systems, encouraging the specification of equipment with low levels of pollutants.

12.5.34 Ensphere's '*BREEAM Design Stage Progress Report, October 2025*' confirms that 2 credits are targeted for this issue, meaning the emissions from combustion plant providing space heating and domestic hot water (where specified) will not exceed the target levels as set by the BRE, and consequently will not provide a significant impact.

Water Demand

12.5.35 The BREEAM Wat 01 to Wat 04 credits assess the water efficiency performance of the Proposed Development, with Wat 01 directly assessing the predicted operational water consumption. This encourages the minimisation of water consumption within the Proposed Development, which reduces the operational GHG emissions relating to life cycle module B7 (Water).

12.5.36 Within Ensphere's '*BREEAM Design Stage Progress Report, October 2025*', 3/5 credits under the Wat 01 issue have been targeted, representing an improvement over the BRE's baseline water consumption predictions of 40-50%. As confirmed within Section 12.4.5, areas supplied by United Utilities are not currently under serious

stress[21]. Therefore, the improvement over baseline water consumption is not likely to have a significant impact on water demand.

Refrigerant Emissions / Leakage

12.5.37 With the specification of refrigerant-consuming equipment within the Proposed Development, refrigerant leakage adds harmful pollutants and GHG emissions into the air.

12.5.38 The GHG emissions associated with refrigerant usage in the Proposed Development are measured in Life Cycle Stage B1 and the BREEAM Pol 01 credit, which measures the Direct Effect Life Cycle CO2-equivalent emissions (DELC) from refrigerants. Within the '*BREEAM Design Stage Progress Report*' as provided by Ensphere (as per Table 12.1), 1 credit is targeted under this issue, meaning a total cumulative DELC emissions of <1000 $kgCO_2eq/kW$ across the Proposed Development has been assumed as a worst-case scenario.

End-of-Life Phase

12.5.39 Further GHG emissions will be produced during the end-of-life stages of the building, where the structure is decommissioned and demolished or deconstructed (Life-Cycle Stages C1-C4). These emissions are related to the material choices in the design and specification, as well as the construction practices and materials used. Please note, due to material items excluded from the scope of the assessment, the actual end-of-life embodied carbon emissions will be higher than reported. A worst case assumption, based on previous similar projects has been applied to the Proposed Development, based on previous similar projects and detailed in Sections 12.5.38-12.5.39.

Table 12.16: Embodied Carbon Emissions for the Proposed Development during the end-of-life (C1-C4) project phases

Life Cycle Stage	Embodied Carbon (tCO_2e)	Embodied Carbon ($kgCO_2e/m^2$ GIA)
C1-C4	86.19	3.82

Significance of Effects

Embodied and Operational Carbon

12.5.40 To assess the significance of the effects of embodied and operational carbon generated by the Proposed Development, comparison has been made against the RIBA 2030 Climate Challenge (2021)[10] target metrics for domestic/residential

developments. This is done by calculating the embodied carbon emissions associated with the life cycle of the Proposed Development.

12.5.41 From the items within the scope of the BREEAM Mat 01 LCA, the total whole life embodied carbon emissions for the Proposed Development were estimated as 202.79 $kgCO_2e/m^2$, split across building elements as follows:

- Superstructure (BREEAM Mat 01 Scope) – 196.21 $kgCO_2e/m^2$
- Substructure (BREEAM Mat 01 Scope) – 6.29 kgCO2e/m2
- Hard Landscaping (BREEAM Mat 01 Scope) – 0.19 $kgCO_2e/m^2$.

12.5.42 It must be noted that this calculation represents a greatly reduced scope of works is reported, as per the BREEAM Mat 01 Methodology. Consequently, the true Whole Life Embodied Carbon emissions for the Proposed Development are likely to be higher than the totals reported / to be reported throughout the BREEAM Mat 01 assessment process – given the exclusion of the following items from the BREEAM Mat 01 LCA:

- Life cycle module A5
- Life cycle Modules B1-B3
- Stair or ramp balustrades and handrails
- Internal walls and partitions
- Internal and external doors
- Internal wall finishes
- Internal floor finishes
- Internal ceiling finishes
- Core Building Services (all)
- *Fencing, railings and walls*
- Soft landscaping, planting and irrigation systems

12.5.43 Using professional judgement based on similar previous projects, the actual effect is likely to range from 800-1200 $kgCO_2e/m^2$ as a conservative worst-case estimate for embodied carbon emissions (covering life cycle modules A1-A5, B1-B5, C1-C4) across the entirety of the Proposed Development.

12.5.44 This worst-case estimate falls into the category of 'Moderate Adverse', according to the IEMA guidance, and RIBA Climate Challenge 2030 targets (Table 12.3). This is therefore deemed as a significant effect.

12.5.45 The operational energy estimated to be used by the Proposed Development is 28.15 kWh/m^2/yr. According to the RIBA Climate Challenge 2030 targets (Table 12.3), the significance of effect for operational carbon emissions is 'minor adverse', in the category of < 35 kWh/m^2/yr, and consequently not deemed as a significant effect.

12.5.46 To address new carbon metrics and certifications, the Proposed Developmet's operational energy emissions are compared to the emissions criteria in version 1 of the '*UK Net Zero Carbon Building Standard*' (2026)[11].

- *The operational energy estimate for the Proposed Development meets the targets (for buildings in which construction commenced up to and including 2030).*
- *In regard to embodied carbon, the completed BREEAM Life Cycle Assessment (LCA) has a greatly reduced scope of works; this is therefore not eligible for comparison against the UK Net Zero Carbon Building Standard limits for Upfront Carbon (A1-A5) emissions.*

Effects on the Local Receptor

12.5.47 As other effects analysed take a more holistic approach across a broader range of sustainability principles, it is difficult to compare against one individual target metric. The BREEAM Methodology, developed to assess a development across a broad range of sustainability principles has been selected as the most appropriate building standard for the Proposed Development. A strategy to achieve a BREEAM 'Outstanding' rating has been devised by Ensphere to encourage best practice in the Proposed Development. This can be seen in the '*BREEAM Design Stage Progress Report, October 2025*'.

12.5.48 Effects on the local receptors are limited to impacts on the microclimate, local drainage network, noise and light pollution etc. The BREEAM Outstanding target rating includes the following credit examples, which address best practice against associated issues:

- LE 02 – LE 05 Ecology – 11/11 credits targeted (microclimate – ecology and biodiversity)
- Pol 02 Local Air Quality (microclimate – air quality)
- Pol 03 Flood and Surface Water Management – 5/5 credits targeted (drainage)
- Pol 04 Reduction of Night Time Light Pollution – 1/1 credits targeted (light pollution)
- Pol 05 Reduction of Noise Pollution – 1/1 credits targeted (noise pollution)

12.5.49 On this basis, it is assumed that the Proposed Development will implement best practice, and consequently the impact on the local receptors will be none, or Negligible (adverse) as a worst-case scenario.

12.6 Mitigation and Monitoring

Construction Mitigation

12.6.1 In order to mitigate the likely significant effects associated with the construction of the Proposed Development, a number of mitigation measures are specified.

12.6.2 Each Mitigation Measure is implemented for the award of a specific BREEAM credit, the achievement of which is stipulated in a BREEAM strategy to be included in the contract particulars for the selected primary contractor, additional to any local authority requirements.

12.6.3 The following mitigation measures are specified:

Mitigation Measure 1 – Material Selections (Embodied Carbon – Moderate Adverse):

- Each material specified and eventually installed on site has Embodied Carbon implications across building life cycle modules A1-A5. By specifying and procuring materials with a lower embodied carbon profile, the design team can actively reduce the Proposed Development's embodied carbon emissions.
- Selecting locally relevant materials will reduce emissions for Life Cycle module A4 by reducing the GHG emissions associated with shipping/transporting materials over larger distances. Materials should also be responsibly sourced with appropriate certification, to ensure that the selected materials are manufactured and traded to reduce unsustainable practices, which is measured by the BREEAM Mat 03 credit.

- Embodied carbon can be reduced throughout all design stages through material efficiencies, which are effective in reducing mass of materials required to deliver the building to the specified performance requirement. This should be carried out for subsequent design phases, up to tender. This is addressed within BREEAM Mat 06 credit, which has been targeted in the '*BREEAM Design Stage Progress Report, October 2025*', as completed by Ensphere (as per Table 12.1).
- The BREEAM Mat 01 Life Cycle Assessment (LCA) completed at RIBA Stage 2 has identified the key materials and building elements that contribute most substantially to both upfront embodied carbon, up to Practical Completion (A1-A4) and Whole Life Embodied Carbon (A1-A4, B4-B5, and C1-C4), which covers material replacements. These form the focus of the embodied carbon mitigation strategies as the design progresses throughout later RIBA stages. Within the life cycle assessment process, the embodied carbon emissions of alternative products, materials and specifications were appraised and discussed with the project team within the following building element categories:
    - Superstructure: 3 Alternative Options:
    - Substructure: 2 Alternative Options:
    - Hard Landscaping: 2 Alternative Options:
- Further details on these alternative options can be found in Ensphere's '*Building Life Cycle Assessment Report*' (as per Table 11.1).
- Decisions on these options were dependent upon product procurement availability, locality, and performance specification requirements.
- These options have been further explored in Mainer Associates' '*Sustainability and Circular Economy Statement*' (as per Table 12.1), and provide significant opportunities to contribute towards economic circularity, whilst lowering embodied carbon emissions.
- As the design develops throughout later RIBA stages, as per the agreed contractual BREEAM targets as set by Ensphere in the '*BREEAM Design Stage Progress Report, October 2025*' the Mat 01 Life Cycle Assessment should be updated at RIBA Stage 4, by Ensphere, which will allow the carbon consultants to assess the Proposed Development's embodied carbon emissions to a greater degree of accuracy. This should be coordinated between the design team and Ensphere.

- Focus will be given to specific product specification options appraisals, meaning that the carbon consultant will be able to conduct more specific material options appraisals and target manufacturers/suppliers with lower-embodied carbon products.
- The effectiveness of this mitigation measure will be realised through the extent of the supply chain engagement and quantification of embodied carbon savings achieved, via direct influence of the materials options appraisals undertaken.

Mitigation Measure 2 – Ecology:

- As the current state of the Site is unused brownfield land, with little-to-no ecology present, there is less of a risk of disturbing existing ecology during the construction of the Proposed Development.
- However, as outlined in the '*Preliminary Ecological Appraisal*' (as per Table 12.1), completed by Wardell Armstrong (Part of SLR), the following recommendations were made with regard to on-site ecology for the Proposed Development:
    - Avoid night-time work, whenever possible, to limit disturbance to nocturnal animals
    - Integration of Bat Boxes, where suitable
    - Planting of native trees / shrubs, as per Table 12.17

Table 12.17: Ecological Planting Recommendations

Existing Non-Native Species	Native or Beneficial Alternative
Feather Reed Grass	Tufted Hair-grass Deschampsia cespitosa
Japanese Spindle	Dwarf Holly Ilex aquifolium (compact form)
Hebe 'Green Globe'	Dwarf Juniper Juniperus communis
Lavender 'Hidcote'	Wild Thyme Thymus serpyllum L.
Christmas Rose	Stinking Hellebore Helleborus foetidus
Hybrid Skimmia	Spurge-laurel Daphne laureola

12.6.4 The BREEAM ecology credits encourage assets to maximise ecology wherever possible, via the above recommendations which must be followed in order to achieve the agreed contractual BREEAM credits. Discussions regarding these recommendations must occur with the project team and be implemented within the landscape design be Park Hood Landscape Architects.

- The implementation of these recommendations will contribute to a high biodiversity around the Site, which contributes to climate improvement via the following systems, among others:
    - Carbon Sequestration; Oxygen increase via photosynthesis
    - Urban Cooling (reduces urban heat island effect in microclimates)
    - Improves natural drainage, and reduces flooding via less hardstanding.

12.6.5 Additionally, construction practices should not disturb ecology, and a Construction Environment Management Plan (CEMP) should be completed to ensure this is avoided. A Landscape and Ecology Maintenance Plan (LEMP) is required under BREEAM LE 05 credit, which covers the management of landscaping, planting and ecological features during the operational phase of the Proposed Development.

Construction Monitoring

12.6.6 BREEAM Mat 01 Life Cycle Assessments (LCA) do not cover Life Cycle Module A5 emissions (Construction and Installation Processes). As such, these are absent from the embodied carbon calculations completed by Ensphere. However, across the BREEAM assessment, credits have been targeted which include requirements to measure and monitor on-site construction impacts. The following monitoring measures are proposed during the construction phase:

Monitoring Measure 1 – Site Utility Use and Waste Monitoring:

- Throughout the construction phase, utility usage and waste should be regularly monitored by the contractor, via an applicable online platform. Targeted BREEAM credits the will be awarded according to metrics derived from the actual waste arisings, and recording site utility usage. Additionally, should a Whole Life Carbon Assessment (WLCA) be targeted for the post-construction stage assessment, these arisings will be required as data to calculate the life cycle module A5 emissions.

Monitoring Measure 2 – Construction Waste Monitoring:

- Targets have been set for the generation of construction waste, and diversion of waste from landfill, as detailed in Table 12.12. Upon appointment, the contractor is obliged under the targeted BREEAM Wst 01 credit to monitor the actual waste arisings, and meet the targets set during the design stage, as seen in Table 12.12. BREEAM credits will be awarded according to performance against these targets.

This is to encourage the minimisation of construction waste generated, and to limit the amount of waste sent to landfill sites.

Operational Mitigation

12.6.7 There is potential for the mitigation of GHG emissions during the Operational Phase within both the In-Use Project Phase (Life cycle modules B4-B5) and operational energy (B6). The following monitoring measures are proposed during the construction phase:

Mitigation Measure 1 – Material Replacement:

- The embodied emissions associated with the replacement and repair of building materials (within the scope of the BREEAM Mat 01 LCA) during the operational phase of the Proposed Development are quantified within Table 12.13. As confirmed in section 12.5.38, the total embodied carbon emissions across all stages of the Proposed Development's life cycle (which includes material repair and replacement) are assumed to be 'Moderate Adverse' in severity of impact. These are therefore deemed as a significant impact.
- Similarly to the mitigation of construction phase embodied carbon emissions, considered material selection can reduce in-use embodied carbon emissions. By prioritising materials with lower embodied carbon, the Proposed Development will be able to reduce the B4 (Replacement) embodied carbon emissions, because embodied carbon is measured across the 60-year design life of the building and materials with a service life shorter than 60 years therefore require replacement. The embodied carbon emissions of the replacement materials are therefore also scoped into the calculation, and materials with carbon-intensive content at the construction stage will have similarly high emissions for the replacement stage.
- Specifying materials with longer service lives will reduce the in-use embodied carbon emissions, due to these materials therefore requiring fewer replacements across the life span of the Proposed Development. This consequently will lower the embodied carbon emissions for life cycle module B4.
- As this will occur across the service life of the development, there is no contractual requirement to incorporate this mitigation measure, but it is recommended that the future site occupiers review this.

Mitigation Measure 2 – Operational Energy:

- The mitigation of operational energy carbon emissions is possible, to some extent, by ensuring that the design is developed in-line with the Energy Hierarchy, as detailed in the '*Energy Statement Whitworth Street West*' prepared by Amber:
    - Be Lean – Demand reduction by adopting passive measures, focusing on proactive design and optimised building fabric to minimise the energy demand of the building. Recommendations include the specification of thermal insulation and air tightness of building fabric. In addition, installing solar control glazing to limit summertime solar gains and overheating.
    - Be Clean – Increase efficiencies across heating, hot water and lighting. In addition, utilising combined natural and mechanical heat recovery ventilation systems, and metering energy consumption.
    - Be Green – Low/Zero carbon energy analysis has appraised the appropriability of technologies to minimise operational energy demand.
- By following this energy hierarchy as the M&E designs continue to be developed, the Proposed Development can partially reduce its operational energy consumption and carbon emissions.
- It should be noted that, the significance of effect regarding operational energy, determined as 'Minor Adverse' is dependent on the above 'Be Lean' 'Be Clean' 'Be Green' measures being implemented within the Proposed Development. Where these are not implemented, there will be in increase in significance of effect arising from operational energy.
- In order to award the contractually targeted BREEAM Energy credits, these mitigation measure must be demonstrably incorporated within the as-built development by the contractor.

Mitigation Measure 3 – Low/Zero Carbon Technologies:

- The Low/Zero Carbon (LZC) technology assessment, undertaken by Amber within the 'Green Measures' section of the '*Energy Statement Whitworth Street West*', included a recommendation for an Air Source Heat Pump to be installed.
- As quantified within the LZC report, specifying these recommendations would lead to an average annual energy demand reduction of 329,905 kWh/yr (52% of

onsite energy consumption). As covered within 'Mitigation Measure 2', these recommendations must be implemented within the Proposed Development in order to achieve the predicted energy demand ('Minor Adverse' effect), and the contractually targeted Ene 04 credits within the BREEAM assessment.

Operational Monitoring

12.6.8 The following monitoring measures are proposed during the operational phase:

Monitoring Measure 1 – Energy Usage Monitoring:

- Allow a carbon consultant to accurately assess the GHG emissions associated with energy consumption during the operation of the building, as this may differ from estimates calculated by an energy assessor at earlier stages. This operational energy monitoring would be done through a stringent metering and reporting strategy that was agreed with and verified by a carbon consultant, ensuring that operational energy emissions are holistically reported. Energy metering and sub-metering is also a requirement under the targeted BREEAM Ene 02 credit, in which all regulated energy-consuming sources (over 10% of the building's energy demand) must be sub-metered. Therefore, the contractor must ensure that energy sub-metering is demonstrably incorporated in the final as-built development.
- A monitoring and metering programme such as this would enable the design team to compare and then assess the actual operational carbon arisings from the in-use development against targets, commitments or contractually required performance. Furthermore, these emissions can be compared against relevant legislation or framework, such as the RIBA 2030 Climate Challenge[10] targets.

Monitoring Measure 2 – Water Usage Monitoring:

- This aligns with the BREEAM Wat 02 credit, which includes a minimum requirement for a boundary water meter to be installed for any development aiming to achieve a BREEAM rating of 'Good' or above. Furthermore, monitoring the total water use of the development in operation will improve the accuracy of the operational carbon GHG emissions calculated by the carbon consultant, as this provides more accurate data than the estimates made before occupation. The contractor must demonstrably ensure that the boundary water meter and sub meters are installed within the as-built development.

- In-use energy and water usage monitoring would also be required to facilitate any potential future aspirations for being classed as Net zero carbon in operation. If required, this could be done by aligning the Proposed Development's energy reporting strategy to the requirements for Version 1 of the UK Net Zero Carbon Building Standard (2026)[11]. This newly adopted standard sets stringent and verifiable requirements for the operational emissions of a development over a set length of time.

12.7 Residual Effects

12.7.1 Whole life carbon emissions over the course of a building's life span are a permanent impact on the global receptor. Climate change is a global issue, and accordingly there is no requirement to formally quantify the total whole life carbon emissions associated with the Proposed Development beyond the estimations.

12.7.2 The estimated worst case embodied carbon emissions for the Proposed Development, based on previous similar projects, of 800-1200 $kgCO_2e/m^2$ GIA ('Moderate Adverse' significance), coupled with operational emissions relating to energy use (Table 12.15) and water use across an assessed 60-year life span will be emitted into the global atmosphere.

12.7.3 The scheme should be designed and implemented with mitigation measures to reduce the carbon impact of the Proposed Development as integral measures. Focus should be made on reducing the carbon impact of the Proposed Development, via the measures identified in section 12.6:

- Construction Mitigation Measure 1 – Material Selections (Embodied Carbon – Moderate Adverse)
- Operational Mitigation Measure 1 – Material Replacement
- Operational Mitigation Measure 2 – Operational Energy
- Operational Mitigation Measure 3 – Low/Zero Carbon Technologies

12.7.4 Carbon emissions cannot be reversed, but schemes are available to offset the impact of emissions. Where the above opportunities for reducing the carbon impact have been maximised, the below options for mitigation can be considered, but are not required:

- Where a building produces more energy than it consumes in operation, the surplus energy can be exported to other local developments, to reduce the carbon impact of energy demand for these developments. As this building is not predicted to be carbon negative in operation, this is not deemed to be an appropriate mitigation measure.
- As per operational 'Mitigation Measure 2' within section 12.6.3, increasing ecology and biodiversity can have a positive impact on the local and global receptors through carbon sequestration (which is the process in which plants absorb and store carbon dioxide from the atmosphere during photosynthesis. On-, and off-site ecological planting can reduce carbon in the atmosphere and reduce the impact of the Proposed Development's carbon footprint. This forms the basis of 'Carbon Credits'. When purchased, these remove quantities of carbon from the atmosphere, via global rainforest planting, or protection from deforestation etc. Where a reduction of carbon emissions on the global receptor is desired, this would be deemed as an appropriate mitigation measure.

12.7.5 Table 12.18 contains a summary of the likely significant residual effects arising from each project stage of the Proposed Development on the receptors considered within this chapter.

12.8 Assessment of Cumulative Effects

Intra-cumulative effects

12.8.1 The BREEAM assessment process covers intra-cumulative issues across the sustainability aspects of the Proposed Development. Ensphere's '*BREEAM Design Stage Progress Report, October 2025*' targets a BREEAM 'Outstanding' rating.

12.8.2 Type 1 cumulative effects are included in the assessment with interactions between effects possible due to the nature of climate change and how effect significance is assessed within this discipline. The likely significant ('Moderate Adverse') impact of embodied carbon upon the global receptor consists of the GHG emissions arising from the construction, in-use and end-of-life phases and has been based on professional judgement and previous similar projects.

Inter-cumulative effects

12.8.3 As defined in Section 12.3.2-12.3.6 Scenario 3, which is defined as the baseline plus the Proposed Development and Type 2 Cumulative Effects, was deemed not

appropriate for the Proposed Development, due to the quantity of data and collaboration required on other projects.

12.8.4 The impact of carbon emissions effects the global receptor, rather than the local receptor, as it contributes to the global issue of climate change. Consequently, there is no requirement to quantify the carbon impact for any inter-cumulative effects. Noted within Section 12.7.3, the scheme should utilise a proactive approach to minimise embodied and operational carbon emissions integral to the design of the Proposed Development.

12.9 Summary

12.9.1 Table 12.18 contains a summary of the likely significant residual effects arising from each project stage of the Proposed Development on the receptors considered within this chapter.

12.9.2 In summary, the current proposed design has predicted impacts of 'Minor Adverse' in terms of embodied impact across Lice Cycle Stages A1-A4 and B4-B5, and Negligible-to-Minor Adverse for operational energy. As these impact the global climate, they have been identified as 'Irreversible'. Table 12.8 has highlighted key mitigation measures as proposed throughout Sections 12.6.

Table 12.18: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Mitigation Measures	Means of Implementation of Mitigation
		I	N	R	C	D	P	L				
Embodied Carbon Emissions (Global)	Embodied GHG emissions produced during the Proposed Development's life cycle (Life cycle modules A1-A5, B1-B5, C1-C4).	✓							Moderate Adverse (significant)	Ir	Optimising material usage; Specification of lower Embodied Carbon materials and/or where possible materials with high recycled content. Specification of materials with longer service lives.	Through Whole-life carbon assessments, material assessments and option appraisals across phases of the Proposed Development. Target materials that are manufactured locally, which will reduce the A4 material transport emissions. Target materials that have longer service lives / more durable (and as such require replacing less across the building's design service life). Set Embodied Carbon Limits for the Proposed Development, to ensure the reported Embodied Carbon Emissions are not exceeded throughout future project phases. Monitor the Embodied Carbon of replacement materials as/when materials need to be replaced across the building's life span.
Operational Energy	GHG emissions produced by operational energy	✓							Minor Adverse / Negligible	Ir	Installing energy efficient technology across the Site and Air Source Heat Pumps.	Implement Air Source Heat Pumps as recommended in the Low/Zero Carbon Technology Appraisal for the development, as completed by Amber.

Table 12.18: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Mitigation Measures	Means of Implementation of Mitigation
		I	N	R	C	D	P	L				
Emissions (Global)	consumption (Life Cycle Stage B6).								(Adverse) (not significant)		Incorporating passive design measures within the development to naturally reduce the energy demand. Further developing the projects Energy designs in line with the Energy hierarchy to further lower the operational energy emissions of the development.	Implement recommendations as set out in the Passive Design Analysis for the development, as completed by Amber. Install energy-saving equipment, such as LED luminaires, mechanical ventilation with heat recovery etc. Monitor the building's in-use (operational) energy consumption via sub-metering.

Key:

Geographical Significance: I = International N = National R = Regional C = County D = District P = Parish L = Low to Local

Nature: St = Short Term Mt = Medium Term Lt = Long Term R = Reversible Ir = Irreversible

13 SOLAR GLARE

13.1 Introduction

13.1.1 This Chapter reports the likely significant effects of the Proposed Development in terms of solar glare in the context of the Site and surrounding area. In particular it considers the likely significant effects of the potential solar glare impact upon road users, train and tram drivers, for sensitive locations within 500m of the Site.

13.1.2 This Chapter (and its associated figures and appendices) is not intended to be read as a standalone assessment and reference should be made to the front end of this ES (Chapters 1 – 5), as well as the final chapter, 'Summary of Residual and Cumulative Effects' (Chapter 14).

13.1.3 This Chapter is supported by the following appendices:

- Appendix 13.1 – Solar Glare Methodology. This appendix contains a detailed summary of the assessment methodology used for the solar glare assessment.
- Appendix 13.2 – Solar Glare Assessment. This appendix contains the technical analysis for all relevant viewpoints prepared to support the solar glare assessment.

13.2 Legislation, Policy and Guidance

Legislative Framework

13.2.1 There is no applicable legislative framework of relevance to solar glare.

Planning Policy

13.2.2 There is no applicable planning policy of relevance to solar glare.

Guidance

13.2.3 The applicable guidance is summarised as follows:

Building Research Establishment (BRE) – Site Layout Planning for Daylight and Sunlight: A guide to good practice (2022)

13.2.4 The BRE Guidelines includes the following statement with regard to the potential for reflected solar glare from a new development:

> *"Glare or solar dazzle can occur when sunlight is reflected from a glazed façade. This can affect road users outside and the occupants of adjoining buildings. The problem can occur either when there are large areas of reflective glass or cladding on the façade, or when there are areas of glass or cladding which slope*

back so that high altitude sunlight can be reflected along the ground. Thus solar dazzle is only a long term problem only for some heavily glazed (or mirror clad) buildings…"

Commission Internationale de L'Eclairage (CIE) 146:2002 & CIE 147:2002 Collection on glare (2002)

13.2.5 The CIE 146:2002 Collection on glare states:

"Disability glare is glare that impairs vision (CIE, 1987). It is caused by scattering of light inside the eye [...]. The veiling luminance of scattered light will have a significant effect on visibility when intense light sources are present in the peripheral visual field and the contrast of objects to be seen is low."

"Disability glare is most often of importance at night when contrast sensitivity is low and there may well be one or more bright light sources near to the line of sight, such as car headlights, streetlights or floodlights. But even in daylight conditions disability glare may be of practical significance: think of traffic lights when the sun is close to them, or the difficulty viewing paintings hanging next to windows."

13.3 Assessment Methodology and Significance Criteria

Scope of the Assessment

13.3.1 This chapter has bene prepared in accordance with MCC's Scoping Opinion (Appendix 4.2)

13.3.2 The façade treatment for the Proposed Development is understood to include large areas of glazing which could reflect sunlight within a driver's field of view at sensitive locations, resulting in potential effects in terms of solar glare.

13.3.3 The assessment considers potentially sensitive viewpoints for road, train or tram drivers surrounding the Site. The viewpoints are generally located at the minimum stopping distance for road users and at the driver's eye level with the focal point being a relevant traffic element, such as signals or incoming traffic. For train or tram drivers, viewpoints are assessed where signals are visible or at representative intervals where the Proposed Development would be visible close to the direct line of sight for a substantial stretch of track.

13.3.4 For solar glare, the worst-case scenario is portrayed by the complete and operational Proposed Development, where all reflective facade materials have been installed and any covers, films or hoarding used during construction have been removed.

13.3.5 As construction progresses, and the facades of the Proposed Development are installed, the potential solar glare effects would be similar to those once the Proposed Development is complete and operational. It is therefore considered that the completed Proposed Development represents the worst-case assessment in terms of likely solar glare effects. The construction scenario has been assessed qualitatively, based on professional judgement.

13.3.6 A quantitative assessment has been undertaken for the operational phase only.

13.3.7 For Solar Glare, the worst-case scenario is portrayed by the Proposed Development in isolation. The cumulative effects have not been considered as neighbouring Committed Developments (i.e. those with an extant/valid planning permission) can block sunlight reaching the facades of the Proposed Development and/or obscure the Proposed Development from the viewpoints to be assessed and as a result, lessen the effects. This approach is common practice.

13.3.8 Baseline Developments (i.e. those with an extant/valid planning permission where construction works have started) that are visible from a sensitive receptor and would in all likelihood be fully built out before commencement of the Works, are included within the surrounding context as their completed form. The following Baseline Developments have been included within the assessment:

- 325 - 327 Deansgate, Manchester [ref: 125804/FO/2019 & 139059/JO/2024]
- Land At Deansgate South Manchester [ref: 129406/FO/2021]

Effects Not Considered within the Scope

13.3.9 BRE states that reflected sunlight can affect occupants of adjoining buildings. There are two types of glare: disability glare, which is a safety issue; and discomfort glare, which includes solar reflections impacting adjacent buildings. Discomfort glare does not impair the ability to see. Whilst it can be important where work involves continuous viewing of the outdoor space from a fixed vantage point, it can generally be managed where glare is an issue by using blinds or curtains for the periods of time where such glare occurs. For these reasons, residential uses are classified as low-sensitivity receptors and do not require assessment as no significant adverse effects could occur.

13.3.10 Were analysis is undertaken; it would consider the total duration of time for which the sun can be reflected to the affected location per year. Durations of less than 50 hours per year are classified as being unlikely to lead to significant effects. Some reflections from glazed buildings into surrounding buildings will inevitably occur in an urban context; however, it is highly unlikely that the Proposed Development would generate reflections that could impact any individual occupant in neighbouring buildings for 50 hours or more per year. Any discomfort glare that would occur would be entirely transient and short-lived as the sun path moves past the Site and could be managed by residents using blinds or curtains for those short periods where necessary. This is considered to be typical of the Sites urban location and would potentially occur with any redevelopment proposal of the Site that includes areas of glazing.

13.3.11 Therefore, potential solar glare impacts on neighbouring residential amenity are not expected to be significant and an assessment of solar glare to neighbouring buildings is not considered proportionate or necessary. Solar glare effects to occupants of neighbouring buildings are scoped out of the EIA and were not requested in MCC's Scoping Opinion, they are therefore not reported upon further within this Chapter.

Extent of the Study Area

13.3.12 Sensitive receptors are considered road users at junctions and train or tram drivers on tracks within the surrounding area. As is standard industry practice, viewpoints at road junctions and on train or tram lines within 500 metres of the Site where the Proposed Development is visible within the driver's field of view have been identified and assessed. At distances greater than 500m from the Proposed Development, instances of solar glare would be unlikely to occur.

Consultation Undertaken to Date

13.3.13 No specific consultation has been undertaken in relation to solar glare.

Assessment Methodology

13.3.14 The method of assessment is in accordance with current guidance and industry best practice. Full details are provided in Appendix 13.1.

Significance Criteria

13.3.15 Effects that are deemed to be significant for the purposes of this assessment are those that are described as being of a moderate or major adverse level through profession judgement, applying the factors set out below.

13.3.16 The assessment of solar glare identifies the time of the day and year that solar reflections will be visible from the assessed viewpoints, as well as their relationship to a driver's line of sight. The assessment does not however, measure the intensity of the reflection but merely the occurrence and duration.

13.3.17 There are no quantitative criteria within the BRE Guidelines or elsewhere regarding acceptable levels of solar glare. When assessing the overall significance of effect, the following factors could influence the nature, scale and resultant significance of effect:

- Sunlight availability probability determined using the BRE Sunlight Availability Protractor[1];
- Area of façade off which reflections are visible;
- Period of time when reflections are visible;
- Angle at which reflections are visible from line of sight;
- Views of the Proposed Development being obscured for example by trees; and/or
- The time of day at which the solar reflection will occur for example during peak traffic times.

13.3.18 The factors in the table below will be used to ascertain the possible level of effect for each view and the factors listed above will then be taken into consideration to determine the overall effect for the designated viewpoint.

Table 13.1: Summary of Consultation Undertaken to Date	
Level of Effect	**Possible Factors**
Negligible	No reflections are visible or if visible all occur at angles greater than 30° from the driver's line of sight and so, as stated by the CIE, will be of "little significance".
Minor	Solar reflections are visible within 30° to 10° or between 10° to 5° of the driver's line of sight for a short period of time.
Moderate	Solar reflections are visible within 10° and 5° of the driver's line of sight occurring for a long period of time.

[1] BRE (1975), BRE Current Paper CP75/75 - Availability of Sunshine

Table 13.1: Summary of Consultation Undertaken to Date	
Level of Effect	**Possible Factors**
Major	Solar reflections are visible within 5° of a driver's line of sight.
Note - mitigating factors such as alternative and unaffected signals/traffic lights and car visor angle may result in the assignment of significance which differs from the above.	

13.3.19 The effect significance will be determined using professional judgement taking into consideration the duration of solar reflections, location of these in relation to a driver's line of sight, type of junction control and the probability of reflections occurring. The effect significance is given on a per location basis considering all viewpoints assessed for that location as well as any viewpoints that would not be affected by the Proposed Development.

13.4 Baseline Conditions

Existing Baseline

13.4.1 The solar glare assessment is undertaken on the worst-case scenario. Solar Glare is not a comparative assessment; the fact it may occur in the baseline does not necessarily justify its occurrence as a result of the Proposed Development. Therefore, the assessment considers the effect of the Proposed Development in absolute terms.

13.4.2 However, it should be noted that the Proposed Development will be located on a Site where its existing state is free from structures, thus no instances of solar glare from the Site could be experienced. Solar glare from surrounding buildings is not assessed.

Future Baseline

13.4.3 The existing Site is free from structures, therefore in the Future Baseline scenario, no reflections can be generated from within the Site. Significant effects resulting from cumulative schemes within 500m of the Site should have been considered and appropriately mitigated prior to their implementation.

Sensitive Receptors

13.4.4 Where there are multiple directions of travel potentially affected, each direction of travel at the junction is considered a separate receptor as their effect significance may differ. For train or tram tracks, the train or tram drivers on the stretch of track are considered to be the sensitive receptor.

13.4.5 The identified road junctions and train or tram lines assessed are considered most sensitive in relation to solar glare due to a combination of the nature of the use and

proximity to the Site, and therefore consideration has been given to several viewpoints at traffic junctions and train or tram lines from which the Proposed Development will be visible. The locations assessed are shown in Appendix 13.2, Figure 03:

- CS - Castle Street junction with Bridgewater Viaduct;
- CSCP - Collier Street Car Park pedestrian crossing;
- BS1 – Bridgewater Street junction with Deansgate;
- WS - Watson Street junction Great Bridgewater Street;
- LMS4 - Lower Mosley Street junction with Bishopsgate;
- LMS3 - Lower Mosley Street pedestrian crossing;
- LMS2 - Lower Mosley Street junction with Great Bridgewater Street;
- AS - Albion Street junction with Great Bridgewater Street;
- WSW2 - Whitworth Street West junction with Albion Street;
- MS1 - Medlock Street junction;
- Tram 1-4 - Southbound trams from St Peter's Square to Deansgate-Castlefield;
- Tram 5-7 - Eastbound trams from Cornbrook to Deansgate-Castlefield;
- Rail 1-2 - Westbound trains from Manchester Oxford Road Station to Deansgate Station;
- Rail 3-6 - Eastbound trains from Trafford Park; and
- Rail 3, 4 & 7 - Eastbound trains from Salford.

13.4.6 All viewpoints assessed for solar glare are considered to be of high sensitivity.

Limitations

13.4.7 There are no limitations in the baseline information of relevance to solar glare.

13.5 Assessment of Effects

Assumptions

13.5.1 Although great care is taken in identifying typical viewpoints, this does not guarantee that there are no additional sensitive locations where reflected solar glare could present a particular risk. This assessment is based on the assumption that in an urban

environment moving traffic represents the biggest risk factor and so viewpoints and focus points are selected accordingly. For practical reasons the area of the assessment is limited to the area surrounding the Site. The occurrence of reflected solar glare at greater distances is not the subject of this assessment.

13.5.2 The methodology for solar glare is not aimed at addressing the intensity of an instance of reflected solar glare, but rather its occurrence, duration throughout the year, and the location of this occurrence in respect of an individual's line of sight.

13.5.3 It is also to be noted that the hours presented reflect solar time and therefore do not take Daylight Saving Hours into account. Where times are reported between the last Sunday in March and the last Sunday in October, they would need to be adjusted forward an hour to reflect British Summer Time (BST). For example, where a reflection is recorded at 09:00-10:00 GMT in April, this would correlate to 10:00-11:00 BST.

Embedded Mitigation

Construction

13.5.4 It is not necessary to include temporary mitigation measures during the construction phase. All mitigation embedded within the design of the facades for the Operational Phase would apply to the construction phase also.

13.5.5 Any additional or secondary mitigation deemed necessary to avoid or minimise adverse effects arising from the construction of the Proposed Development is outlined in Section 12.6 'Mitigation & Monitoring'. Those measures are taken into account before reporting the residual (i.e. post-mitigation) construction effects of the Proposed Development.

Operation

13.5.6 In assessing the likely operational impacts, the following aspects of the scheme design are noted as 'inherent' or 'embedded' mitigation of relevance to this topic and is therefore considered within the pre-mitigation assessment:

- Inclusion of solid, non-reflective façade elements to break up reflections.

13.5.7 Any additional or secondary mitigation deemed necessary to avoid or minimise adverse effects arising from the operation of the Proposed Development is outlined in Section 13.6 'Mitigation & Monitoring'. Those measures are taken into account before reporting the residual (i.e. post-mitigation) operational effects of the Proposed Development.

Assessment of Effects

Construction Phase

13.5.8 The likely effects in relation to solar glare for the surrounding road users and train/tram drivers would vary throughout the construction works, starting from installation of the first glazed façade panels and gradually increasing as all reflective cladding is installed.

13.5.9 As construction works progress, and the facades of the Proposed Development are installed, the potential solar glare effects would be similar to those once the Proposed Development is complete and operational, as presented below. It is therefore considered that the completed Proposed Development represents the worst-case assessment in terms of likely solar glare effects.

13.5.10 As such, the overall effect in terms of solar glare would range from being temporary negligible adverse effects at commencement of the works, then gradually changing to the post-mitigation residual effects of **negligible adverse** to **long-term**, **moderate adverse** and **significant**, once the Proposed Development is complete, as set out in the assessment of the Operational Phase below.

Operational Phase

13.5.11 The full solar glare assessment is provided in Technical Appendix 13.2.

13.5.12 The assessment has been undertaken from nearby road locations which are considered sensitive in terms of solar glare. These usually include traffic junctions and pedestrian crossings. At locations where there is more than one traffic signal from which the Proposed Development is visible, several viewpoints may be tested (noted by the reference a, b, c etc.) in order to have a better understanding of the likely impact that the Proposed Development might have upon road users' responsiveness. The number of viewpoints tested per location varies according to the number of lanes, direction of travel and number of traffic lights. This is specified in the discussion below, where appropriate.

13.5.13 Regarding train and tram drivers, the relevant section of track is considered sensitive in terms of solar glare. Several viewpoints along a track may be tested in order to have a better understanding of the likely impact that the Proposed Development might have upon train/tram driver users' responsiveness and an effect attributed to the stretch of track as a whole.

13.5.14 Following a review of an extended area of investigation (approximately 500m radius from the Proposed Development), a total of 10 road locations and five train/tram lines were assessed. The assessment considers the potential occurrence of solar reflections from the Proposed Development owing to its size and large areas of glazing on the façade at these locations. The duration of solar reflections as well as their proximity to a driver's line of sight have been considered within the discussion below.

13.5.15 The assessment has been undertaken in a worst-case scenario considering there is no cloud cover, so assuming the sun is shining for all days of the year for the full duration of daylight hours.

13.5.16 Of the total 10 road locations and five train/tram lines assessed, the Proposed Development would not be visible, nor would reflections occur within a driver's 30° field of view, from two road locations:

- Watson Street Junction Great Bridgewater Street (WS), and
- Bridgewater Street junction (BS1).

13.5.17 At these two locations, the effects are considered to be a **long-term**, **Negligible adverse** effect (not significant). These locations are not discussed further within the Chapter.

13.5.18 At the following two road locations and along one train track, reflections may occur within 10°–30° of a driver's line of sight:

- Castle Street junction with Bridgewater Viaduct (CS);
- Albion Street junction with Whitworth Street West junction (AS); and
- Eastbound trains from Salford to Deansgate (Rail 3, 4 & 7).

13.5.19 The effect at these locations/tracks is considered to be **long-term**, **Minor Adverse** and **not significant**. These three locations/tracks are not discussed further within the Chapter.

13.5.20 At the remaining six road locations and four train/tram lines, reflections occur within 10° of a driver's line of sight which require further consideration.

Collier Street Car Park pedestrian crossing (CSCP)

13.5.21 Two viewpoints have been assessed at this pedestrian crossing, CSCPa and CSCPb. Viewpoint CSCPa shows the view of drivers looking straight ahead as they approach

the pedestrian crossing, whilst viewpoint CSCPb shows drivers looking at the right-side traffic light. There is an alternative traffic light on the left side of the road.

13.5.22 Table 13.2 provides a summary of the duration of potential reflections that could occur within a 10° drivers field of view, where they would occur within the field of view of drivers, from which element of the Proposed Development the reflections could occur and finally, an initial level of effect is given for each instance of reflection, prior to consideration being given to factors such as those outlined in paragraph 13.3.17.

13.5.23 Reflections at viewpoint CSCPa are outside 10° of a drivers' line of sight and so this viewpoint has an initial viewpoint level of effect of Minor Adverse (not significant).

Table 13.2: Summary of Potential Reflections within 10° for drivers approaching Collier Street Car Park pedestrian crossing (CSCP)

Viewpoint	Elevation	Times of day that reflections occur	Times of year that reflections occur	Location within 10° of driver's line of sight	Initial Level of Effect*
CSCPb	Western	16:00-18:00 GMT	Mid-February to mid-April and mid-August to mid-October	From 7°	Moderate Adverse
	South-Western corner chamfer	11:00-12:00 GMT	Mid-November to mid-January	Single stack of windows from 8°	Moderate Adverse
	All other reflections occur outside 10° so are considered Minor Adverse.				
*Prior to consideration of any mitigating factors outlined below.					

13.5.24 At this location, for the viewpoints assessed:

- Reflections occurring at the main viewpoint looking forward (CSCPa), are outside the direct line of sight and so would not impact driver visibility.
- When reflections are seen behind the right-side traffic lights (viewpoint CSCPb), drivers can rely on the alterative traffic lights on the left side to respond safely at this location.
- These reflections are substantially broken up by solid façade elements, which results in reflections of lower intensity.
- The reflections occurring from the south-west facing stack of windows would only occur for a very short period of time.

- The reflections mostly occur in the late-afternoons/early evening during the mid-seasons when the solar intensity is low, therefore any reflections generated would be low intensity.
- The sun path sits within the field of view of a driver at this location. Once implemented the Proposed Development will partially obscure the direct view of the sun in the mornings. Any reflections visible from the Proposed Development would be significantly less intense than a direct view of the sun, as is currently experienced at this location. A large portion of the sun's path would remain visible at this junction with a greater intensity than the reflections that would be generated from the Proposed Development.
- The probability of the sun shining at the times of day and year when reflections occur within 10° of a driver's line of sight is 10% - 30%.
- This location is situated on a road that feeds a c.120 vehicle short-term car park so is considered to have low traffic volume and only a very small number of cars could be impacted by reflections at this location for the short duration they could occur.

13.5.25 The cumulative scheme 2-4 Whitworth Street West (MCC ref: 141773/FO/2024) is located between the Proposed Development and this location. Following implementation of 2-4 Whitworth Street West, the western elevations of the Proposed Development would be shaded and obscured from view, as such reflections within 10° of a driver's line of sight would no longer occur. Minor adverse (not significant) reflections between 10-30° of a driver's line of sight would remain from the northern elevation.

13.5.26 Based on professional judgement, in consideration of the initial level of potential effects and the factors outlined above, the overall effect in terms of solar glare to drivers at the Collier Street car park's pedestrian crossing is considered to be **long-term**, **Minor Adverse** and **not significant**.

Lower Mosley Street junction with Bishopsgate (LMS4)

13.5.27 Two viewpoints have been assessed at this junction, LMS4a and LMS4b. Viewpoint LMS4a shows the view of drivers looking straight ahead as they approach the junction, whilst viewpoint LMS4b shows drivers looking at the right-side traffic light. There is an alternative traffic light on the left side of the road.

13.5.28 Table 13.3 provides a summary of the duration of potential reflections that could occur within a 10° drivers field of view, where they would occur within the field of view of drivers, from which element of the Proposed Development the reflections could occur and finally, an initial level of effect is given for each instance of reflection, prior to consideration being given to factors such as those outlined in paragraph 13.3.17.

13.5.29 Reflections at viewpoint LMS4a are outside 10° of a drivers' line of sight and so this viewpoint has an initial viewpoint level of effect of Minor Adverse (not significant).

Table 13.3: Summary of Potential Reflections within 10° for drivers at the Lower Mosley Street junction with Bishopsgate (LMS4)

Viewpoint	Elevation	Times of day that reflections occur	Times of year that reflections occur	Location within 10° of driver's line of sight	Initial Level of Effect*
LMS4b	Eastern	09:00-10:00 GMT	Mid-October to mid-February	From 2°	Major Adverse
	North-Eastern corner chamfer	05:00-06:00 GMT	Mid-May to mid-July	Single stack of windows between 4-5°	Major Adverse
	All other reflections occur outside 10° so are considered Minor Adverse.				
*Prior to consideration of any mitigating factors outlined below.					

13.5.30 At this location, for the viewpoints assessed:

- Reflections occurring at the main viewpoint looking forward (LMS4a), are well outside the direct line of sight and so would not impact driver visibility.
- When reflections are seen behind the right-side traffic light (viewpoint LMS4b), drivers can rely on the alterative traffic light on the left side to respond safely at this junction.
- The reflections occurring from the north-eastern corner chamfer are at a glancing angle and from a very small area within the 10° field of view so would only occur for a very short period of time.
- These reflections are substantially broken up by solid façade elements, which results in reflections of lower intensity.

- This location is c. 400 metres from the Proposed Development, therefore due to the reflections only occurring from one window at a time, the area of reflection is very small within the field of view.
- The reflections occur in the mornings during the autumn/winter months or early morning in the summer months when the solar intensity is low, therefore any reflections generated would be low intensity.
- The sun path sits within the field of view of a driver at this location. Once implemented the Proposed Development will obscure a small area of the sky with a direct view of the sun in the afternoon. Any reflections visible from the Proposed Development would be substantially less intense than a direct view of the sun, as is currently experienced at this location. A large portion of the sun's path would remain visible at this junction with a greater intensity than the reflections that would be generated from the Proposed Development.
- The probability of the sun shining at the times of day and year when reflections occur within 10° of a driver's line of sight is 20% - 40%.

13.5.31 Based on professional judgement, in consideration of the initial level of potential effects and the factors outlined above, the overall effect in terms of solar glare to drivers at the Lower Mosley Street junction with Bishopsgate is considered to be **long-term**, **Moderate Adverse** and **significant**. Given the dynamic nature of traffic movement, the potential effects as reported would only occur momentarily when looking precisely at the affected traffic lights, 12 metres from the junction. Drivers can make use of alternative traffic lights to safely respond at this location. The reflections occur between just one hour of the day, on sunny days for just four months of the year from each area. Each instance of reflection would only occur for less than 2 minutes at a time and the probability of the sun shining when reflections could occur is between 20-40% of the time.

Lower Mosley Street pedestrian crossing (LMS3)

13.5.32 Viewpoint LMS3 shows the view of drivers looking straight ahead as they approach the pedestrian crossing. The traffic lights are located on both the left and right side of the road.

13.5.33 Table 13.4 provides a summary of the duration of potential reflections that could occur within a 10° drivers field of view, where they would occur within the field of view of drivers, from which element of the Proposed Development the reflections

could occur and finally, an initial level of effect is given for each instance of reflection, prior to consideration being given to factors such as those outlined in paragraph 13.3.17.

Table 13.4: Summary of Potential Reflections within 10° for drivers approaching the Lower Mosley Street pedestrian crossing (LMS3)

Viewpoint	Elevation	Times of day that reflections occur	Times of year that reflections occur	Location within 10° of driver's line of sight	Initial Level of Effect*
LMS3	Eastern	09:00-10:00 GMT	Mid-November to mid-January	From 9°	Moderate Adverse
	North-Eastern corner chamfer	05:00-06:00 GMT	Mid-May to mid-July	Single stack of windows between 3-5°	Major Adverse
	All other reflections occur outside 10° so are considered Minor Adverse.				
*Prior to consideration of any mitigating factors outlined below.					

13.5.34 At this location, for the viewpoint assessed:

- When reflections are seen looking ahead, drivers can rely on both traffic lights, on the left and right sides to respond safely at this location.
- The reflections occurring from the north-eastern corner chamfer, those within 5°, are at a glancing angle and from a very small area within the 10° field of view so would only occur for a very short period of time.
- These reflections are substantially broken up by solid façade elements, which results in reflections of lower intensity.
- The reflections occur in the early mornings during the spring/summer months and mid-mornings during winter months when the solar intensity is low, therefore any reflections generated would be low intensity.
- The potential reflections in the winter months occur well above the driver's visor line, which would mitigate the effects when deployed.
- The reflections occurring within 5° are in the very early mornings so outside peak traffic times.
- The sun path sits within the field of view of a driver at this location. Once implemented the Proposed Development will partially obscure a small area of

the sky with a direct view of the sun in the afternoon. Any reflections visible from the Proposed Development would be substantially less intense than a direct view of the sun, as is currently experienced at this location. A large portion of the sun's path would remain visible at this location with a greater intensity than the reflections that would be generated from the Proposed Development.

- The probability of the sun shining at the times of day and year when reflections occur within 10° of a driver's line of sight is 20% - 30%.

13.5.35 Based on professional judgement, in consideration of the initial level of potential effects and the factors outlined above the overall effect in terms of solar glare to drivers at the Lower Mosley Street pedestrian crossing is considered to be **long-term**, **Minor to Moderate Adverse** and **significant**. Given the dynamic nature of traffic movement, the potential effects as reported would only occur momentarily when looking precisely at the affected traffic lights, 12 metres from the junction.

Lower Mosley Street junction with Great Bridgewater Street (LMS2)

13.5.36 Two viewpoints have been assessed at this junction, LMS2a and LMS2b. Viewpoint LMS2a shows the view of drivers looking straight ahead as they approach the Lower Mosley Street junction with Great Bridgewater Street, whilst viewpoint LMS2b shows drivers looking at the left-side traffic light. There is an alternative traffic light on the right-side of the road.

13.5.37 Table 13.5 provides a summary of the duration of potential reflections that could occur within a 10° drivers field of view, where they would occur within the field of view of drivers, from which element of the Proposed Development the reflections could occur and finally, an initial level of effect is given for each instance of reflection, prior to consideration being given to factors such as those outlined in paragraph 13.3.17.

Table 13.5: Summary of Potential Reflections within 10° for drivers approaching the Lower Mosley Street junction with Great Bridgewater Street (LMS2)					
Viewpoint	**Elevation**	**Times of day that reflections occur**	**Times of year that reflections occur**	**Location within 10° of driver's line of sight**	**Initial Level of Effect***
LMS2a	North-Eastern corner chamfer	05:00-06:00 GMT	Mid-May to mid-July	Single stack of windows between 7-9°	Moderate Adverse
LMS2b	Eastern	09:00-10:00 GMT	Mid-October to mid-February	From 5°	Moderate Adverse
All other reflections occur outside 10° so are considered Minor Adverse.					
*Prior to consideration of any mitigating factors outlined below.					

13.5.38 At this location, for the viewpoints assessed:

- When reflections are seen looking at the left-side traffic light (viewpoint LMS2b), drivers can rely the traffic light on the right side to respond safely at this junction.
- The reflections occurring from the north-eastern corner chamfer are at a glancing angle and from a very small area within the 10° field of view so would only occur for a very short period of time.
- The reflections from the north-eastern corner chamfer are only 1 pixel wide within the image, which would not result in an instance of glare.
- These reflections from the eastern elevation are substantially broken up by solid façade elements, which results in reflections of lower intensity.
- The reflections from the eastern elevation occur in the early mornings during the autumn/winter months when the solar intensity is low, therefore any reflections generated would be low intensity.
- The potential reflections occur above the driver's visor line, which would mitigate the effects when deployed.
- The sun path sits within the field of view of a driver at this location. Once implemented the Proposed Development will partially obscure a small area of the sky with a direct view of the sun in the afternoon. Any reflections visible from the Proposed Development would be substantially less intense than a direct view of the sun, as is currently experienced at this location. A large portion of

the sun's path would remain visible at this junction with a greater intensity than the reflections that would be generated from the Proposed Development.

- The probability of the sun shining at the times of day and year when reflections occur within 10° of a driver's line of sight is 20% - 40%.

13.5.39 Based on professional judgement, in consideration of the initial level of potential effects and the factors outlined above the overall effect in terms of solar glare to drivers at the Lower Mosley Street Junction with Great Bridgewater Street is considered to be **long-term**, **Minor to Moderate Adverse** and **significant**. Given the dynamic nature of traffic movement, the potential effects as reported would only occur momentarily when looking precisely at the affected traffic lights, 12 metres from the junction.

Whitworth Street West junction with Albion Street (WSW2)

13.5.40 Two viewpoints have been assessed at this junction, WSW2a and WSW2b. Viewpoint WSW2a shows the view of drivers looking straight ahead as they approach the junction, whilst viewpoint WSW2b shows drivers looking at the left-side traffic light. There is an alternative traffic light on the right-side of the road.

13.5.41 Table 13.6 provides a summary of the duration of potential reflections that could occur within a 10° drivers field of view, where they would occur within the field of view of drivers, from which element of the Proposed Development the reflections could occur and finally, an initial level of effect is given for each instance of reflection, prior to consideration being given to factors such as those outlined in paragraph 13.3.17.

13.5.42 Reflections at viewpoint WSW2a are outside 10° of a drivers' line of sight and so this viewpoint has an initial viewpoint level of effect of Minor Adverse.

Table 13.6: Summary of Potential Reflections within 10° for drivers approaching the Whitworth Street West junction with Albion Street (WSW2)					
Viewpoint	**Elevation**	**Times of day that reflections occur**	**Times of year that reflections occur**	**Location within 10° of driver's line of sight**	**Initial Level of Effect***
WSW2b	Eastern	06:00-07:00 GMT	Mid-March to mid-May and mid-July to mid-September	From 3°	Major Adverse
	South-Eastern corner chamfer	12:00-13:00 GMT	Mid-October to mid-February	Single stack of windows from 5°	Moderate Adverse
	All other reflections occur outside 10° so are considered Minor Adverse.				
*Prior to consideration of any mitigating factors outlined below.					

13.5.43 At this location, for the viewpoints assessed:

- Reflections occurring at the viewpoint looking straight ahead (WSW2a), are outside the direct line of sight and so would not impact driver visibility.
- When reflections are seen looking at the left-side traffic light (viewpoint WSW2b), drivers can rely the traffic light on the right-side to respond safely at this junction.
- The reflections occurring from the south-eastern corner chamfer are at a glancing angle and from a small area within the 10° field of view so would only occur for a short period of time.
- These reflections from the eastern elevation are substantially broken up by solid façade elements, which results in reflections of lower intensity.
- The reflections occur in the early mornings during the mid-seasons or in the middle of the day during the autumn/winter months when the solar intensity is low, therefore any reflections generated would be low intensity.
- The potential reflections during winter months would occur above the driver's visor line, which would mitigate the effects when deployed.
- The sun path sits within the field of view of a driver at this location. Once implemented the Proposed Development will partially obscure the direct view of the sun in the late-afternoons. Any reflections visible from the Proposed

Development would be substantially less intense than a direct view of the sun, as is currently experienced at this location. A large portion of the sun's path would remain visible at this junction with a greater intensity than the reflections that would be generated from the Proposed Development.

- The probability of the sun shining at the times of day and year when reflections occur within 10° of a driver's line of sight is 10% - 40%.

13.5.44 Based on professional judgement, in consideration of the initial level of potential effects and the factors outlined above the overall effect in terms of solar glare to drivers at the Whitworth Street West is considered to be **long-term**, **Moderate Adverse** and **significant**. Given the dynamic nature of traffic movement, the potential effects as reported would only occur momentarily when looking precisely at the affected traffic lights, 12 metres from the junction. Drivers can make use of alternative traffic lights to safely respond at this location. The reflections occur between just one hour of the day, on sunny days for just two-four months of the year from each area. Each instance of reflection would only occur for less than 4 minutes at a time and the probability of the sun shining when reflections could occur is between 10% - 40% of the time.

Medlock Street Junction (MS1)

13.5.45 One viewpoint has been assessed at this location, MS1. This viewpoint shows the view of drivers in the left lane looking at the left side traffic lights. There is an alternative traffic light on the right side of the road that may be relied upon by drivers and another on the other side of the junction which is primarily for use by stationary vehicles. The Proposed Development would not be visible within the view of drivers looking straight ahead at this location.

13.5.46 Table 13.7 provides a summary of the duration of potential reflections that could occur within a 10° drivers field of view, where they would occur within the field of view of drivers, from which element of the Proposed Development the reflections could occur and finally, an initial level of effect is given for each instance of reflection, prior to consideration being given to factors such as those outlined in paragraph 13.3.17.

Table 13.7: Summary of Potential Reflections within 10° for drivers at Medlock Street junction (MS1)					
Viewpoint	**Elevation**	**Times of day that reflections occur**	**Times of year that reflections occur**	**Location within 10° of driver's line of sight**	**Initial level of Effect***
MS1	Southern	13:00-14:00 GMT	Mid-October to mid-February	From 4°	Major Adverse
	South-Western corner chamfer	18:00 GMT - sunset	Mid-April to mid-August	Single stack of windows from 2°	Major Adverse
	All other reflections occur outside 10° so are considered Minor Adverse.				
*Prior to consideration of any mitigating factors outlined below.					

13.5.47 At this location, for the viewpoint assessed:

- The direct view of drivers as they approach this junction would not be impacted by reflections from the Proposed Development.
- When reflections are seen behind the left side traffic lights (viewpoint MS1), drivers can rely on the alterative traffic lights on the other side of the road and the other side of the junction to respond safely at this location.
- The Proposed Development is located c. 420m from this junction, therefore the Proposed Development is visible within only a small portion of the field of view.
- The location is on a bend; therefore, any instances of reflection would only be visible momentarily before the reflection angle changes.
- The reflections are substantially broken up by solid façade elements, which results in reflections of lower intensity.
- The reflections occur during the afternoons during the autumn/winter months and evenings during the spring/summer months when the solar intensity is low, therefore any reflections generated would be low intensity.
- The probability of the sun shining at the times of day and year when reflections occur within 10° of a driver's line of sight is 20% - 40%.

13.5.48 The cumulative scheme 2-4 Whitworth Street West (MCC ref: 141773/FO/2024) is located directly to the west of the Proposed Development. Following implementation of 2-4 Whitworth Street West, the south-western chamfered corner

of the Proposed Development would be shaded and reflections from this element would no longer occur. The reflections from the southern elevation would remain.

13.5.49 Based on professional judgement, in consideration of the initial level of potential effects and the factors outlined above, the overall effect in terms of solar glare to drivers at the Medlock Street junction assessed is considered to be **long-term**, **Minor to Moderate Adverse** and **significant**. Given the dynamic nature of traffic movement, the potential effects as reported would only occur momentarily when looking precisely at the affected traffic lights, 12 metres from the junction.

Southbound trams from St Peter's Square to Deansgate-Castlefield (Tram 1–4)

13.5.50 Four viewpoints have been assessed along the southbound tramline with reflections occurring within 10° of a driver's direct line of sight on this track. Tram 1 is the view of drivers approaching Oxford Street, Tram 2 shows the view of drivers approaching Windmill Street, Tram 3 shows the view of tram drivers further along the track as they travel next to the Manchester Central and Tram 4 is the view of drivers as they approach the bend in the tracks coming up to the Deansgate-Castlefield stop.

13.5.51 Table 13.8 provides a summary of the duration of potential reflections that could occur within a 10° drivers field of view, where they would occur within the field of view of drivers, from which element of the Proposed Development the reflections could occur and finally, an initial level of effect is given for each instance of reflection, prior to consideration being given to factors such as those outlined in paragraph 13.3.17.

13.5.52 The Proposed Development is not visible at viewpoint Tram 4, therefore the reflections at this location are Negligible Adverse. Reflections at viewpoint Tram 3 are outside 10° of a drivers' line of sight and so this viewpoint has an initial viewpoint level of effect of Minor Adverse.

Table 13.8: Summary of Potential Reflections within 10° for drivers along the Southbound Tramline towards Deansgate-Castlefield					
Viewpoint	**Elevation**	**Times of day that reflections occur**	**Times of year that reflections occur**	**Location within 10° of driver's line of sight**	**Initial Level of Effect***
Tram 1	Eastern	09:00-10:00 GMT	Mid-November to mid-January	From 8°	Moderate Adverse
	North-Eastern corner chamfer	05:00-06:00 GMT	Mid-April to mid-August	Single stack of windows between 5-7°	Moderate Adverse
Tram 2	Eastern	09:00-10:00 GMT	Mid-November to mid-January	From 8°	Moderate Adverse
	North-Eastern corner chamfer	05:00-06:00 GMT	Mid-April to mid-August	From 4°	Major Adverse
All other reflections occur outside 10° so are considered Minor Adverse.					
*Prior to consideration of any mitigating factors outlined below.					

13.5.53 For this track, for the viewpoints assessed:

- The reflections within 10° mostly occur from one thin strip within the field of view, and within a small area of facade, therefore the reflections would only occur for a very short period of time.
- The reflections occurring from the eastern elevation are substantially broken up by solid façade elements, as a result the reflections occur from one window at a time which are only 1 pixel wide within the image, these reflections would not result in an instance of glare.
- The reflections from the north-eastern corner chamfer occur in the early morning during the spring/summer months when the solar intensity is very low, therefore any reflections generated would be very low intensity.
- The reflections from the north-eastern corner chamfer occur outside of peak travel times.
- The sun path sits within the field of view of a driver at this location. Once implemented the Proposed Development will partially obscure a small area of the sky with a direct view of the sun in the afternoon. Any reflections visible from

the Proposed Development would be substantially less intense than a direct view of the sun, as is currently experienced at this location. A large portion of the sun's path would remain visible at this junction with a greater intensity than the reflections that would be generated from the Proposed Development.

- The probability of the sun shining at the times of day and year when reflections occur within 10° of a driver's line of sight is 20% - 30%.

13.5.54 Based on professional judgement, in consideration of the initial level of potential effects and the factors outlined above, the overall effect in terms of solar glare to tram drivers travelling southbound between Oxford Street and Deansgate-Castlefield is considered to be **long-term**, **Moderate Adverse** and **significant**. Given the dynamic nature of tram movement travelling along a set of tracks, the potential effects as reported would only occur momentarily when at each of the precise viewpoints assessed and between just one hour of the day, on sunny days for just four months of the year, at a time of the day when there is low traffic volume.

Eastbound trams from Cornbrook to Deansgate-Castlefield (Tram 5–7)

13.5.55 Three viewpoints have been assessed along the eastbound tramline with reflections occurring within 10° of a driver's direct line of sight on this track. Tram 7 is the view of drivers passing over the Bridgewater Canal, Tram 6 shows the view of tram drivers further along the track as they travel next to the Collier Street car park and Tram 5 is the view of drivers as they approach the Deansgate-Castlefield stop.

13.5.56 Table 13.9 provides a summary of the duration of potential reflections that could occur within a 10° drivers field of view, where they would occur within the field of view of drivers, from which element of the Proposed Development the reflections could occur and finally, an initial level of effect is given for each instance of reflection, prior to consideration being given to factors such as those outlined in paragraph 13.3.17.

13.5.57 Reflections at viewpoints Tram 5 and Tram 7 are outside 10° of a drivers' line of sight and so these viewpoints have an initial viewpoint level of effect of Minor Adverse.

Table 13.9: Summary of Potential Reflections within 10° for drivers on Eastbound Tramline towards Deansgate-Castlefield					
Viewpoint	**Elevation**	**Times of day that reflections occur**	**Times of year that reflections occur**	**Location within 10° of driver's line of sight**	**Initial Level of Effect***
Tram 6	Western	17:00-18:00 GMT	Mid-February to late-March and early-September to mid-October	From 8°	Moderate Adverse
	All other reflections occur outside 10° so are considered Minor Adverse.				
*Prior to consideration of any mitigating factors outlined below.					

13.5.58 For this track, for the viewpoints assessed:

- The reflections occurring from the western elevation are substantially broken up by solid façade elements, as a result the reflections occur from one window at a time and would be low intensity.
- The reflections occur in the evening during the mid-seasons when the solar intensity is low, therefore any reflections generated would be low intensity.
- The sun path sits within the field of view of a driver at this location. Once implemented the Proposed Development will partially obscure the direct view of the sun in the morning. Any reflections visible from the Proposed Development would be substantially less intense than a direct view of the sun, as is currently experienced at this location. A large portion of the sun's path would remain visible at this junction with a greater intensity than the reflections that would be generated from the Proposed Development.
- The probability of the sun shining at the times of day and year when reflections occur within 10° of a driver's line of sight is 10% - 30%.

13.5.59 The cumulative scheme 2-4 Whitworth Street West (MCC ref: 141773/FO/2024) is located between the Proposed Development and this location. Following implementation of 2-4 Whitworth Street West, the western elevations of the Proposed Development would be shaded and reflections within 10° of a driver's line of sight would no longer occur. Scattered minor adverse reflections between 10-30° of a driver's line of sight would remain from the northern elevation.

13.5.60 Based on professional judgement, in consideration of the initial level of potential effects and the factors outlined above, the overall effect in terms of solar glare to

tram drivers travelling eastbound approaching Oxford Street is considered to be **long-term**, **Minor Adverse** and **not significant**.

Westbound trains from Manchester Oxford Road Station to Deansgate Station (Rail 1–2)

13.5.61 Two viewpoints have been assessed along the westbound train line with reflections occurring within 10° of a driver's direct line of sight on this track. Rail 1 is the view of drivers departing Manchester Oxford Road Station and Rail 2 is the view of drivers as they approaching Deansgate Station. Signals would be visible within the field of view at both locations.

13.5.62 Table 13.10 provides a summary of the duration of potential reflections that could occur within a 10° drivers field of view, where they would occur within the field of view of drivers, from which element of the Proposed Development the reflections could occur and finally, an initial level of effect is given for each instance of reflection, prior to consideration being given to factors such as those outlined in paragraph 13.3.17.

Table 13.10: Summary of Potential Reflections within 10° for drivers on Westbound Trainline towards Deansgate Station

Viewpoint	Elevation	Times of day that reflections occur	Times of year that reflections occur	Location within 10° of driver's line of sight	Initial Level of Effect*
Rail 1	Eastern	06:00-07:00 GMT	Mid-March to mid-April and mid-August to mid-September	From 4°	Major Adverse
Rail 2	Eastern	06:00–07:00 GMT	Mid-March to mid-April and mid-August to mid-September	3 windows visible from 7°	Moderate Adverse
All other reflections occur outside 10° so are considered Minor Adverse.					
*Prior to consideration of any mitigating factors outlined below.					

13.5.63 For this track, for the viewpoints assessed:

- Solid façade elements have been distributed across the eastern elevation to break up reflections and lower the intensity of any reflections that do occur.

- The reflections occur in the early-morning during mid-seasons when the solar intensity is low, therefore any reflections generated would be low intensity.
- Within viewpoint Rail 2, most of the potential reflections occur above the driver's visor line, which would mitigate the majority of effects when deployed.
- The reflections occur outside peak traffic times.
- The signals within the stretch of track are on the left side of the track whilst the Proposed Development is on the right side, therefore the reflections occur on the opposite side of the field of view from the signals.
- The sun path sits within the field of view of a driver at this location. Once implemented the Proposed Development will partially obscure the direct view of the sun in the afternoon. Any reflections visible from the Proposed Development would be substantially less intense than a direct view of the sun, as is currently experienced at this location. A large portion of the sun's path would remain visible at this junction with a greater intensity than the reflections that would be generated from the Proposed Development.
- The probability of the sun shining at the times of day and year when reflections occur within 10° of a driver's line of sight is 10% - 40%.

13.5.64 Based on professional judgement, in consideration of the initial level of potential effects and the factors outlined above, the overall effect in terms of solar glare to train drivers travelling westbound towards the Deansgate Station is considered to be **long-term**, **Moderate Adverse** and **significant**. Given the dynamic nature of train movement travelling along a set of tracks, the potential effects as reported would only occur momentarily when at each of the precise viewpoints assessed and between just one hour of the day, on sunny days for just two months of the year.

Eastbound trains from Trafford Park (Rail 3–6)

13.5.65 Four viewpoints have been assessed along the eastbound trainlines with reflections occurring within 10° of a driver's direct line of sight on this track. Rail 6 is the view of drivers of eastbound trains from Trafford Park passing over the Bridgewater Canal, Rail 5 shows the view of drivers of eastbound trains from Trafford Park further along the track as they approach the junction with eastbound trains from Salford, Rail 4 shows the view of drivers as they pass over Rochdale Canal and Rail 3 is the view of drivers as they approach the end of the Deansgate Station platform. Signals are understood to be visible at viewpoint Rail 3 and Rail 4.

13.5.66 Table 13.11 provides a summary of the duration of potential reflections that could occur within a 10° drivers field of view, where they would occur within the field of view of drivers, from which element of the Proposed Development the reflections could occur and finally, an initial level of effect is given for each instance of reflection, prior to consideration being given to factors such as those outlined in paragraph 13.3.17.

13.5.67 Reflections at viewpoints Rail 3, 4 and 6 are outside 10° of a drivers' line of sight so these viewpoints have an initial viewpoint level of effect of Minor Adverse.

Table 13.11: Summary of Potential Reflections within 10° for drivers on Eastbound Trainline towards Deansgate Station, from Trafford Park

Viewpoint	Elevation	Times of day that reflections occur	Times of year that reflections occur	Location within 10° of driver's line of sight	Initial Level of Effect*
Rail 5	Western	17:00-18:00 GMT	Mid-February to mid-April and mid-August to mid-October	From 1°	Major Adverse
All other reflections occur outside 10° so are considered Minor Adverse.					
*Prior to consideration of any mitigating factors outlined below.					

13.5.68 For this track, for the viewpoints assessed:

- Solid façade elements have been distributed across the western elevation to break up reflections and lower the intensity of any reflections that do occur.
- The reflections occur in the evenings during mid-seasons when the solar intensity is low, therefore any reflections generated would be low intensity.
- Viewpoint Rail 5 is located on a bend in the tracks, where the viewing angle and reflection angle is constantly changing, therefore any reflection occurring would be for an instant, before the angle changes and reflections would no longer be visible at that time.
- The sun path sits within the field of view of a driver at this location. Once implemented the Proposed Development will partially obscure the direct view of the sun in the morning. Any reflections visible from the Proposed Development would be substantially less intense than a direct view of the sun, as is currently experienced at this location. A large portion of the sun's path

would remain visible at this junction with a greater intensity than the reflections that would be generated from the Proposed Development.

- The probability of the sun shining at the times of day and year when reflections occur within 10° of a driver's line of sight is 10% - 30%.

13.5.69 The cumulative scheme 2-4 Whitworth Street West (MCC ref: 141773/FO/2024) is located between the Proposed Development and this location. Following implementation of 2-4 Whitworth Street West, the western elevations of the Proposed Development would be shaded and obscured, as such reflections within 10° of a driver's line of sight would no longer occur.

13.5.70 Based on professional judgement, in consideration of the initial level of potential effects and the factors outlined above, the overall effect in terms of solar glare to train drivers travelling eastbound towards Deansgate Station from Trafford Park is considered to be **short-term**, **Minor to Moderate Adverse** and **significant** until the point that 2-4 Whitworth Street West is implemented when it would become **long-term**, **Minor Adverse** and **not significant**. Given the dynamic nature of train movement travelling along a set of tracks, the potential effects as reported would only occur momentarily when at each of the precise viewpoints assessed and between just one hour of the day, on sunny days for just four months of the year.

Summary

13.5.71 Table 13.12 provides a summary of the overall solar glare effects ascribed to each assessed location following the assessment outlined above.

Table 13.12: Summary of Overall Solar Glare Effects at Assessed Locations

Assessed Location	Assessed Location Description	Overall Solar Glare Level of Effect	Significance
CS	Castle Street junction with Bridgewater Viaduct	Minor Adverse	Not Significant
CSCP	Collier Street Car Park pedestrian crossing	Minor Adverse	Not Significant
BS1	Bridgewater Street junction with Deansgate	Negligible Adverse	Not Significant
WS	Watson Street junction Great Bridgewater Street	Negligible Adverse	Not Significant
LMS4	Lower Mosley Street junction with Bishopsgate	Moderate Adverse	Significant

Table 13.12: Summary of Overall Solar Glare Effects at Assessed Locations			
Assessed Location	**Assessed Location Description**	**Overall Solar Glare Level of Effect**	**Significance**
LMS3	Lower Mosley Street pedestrian crossing	Minor to Moderate Adverse	Significant
LMS2	Lower Mosley Street junction with Great Bridgewater Street	Minor to Moderate Adverse	Significant
AS	Albion Street junction with Whitworth Street West junction	Minor Adverse	Not Significant
WSW2	Whitworth Street West junction with Albion Street	Moderate Adverse	Significant
MS1	Medlock Street junction	Minor to Moderate Adverse	Significant
TRAM 1-4	Southbound trams from St Peter's Square to Deansgate-Castlefield	Moderate Adverse	Significant
TRAM 5-7	Eastbound trams from Cornbrook to Deansgate-Castlefield	Minor Adverse	Not Significant
RAIL 1-2	Westbound trains from Manchester Oxford Road Station to Deansgate Station	Moderate Adverse	Significant
RAIL 3-6	Eastbound trains from Trafford Park	Minor to Moderate Adverse until 2-4 Whitworth St West is implemented, then Minor Adverse	Significant Not Significant
RAIL 3, 4 & 7	Eastbound trains from Salford	Minor Adverse	Not Significant

13.5.72 Long-term, significant adverse effects are predicted to occur for a driver at five road locations and two tram/rail lines. Short-term, significant adverse effects are predicated to occur for a train driver on one train line up until the point that the cumulative scheme 2-4 Whitworth Street West is implemented when the effects would reduce to not significant.

13.5.73 Given the location of the Site and scale of the Proposed Development, potential for reflections from the Proposed Development are unavoidable. It should be noted that the assessment considers a scenario whereby the sun shines on every day of the year to consider all potential circumstances in which reflections will occur (i.e. 'worst case'). According to the sunlight availability protractor, based on UK weather data, the sunshine probability will be substantially reduced and therefore the likelihood of the instances of reflections are reduced accordingly. The probability of the sun

shining during the times of the year when significant potential effects are expected to occur ranges from 10% to 40%.

13.5.74 Furthermore, the assessment does not include the sun itself within any viewpoints which would also cause very intense glare to drivers at many of the affected viewpoints. For the majority of viewpoints, the sun would be directly visible at other times of the day if the Proposed Development were not present as seen in the solar glare assessment in Appendix 13.2. In comparison, the reflections from the Proposed Development would appear less intense and would not cause substantially worse effects when compared with a direct view of the sun.

13.6 Mitigation and Monitoring

Construction Mitigation

13.6.1 It is not necessary to include temporary mitigation measures during the construction phase. All mitigation embedded within the design of the facades and mitigation measures recommended for the Operational Phase would apply to the construction phase also.

Construction Monitoring

13.6.2 No construction monitoring is proposed.

Operational Mitigation

13.6.3 In order to mitigate the likely significant effects associated with the operation of the Proposed Development, the following secondary mitigation measures are proposed beyond the primary mitigation that has already been considered in the assessment.

13.6.4 Low-reflectance glazing should be specified across the full height of the eastern elevation (inclusive of the lower-mid levels of the chamfered corners), the upper floors of the southern elevation and the lower-mid levels of the western elevation, subject to further detailed testing during the detailed design development of the façade specifications. The further detailed testing would establish the appropriate Visible Light Reflectance (VLR) of glazing to be specified in order to mitigate the significant effects as much as is practically possible.

13.6.5 Implementing low VLR glazing to the identified areas would minimise the potential for glare and the significant effects that have been reported. The effect at three road locations and all three affected tram/train tracks would likely be reduced to Minor Adverse and not significant through the use of appropriate glazing. The other two

road locations have reflections that occur near a driver's direct line of sight and would remain significant but the potential for the reflections to be considered an instance of glare are reduced.

13.6.6 It is recommended that the proposed mitigation is secured via planning condition, prior to implementation of the facades. A solar glare technical note should be provided to discharge the condition which demonstrates how the proposed glazing has minimised the potential for solar glare effectively through the selection of low VLR glazing.

Operational Monitoring

13.6.7 No operational monitoring is proposed.

13.7 Residual Effects

13.7.1 Following successful implementation of the additional mitigation measures, no significant effects would be experienced at eight road locations and all five tram / train lines. As set out above the effect at three road locations and all three affected tram/train tracks would likely be reduced to Minor Adverse and not significant through the use of appropriate glazing.

13.7.2 Significant effects would remain at two road locations, Lower Mosley Street junction with Bishopsgate (LMS4) and Whitworth Street West junction with Albion Street (WSW2) which would both experience Moderate Adverse impacts in terms of solar glare.

13.7.3 At the Lower Mosley Street junction with Bishopsgate, given the dynamic nature of traffic movement, the potential effects as reported would only occur momentarily when looking precisely at the affected traffic light, 12 metres from the junction and within just one hour of the day, on sunny days for just four months of the year from each area. Each instance of reflection would only occur for less than 2 minutes at a time. Given the momentary nature of the reflections, the probability of the sun shining when reflections could occur (20 - 40% of the time) and the ability to make use of alternative traffic lights to respond safely, the effects are not considered to present a safety concern.

13.7.4 At the Whitworth Street West junction with Albion Street, given the dynamic nature of traffic movement, the potential effects as reported would only occur momentarily when looking precisely at the affected traffic light, 12 metres from the junction and within just one hour of the day, on sunny days for just two-four months of the year

from each area. Each instance of reflection would only occur for c. 4 minutes at a time. Given the momentary nature of the reflections, the probability of the sun shining when reflections could occur (10 - 40% of the time) and the ability to make use of alternative traffic lights to respond safely, the effects are not considered to present a safety concern.

13.8 Assessment of Cumulative Effects

13.8.1 For Solar Glare, the worst-case scenario is portrayed by the Proposed Development in isolation. The cumulative effects have not been considered as neighbouring Committed Developments (i.e. those with an extant/valid planning permission) can block sunlight reaching the facades of the Proposed Development and/or obscure the Proposed Development from the viewpoints to be assessed and as a result, lessen the effects. This approach is common practice.

13.8.2 As such, the cumulative effects in terms of solar glare would be a per the post-mitigation residual effects of Operational Phase of negligible adverse to long-term, moderate adverse and significant.

13.9 Summary

13.9.1 Solar glare assessments are considered necessary when a proposed development has sections of glazed façade or reflective cladding that may reflect sunlight and obstruct the vision of road users and train / tram drivers.

13.9.2 The assessments are conducted using a 3D computer model of the area created using photogrammetry and architectural models as a reference.

13.9.3 Viewpoints are chosen surrounding the development in order to give a realistic representation of potential instances of solar reflections. Viewpoints are located at a focal point such as traffic signal, pedestrian crossing or incoming traffic for major road locations within 500 metres of the Site.

13.9.4 The assessment results show the time period and months in which potential solar reflections can occur. The assessment shows a worst-case scenario, as a clear sky is necessary for solar reflections to occur, which in the UK is often not the case.

13.9.5 Whilst the assessment details the effects at various viewpoints of a junction / location, the receptor is a driver of a car at the road location or on train / tram lines, as such, the junctions, road or rail locations are assessed as a whole, considering the main viewpoints of a driver.

13.9.6 Solar glare is not a comparative assessment and instead assesses any occurrences from the Proposed Development in absolute terms.

13.9.7 Even if solar glare does occur from existing site buildings, this does not necessarily justify its occurrence from the Proposed Development. However, it should be noted that the Proposed Development will be located on a Site where its existing state is free from structures, thus there is no opportunity for instances of solar glare from the existing Site to be experienced. Solar glare from surrounding buildings is not assessed.

13.9.8 Overall, 10 locations sensitive for road users and five train / tram lines sensitive for drivers have been identified and assessed. Long-term significant effects have been identified at the following seven locations/tracks prior to the implementation of additional mitigation:

- LMS4 - Lower Mosley Street junction with Bishopsgate;
- LMS3 - Lower Mosley Street pedestrian crossing;
- LMS2 - Lower Mosley Street junction with Great Bridgewater Street;
- WSW2 - Whitworth Street West junction with Albion Street;
- MS1 - Medlock Street junction;
- TRAM 1-4 - Southbound trams from St Peter's Square to Deansgate-Castlefield; and
- Rail 1-2 - Westbound trains from Manchester Oxford Road Station to Deansgate Station.

13.9.9 Short-term significant effects, prior to the implementation of additional mitigation, have been identified at the following track, up until the point that the neighbouring cumulative scheme 2-4 Whitworth Street West is implemented, following which the effect reduces to Minor Adverse and not significant:

- Rail 3-6 - Eastbound trains from Trafford Park.

13.9.10 Given the location of the Site and scale of the development, the potential for reflections from the Proposed Development are unavoidable. It should be noted that the assessment considers a scenario whereby the sun shines on every day of the year to consider all potential circumstances in which reflections will occur (i.e. 'worst case'). According to the sunlight availability protractor, based on UK weather data,

the sunshine probability will be substantially reduced and therefore the likelihood of the instances of reflections are considerably reduced.

13.9.11 The probability of the sun shining during the times of the year when significant potential effect are expected to occur ranges from 10% to 40%.

13.9.12 The assessment does not include the sun itself within any viewpoints which would also cause very intense glare to drivers at all of the affected viewpoints. For the majority of affected viewpoints, the sun would be directly visible at other times of the day if the Proposed Development were not present as seen in the solar glare assessment. In comparison, the reflections from the Proposed Development would appear less intense and would not cause substantially worse effects when compared with a direct view of the sun.

13.9.13 To reduce the significant effects identified, low reflectance glazing is required to reduce the intensity of any reflections that occur. It is recommended that low-reflectance glazing is specified on the eastern elevation, including the chamfered corners, the upper floors of the southern elevation and lower-mid floors of the western elevation subject to further detailed testing during the detailed design development of the façade specifications. The further detailed testing would establish the appropriate Visible Light Reflectance (VLR) of glazing to be specified in order to mitigate the significant effects as much as is practically possible.

13.9.14 With the incorporation of these mitigation strategies, the post-mitigation residual effects would reduce at five locations / tracks. Moderate adverse and significant effects would remain at the two locations listed below, however the solar glare effects have been mitigated to the greatest extend feasible and the intensity of any reflections minimised:

- LMS4 - Lower Mosley Street junction with Bishopsgate – Moderate Adverse and significant; and
- WSW2 - Whitworth Street West junction with Albion Street – Moderate Adverse and significant.

13.9.15 For the two road locations, given the dynamic nature of traffic movement, the potential effects as reported would only occur momentarily when looking precisely at the affected traffic light, 12 metres from the junction and within just one hour of the day, on sunny days for no more than four months of the year from each area. Each instance of reflection would only occur for no more than 4 minutes at a time.

Given the momentary nature of the reflections, the probability of the sun shining when reflections could occur (10% - 40% of the time) and the ability to make use of alternative traffic lights to respond safely, the effects are not considered to present a safety concern.

13.9.16 A summary of the likely significant residual effects of the Proposed Development on the receptors considered within this Chapter are summarised in Table 13.13 below.

Table 13.13: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Effect	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Road locations at: - WS - BS1	Solar Glare impacting the visibility of road users							✓	Negligible Adverse	Lt/Ir	Not Significant	None required
Road locations at: - CS - AS	Solar Glare impacting the visibility of road users							✓	Minor Adverse	Lt/Ir	Not Significant	
Tram/Train lines at: - RAIL 3, 4 & 7	Solar Glare impacting the visibility of train drivers							✓	Minor Adverse	Lt/Ir	Not Significant	
Road locations at: - CSCP - LMS3 - LMS2 - MS1	Solar Glare impacting the visibility of road users							✓	Minor Adverse	Lt/Ir	Not Significant	Low VLR glazing, as required by further detailed testing. To be secured via planning condition
Tram/Train lines at: - TRAM 1-4 - TRAM 5-7 - RAIL 1-2 - RAIL 3-6	Solar Glare impacting the visibility of train/tram drivers							✓	Minor Adverse	Lt/Ir	Not Significant	
Road locations at: - LMS4 - WSW2	Solar Glare impacting the visibility of road users							✓	Moderate Adverse	Lt/Ir	Significant	

Key:
Geographical Significance: I = International N = National R = Regional C = County D = District P = Parish L = Low to Local
Nature: St = Short Term Mt = Medium Term Lt = Long Term R = Reversible Ir = Irreversible

14 SUMMARY OF RESIDUAL AND CUMULATIVE EFFECTS

14.1 Residual Effects

14.1.1 A description of the mitigation measures has been set out within each technical chapter. These measures have been used to reduce impacts to the lowest practicable level consistent with the overall objectives of the scheme. Following the implementation of the mitigation measures outlined within each technical chapter, some residual environmental effects have been assessed as being significant, as summarised within Table 14.1 below. Further details are provided within the relevant technical chapter.

Table 14.1: Summary of Significant Residual Effects

Technical Chapter	Significant Residual Effects?
Air Quality	No
Noise and Vibration	Yes (adverse)
Built Heritage, Townscape and Visual Impact Assessment	No
Daylight, Sunlight and Overshadowing	No
Wind Microclimate	No
Socio-economic	Yes (beneficial)
Climate Change	Yes (adverse)
Solar Glare	Yes (adverse)

14.1.2 The Proposed Development will result in adverse significant residual effects for Noise and Vibration, Climate Change, and Solar Glare. Significant beneficial residual effects have been identified when considering the socio-economic impacts of the Proposed Development.

Noise and Vibration

14.1.3 The receptors that are predicted to experience significant effects as a result of construction noise from substructure and superstructure works are:

- Residential receptors (Viadux 1);
- Future development (Viadux 2);
- Residential premises (Axis Apartments);
- Offices/commercial premises (Army Careers);
- Residential premises (Hacienda);
- Office/commercial (2 Whitworth Street);

- Office/commercial (4 Whitworth Street); and
- Hotel (INNSiDE by Melia).

14.1.3 The receptors that are predicted to experience significant effects as a result of construction noise from substructure and superstructure works, and construction vibration form piling are:

- Residential premises (Ropeworks Block A); and
- Residential premises (Ropeworks Block B).

14.1.4 The detailed CEMP will set out details of noise and vibration control and management procedures that shall be adopted to minimise noise from all construction activities.

Socio-economics

14.1.5 Construction jobs created and safeguarded will have a positive economic benefit. The Proposed Development could generate 73 FTE per annum at the Manchester and 159 FTE per annum at the Greater Manchester scale for the 3 years during construction. This will result in a moderate beneficial effect (significant) at the local scale.

14.1.6 The construction phase of the Proposed Development will contribute to the Manchester economy by an estimated £4.5 million GVA per annum over the three year construction phase. This would result in a moderate beneficial effect (significant) to the Manchester economy.

14.1.7 On the assumption that the Proposed Development will be fully occupied on completion and accommodate one person per bed-space, the 818 bed-space scheme will generate a new resident student population of up to 818 people across a range of ages, including those who are economically active. Consequently, a moderate beneficial effect (significant) will be made to diversifying local student housing provision.

14.1.8 The additional new students (up to 818) residing at the Proposed Development will generate additional local expenditure on living expenses, food, retail, and leisure activities. The total likely expenditure will be in the order of £5.33 million per annum. The effect of additional expenditure during the operational phase is moderate beneficial (significant) to the City Centre and Manchester economies.

Climate Change

14.1.9 The estimated worst case embodied carbon emissions for the Proposed Development would lead to a Moderate Adverse effect (significant). Additionally, operational emissions relating to energy use and water use will need to be considered across the life span of the Proposed Development, resulting in significant adverse effects. However, the Proposed Development will be designed and implemented with mitigation measures to reduce its carbon impact, such as: optimising material usage; specification of lower Embodied Carbon materials and/or where possible materials with high recycled content; and specification of materials with longer service lives.

Solar Glare

14.1.10 Significant solar glare effects would exist at two road locations (Lower Mosley Street junction with Bishopsgate and Whitworth Street West junction with Albion Street) which would both experience Moderate Adverse impacts. At these locations, each instance of reflection would only occur for a short amount of time due to traffic movement, the probability of the sun shining, and the ability to make use of alternative traffic lights to respond safely, the effects are not considered to present a safety concern.

14.1.11 Further details on the likely significant residual effects of the Proposed Development on the receptors identified within this ES are summarised in Table 14.2 below.

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Air Quality												
Dust Soiling	Dust Impacts (Earthworks)							X	Negligible Adverse	Mt	Not significant	Good practice dust control measures.
Human Health								X	Negligible Adverse	Mt	Not significant	
Dust Soiling	Dust Impacts (Construction)							X	Negligible Adverse	Mt	Not significant	
Human Health								X	Negligible Adverse	Mt	Not significant	
Dust Soiling	Dust Impacts (Trackout)							X	Negligible Adverse	Mt	Not significant	
Human Health								X	Negligible Adverse	Mt	Not significant	
Noise and Vibration												
Viadux 1, Viadux 2, Axis Apartments, Hacienda, Ropeworks Block A, Ropeworks Block B, INNSiDE by Melia	Construction noise from substructure and superstructure works							X	Major Adverse	ST, T, D	Significant	Core working hours shall be maintained, Best Practice Measures shall be adopted secured through a detailed CEMP submitted to the local planning authority. Measures include Proper maintenance of plant, fitting of silencers, and suitable location of

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
												construction plant items.
Army Careers, 2 Whitworth Street, 4 Whitworth Street	Construction noise from substructure and superstructure works							X	Moderate adverse	ST, T, D	Significant	Core working hours shall be maintained, Best Practice Measures shall be adopted secured through a detailed CEMP submitted to the local planning authority. Measures include Proper maintenance of plant, fitting of silencers, and suitable location of construction plant items.
Deansgate Locks, Lock 91, City Road, Junkyard Golf	Construction noise from substructure works							X	Minor adverse	ST, T, D	Not significant	Core working hours shall be maintained, Best Practice Measures shall be adopted secured through a detailed CEMP submitted to the local planning authority. Measures include Proper maintenance of plant, fitting of silencers,

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
												and suitable location of construction plant items.
Deansgate Locks, City Road	Construction noise from superstructure works							X	Minor adverse	ST, T, D	Not significant	Core working hours shall be maintained, Best Practice Measures shall be adopted secured through a detailed CEMP submitted to the local planning authority. Measures include Proper maintenance of plant, fitting of silencers, and suitable location of construction plant items.
Rebellion, 88 Hewitt Road	Construction noise from substructure works							X	Negligible	ST, T, D	Not significant	Core working hours shall be maintained, Best Practice Measures shall be adopted secured through a detailed CEMP submitted to the local planning authority. Measures include Proper maintenance of

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
												plant, fitting of silencers, and suitable location of construction plant items.
Lock 91, Rebellion, 88 Hewitt Road, Junkyard Golf	Construction noise from superstructure works							X	Negligible	ST, T, D	Not significant	Core working hours shall be maintained, Best Practice Measures shall be adopted secured through a detailed CEMP submitted to the local planning authority. Measures include Proper maintenance of plant, fitting of silencers, and suitable location of construction plant items.
All receptors	Noise from construction traffic							X	Negligible	ST, T, D	Not significant	Core working hours shall be maintained, Best Practice Measures shall be adopted secured through a detailed CEMP submitted to the local planning authority. Measures include

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
												staggered vehicle arrival and departures, and management of vehicle parking to prevent idling.
Ropeworks Block A and Ropeworks Block B	Construction vibration from piling								Moderate adverse	Lt, T, D	Significant	Core working hours shall be maintained, Best Practice Measures shall be adopted secured through a detailed CEMP submitted to the local planning authority. Measures include Proper maintenance of plant, fitting of silencers, and suitable location of construction plant items.
Viadux 1, Viadux 2m, Axis Apartments, Hacienda, 4 Whitworth Street, 88 Hewitt Road, INNSiDE by Melia	Construction vibration from piling							X	Minor adverse	Lt, T, D	Not significant	Core working hours shall be maintained, Best Practice Measures shall be adopted secured through a detailed CEMP submitted to the local planning authority.

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
												Measures include Proper maintenance of plant, fitting of silencers, and suitable location of construction plant items.
Army Careers, Lock 91 , Deansgate Locks, Rebellion, 12 Whitworth Street, City Road, Junkyard Golf	Construction vibration from piling							X	Negligible	Lt, T, D	Not significant	Core working hours shall be maintained, Best Practice Measures shall be adopted secured through a detailed CEMP submitted to the local planning authority. Measures include Proper maintenance of plant, fitting of silencers, and suitable location of construction plant items.
Built Heritage, Townscape and Visual Impact Assessment												
Construction												
Heritage												
Castlefield Conservation Area	Appearance of construction activities in the setting of the							X	Mt & R	Negligible Adverse	Not Significant	None Required

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
	built heritage receptor											
St Peter's Square	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
George Street Conservation Area	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Albert Square	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Upper King Street	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Town Hall	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Albert Memorial	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Old Warehouse to North of former Liverpool Road Railway Station	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Manchester Art Gallery	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Former Liverpool Road Railway Station, Station Masters House	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
G Mex	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Deansgate Goods Station and attached Carriage Ramp	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Midland Hotel	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Central Public Library	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Manchester War Memorial	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
The Athenaeum	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Church of St George	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Rochdale Canal Lock No. 90, Approx. 30 None Nil metres West of Albion Bridge	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	Minor Adverse	Not Significant	None Required
13-17, Albion Street	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Manchester South Junction and Altrincham Railway Viaduct	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
The Britons Protection Public House	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Rochdale Canal Lock Keepers Cottage at Lock	Appearance of construction activities in the setting of the							X	Mt & R	None	Not Significant	None Required

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
No. 91, Next to Gaythorn Tunnel	built heritage receptor											
Rochdale Canal Lock No. 91 at East End of Gaythorn Tunnel	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Deansgate Station	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Rochdale Canal Lock No. 89 (Tib Lock), on South Side of Havelock Mills	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Boundary Stone on Knott Mill Bridge, and Floodgate on East Side of Knott Mill Bridge	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Former Congregational Chapel	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	Negligible Adverse	Not Significant	None Required
Electricity Junction Box in Castlefield Canal Basin, Manchester	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Castlefield Information Centre	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Electricity Junction Box in Castlefield Canal Basin, Manchester	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Chepstow House	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Former Market Hall	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Electricity Junction Box on Castle Street, Manchester	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
29-41, Liverpool Road	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Castlefield Railway Viaduct from G-Mex to Dawson Street	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
The Ritz Dance Hall	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Canda House	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Museum of Science and Industry, Air and Space Museum	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Manchester & Salford Junction Canal Tunnel	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Manchester Oxford Road Station (including Platform Structures)	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Nos 25 to 31 and attached former Chapel	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Former St Matthews Sunday School	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Chorlton Old Mill	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Rochdale Canal Lock No. 92 and Castle Street Bridge	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Merchants Warehouse	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Mill on Northeast Corner of Junction with Chester Street	Appearance of construction activities in the setting of the built heritage receptor							X	Mt & R	None	Not Significant	None Required
Townscape												
Townscape Character Area 1: Petersfield	Construction activities on the Site which is located in this Character Area					X			Mt & R	Minor / Moderate Adverse	Not Significant	None - embedded in construction management
Townscape Character Area 2: First Street	Appearance of construction activities in the wider townscape area surrounding the receptor					X			Mt & R	Negligible Adverse	Not Significant	None Required
Townscape Character Area 3: Castlefield	Appearance of construction activities in the wider townscape area surrounding the receptor					X			Mt & R	Negligible Adverse	Not Significant	None Required
Townscape Character Area 4: Great Jackson Street	Appearance of construction activities in the wider townscape area surrounding the receptor					X			Mt & R	Negligible Adverse	Not Significant	None Required
Townscape Character Area 5: St John's	Appearance of construction activities in the wider townscape area surrounding the receptor					X			Mt & R	Negligible Adverse	Not Significant	None Required
Character Area 6: Hulme Park	Appearance of construction activities in the wider townscape area surrounding					X			Mt & R	Negligible Adverse	Not Significant	None Required

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
	the receptor											
Visual												
Visual Receptors												
Pedestrians using Mosley Street and Lower Mosley Street	Appearance construction activity in the view							X	Mt & R	Negligible Adverse	Not Significant	None Required
Pedestrians using Whitworth Street West	Appearance construction activity in the view							X	Mt & R	Minor Adverse	Not Significant	None Required
Users of Whitworth Steet West	Appearance construction activity in the view							X	Mt & R	Minor Adverse	Not Significant	None Required
Users of Medlock Street	Appearance construction activity in the view							X	Mt & R	Negligible Adverse	Not Significant	None Required
Users of Chester Road	Appearance construction activity in the view							X	Mt & R	Negligible Adverse	Not Significant	None Required
Static Views												
View 9: Castle Street	Appearance construction activity in the view							X	Mt & R	Negligible Adverse	Not Significant	None Required
View 10: Albert Square	Appearance construction activity in the view							X	Mt & R	Negligible Adverse	Not Significant	None Required
View 11: Windmill Street	Appearance construction activity in the view							X	Mt & R	Negligible Adverse	Not Significant	None Required
View 12: St Ann's Square	Appearance construction activity in the view							X	Mt & R	None	Not Significant	None Required
Completed												
Heritage												
Castlefield Conservation Area	New development appearing in the setting of the built							X	Lt & Ir	Minor Neutral	Not Significant	None Required

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
	heritage receptor											
St Peter's Square	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	Negligible Neutral	Not Significant	None Required
George Street Conservation Area	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Albert Square	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Upper King Street	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Town Hall	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Albert Memorial	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Old Warehouse to North of former Liverpool Road Railway Station	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Manchester Art Gallery	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Former Liverpool Road Railway Station, Station Masters House	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
G Mex	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	Minor Neutral	Not Significant	None Required

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Deansgate Goods Station and attached Carriage Ramp	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Midland Hotel	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Central Public Library	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Town Hall Extension	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Manchester War Memorial	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
The Athenaeum	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Church of St George	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Rochdale Canal Lock No. 90, Approx. 30 metres West of Albion Bridge	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
13-17, Albion Street	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Manchester South Junction and Altrincham Railway Viaduct	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
The Britons Protection Public House	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Rochdale Canal Lock Keepers Cottage at Lock No. 91, Next to Gaythorn Tunnel	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Rochdale Canal Lock No. 91 at East End of Gaythorn Tunnel	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Deansgate Station	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	Negligible Neutral	Not Significant	None Required
Rochdale Canal Lock No. 89 (Tib Lock), on South Side of Havelock Mills	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Boundary Stone on Knott Mill Bridge, and Floodgate on East Side of Knott Mill Bridge	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Former Congregational Chapel	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	Minor Neutral	Not Significant	None Required
Electricity Junction Box in Castlefield Canal Basin, Manchester	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Castlefield Information Centre	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Electricity Junction Box in Castlefield Canal Basin, Manchester	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Chepstow House	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Former Market Hall	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Electricity Junction Box on Castle Street, Manchester	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
29-41, Liverpool Road	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Castlefield Railway Viaduct from G-Mex to Dawson Street	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
The Ritz Dance Hall	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Canda House	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Museum of Science and Industry, Air and Space Museum	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Manchester & Salford Junction Canal Tunnel	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Manchester Oxford Road Station (including Platform Structures)	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Nos 25 to 31 and attached former Chapel	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Former St Matthews Sunday School	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Chorlton Old Mill	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Rochdale Canal Lock No. 92 and Castle Street Bridge	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Merchants Warehouse	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Mill on Northeast Corner of Junction with Chester Street	New development appearing in the setting of the built heritage receptor							X	Lt & Ir	None	Not Significant	None Required
Townscape												
Townscape Character Area 1: Petersfield	Introduction of new uses and development to the site which falls within the Character Area					X			Lt & Ir	Moderate Beneficial	Significant	None Required
Townscape Character Area 2: First Street	New uses and development in the wider setting of the townscape receptor					X			Lt & Ir	Minor Beneficial	Not Significant	None Required
Townscape Character Area 3: Castlefield	New uses and development in the wider setting of the townscape receptor					X			Lt & Ir	Minor / Moderate Beneficial	Not Significant	None Required
Townscape Character Area 4: Great Jackson Street	New uses and development in the wider setting of the townscape receptor					X			Lt & Ir	Negligible Beneficial	Not Significant	None Required
Townscape Character Area 5: St John's	New uses and development in the wider setting of the townscape receptor					X			Lt & Ir	Negligible Beneficial	Not Significant	None Required
Character Area 6: Hulme Park	New uses and development in the wider setting of the townscape receptor					X			Lt & Ir	Negligible Neutral	Not Significant	None Required

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Visual												
Visual Receptors												
Pedestrians using Mosley Street and Lower Mosley Street	The appearance of development in views and the subsequent change to visual amenity							X	Lt & Ir	Minor / Moderate Beneficial	Not Significant	None Required
Pedestrians using Whitworth Street West	The appearance of development in views and the subsequent change to visual amenity							X	Lt & Ir	Minor Beneficial	Not Significant	None Required
Users of Whitworth Steet West	The appearance of development in views and the subsequent change to visual amenity							X	Lt & Ir	Minor Beneficial	Not Significant	None Required
Users of Medlock Street	The appearance of development in views and the subsequent change to visual amenity							X	Lt & Ir	Minor / Moderate Beneficial	Not Significant	None Required
Users of Chester Road	The appearance of development in views and the subsequent change to visual amenity							X	Lt & Ir	Minor Beneficial	Not Significant	None Required
Static Views												
View 9: Castle Street	The appearance of development in the view and the subsequent change to visual amenity							X	Lt & Ir	Negligible Neutral	Not Significant	None Required
View 10: Albert Square	The appearance of development in the view and the subsequent change to visual amenity							X	Lt & Ir	Negligible Neutral	Not Significant	None Required
View 11: Windmill Street	The appearance of development in the view and the subsequent change to visual amenity							X	Lt & Ir	Negligible Beneficial	Not Significant	None Required
View 12: St Ann's Square	The appearance of development in the view and the subsequent change to visual amenity							X	Lt & Ir	None	Not Significant	None Required

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Daylight, Sunlight and Overshadowing												
Hill Quays	Reduction in daylight levels							X	Minor Adverse	Ir	Not Significant	None
Riverside Mews	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
The Rhine	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
The Nile	Reduction in daylight levels							X	Minor Adverse	Ir	Not Significant	None
30 City Road East	Reduction in daylight levels							X	Minor Adverse	Ir	Not Significant	None
14 Albion Street	Reduction in daylight levels							X	Major Adverse	Ir	Not Significant	None
The Hacienda	Reduction in daylight levels							X	Minor Adverse	Ir	Not Significant	None
326-330 Deansgate	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
The Ropeworks	Reduction in daylight levels							X	Major Adverse	Ir	Not Significant	None
21 Little Peter Street	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
8-16 Bridgewater St	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
20 Southern Street	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
18-12 Southern St	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
8-10 Southern Street	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
Deansgate Quay	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
357-361 Deansgate	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
Lumiere Building	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
The Danube	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
AXIS TOWER	Reduction in daylight levels							X	Moderate Adverse	Ir	Not Significant	None
Viadux - Phase 1	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
Beetham Tower	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
325 Deansgate APTH	Reduction in daylight levels							X	Negligible	Ir	Not Significant	None
Hill Quays	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
Riverside Mews	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
The Rhine	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
The Nile	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
30 City Road East	Reduction in sunlight levels							X	n/a	n/a	n/a	n/a
14 Albion Street	Reduction in sunlight levels							X	n/a	n/a	n/a	n/a
The Hacienda	Reduction in sunlight levels							X	Minor Adverse	Ir	Not Significant	None
326-330 Deansgate	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
The Ropeworks	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
21 Little Peter Street	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
8-16 Bridgewater St	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
20 Southern Street	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
18-12 Southern St	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
8-10 Southern Street	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
Deansgate Quay	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
357-361 Deansgate	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
Lumiere Building	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
The Danube	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
AXIS TOWER	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
Viadux - Phase 1	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
Beetham Tower	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
325 Deansgate APTH	Reduction in sunlight levels							X	Negligible	Ir	Not Significant	None
Rochdale Canal Area 01 - West	Increase in shadow levels							X	Negligible	Ir	Not Significant	None
Rochdale Canal Area 02 - East	Increase in shadow levels							X	Negligible	Ir	Not Significant	None
Social terrace along the canal	Increase in shadow levels							X	Negligible	Ir	Not Significant	None

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Wind Microclimate												
Construction Effects												
Thoroughfares, crossings, and Roadways	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							X	Negligible Neutral	St	Not Significant	N/A
Existing off-site entrances	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							X	Negligible Neutral to Minor Beneficial	St	Not Significant	N/A
Bus stop on Whitworth Street West	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							X	Negligible Neutral	St	Not Significant	N/A
Deansgate tram stop platforms	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							X	Negligible Neutral	St	Not Significant	N/A
First Street mixed amenity	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							X	Negligible Neutral	St	Not Significant	N/A
Deansgate Locks amenity	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							X	Negligible Neutral	St	Not Significant	N/A
Hewitt Street roof terraces	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							X	Negligible Neutral	St	Not Significant	N/A

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
All wind receptors	Impacts on pedestrian safety due to changes in pedestrian level wind speeds							X	Negligible Neutral	St	Not Significant	N/A
Operational Effects												
Thoroughfares, crossings, and Roadways	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							X	Negligible Neutral	Lt	Not Significant	N/A
Proposed entrances	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							X	Negligible Neutral	Lt	Not Significant	N/A
Proposed roof terrace	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							X	Negligible Neutral	Lt	Not Significant	N/A
Existing off-site entrances	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							X	Negligible Neutral to Minor Beneficial	Lt	Not Significant	N/A
Bus stop on Whitworth Street West	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							X	Negligible Neutral	Lt	Not Significant	N/A
Deansgate tram stop platforms	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							X	Negligible Neutral	Lt	Not Significant	N/A
First Street mixed amenity	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							X	Negligible Neutral	Lt	Not Significant	N/A

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Deansgate Locks amenity	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							X	Negligible Neutral	Lt	Not Significant	N/A
Hewitt Street roof terraces	Impacts on pedestrian comfort due to changes in pedestrian level wind speeds							X	Negligible Neutral	Lt	Not Significant	N/A
All wind receptors	Impacts on pedestrian safety due to changes in pedestrian level wind speeds							X	Negligible Neutral	Lt	Not Significant	N/A
Socio-Economics												
Local labour market	Construction - Direct and Induced employment						X	X	Moderate	St, Ir	Significant	None required
Local labour market	Construction - Direct and Induced employment				X	X			Minor	St, Ir	Not Significant	
Existing businesses	Construction – Gross Value Added (GVA)					X	X	X	Moderate	St, Ir	Significant	
Student population	Diversifying local student housing provision					X	X	X	Moderate	Lt, Ir	Significant	
Student population	Diversifying local student housing provision			X	X				Minor	Lt, Ir	Not significant	
Labour market	Operational phase - FTE gross direct jobs				X	X			Negligible	Lt, R	Not significant	
Labour market	Student employment levels					X	X	X	Minor	Lt, R	Not significant	

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Education providers	Education					X			Minor	Lt, R	Not significant	
Local economy	Overall GVA uplift				X	X	X	X	Minor	Lt, Ir	Not significant	
Businesses	Operational phase – Additional expenditure					X	X	X	Moderate	St, Ir	Significant	
Business and Visitors	Visitor and Tourism economy					X	X		Negligible	Lt, R	Not significant	
Health facilities	Healthcare provision					X	X	X	Minor	Lt, R	Not significant	
Residents	Crime					X	X	X	Minor	Lt, Ir	Not significant	
Climate Change												
Embodied Carbon Emissions (Global)	Embodied GHG emissions produced during the Proposed Development's life cycle (Life cycle modules A1-A5, B1-B5, C1-C4).	X							Moderate Adverse	Ir	Significant	Optimising material usage; Specification of lower Embodied Carbon materials and/or where possible materials with high recycled content. Specification of materials with longer service lives.

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Operational Energy Emissions (Global)	GHG emissions produced by operational energy consumption (Life Cycle Stage B6).	X							Minor Adverse / Negligible (Adverse)	Ir	Not significant	Installing energy efficient technology across the Site and Air Source Heat Pumps.
Operational Energy Emissions (Global)	GHG emissions produced by operational energy consumption (Life Cycle Stage B6).	X							Minor Adverse / Negligible (Adverse)	Ir	Not significant	Incorporating passive design measures within the development to naturally reduce the energy demand. Further developing the projects Energy designs in line with the Energy hierarchy to further lower the operational energy emissions of the development.
Solar Glare												
Road locations at: - WS - BS1	Solar Glare impacting the visibility of road users							X	Negligible Adverse	Lt/Ir	Not Significant	None required
Road locations at: - CS - AS	Solar Glare impacting the visibility of road users							X	Minor Adverse	Lt/Ir	Not Significant	

Table 14.2: Summary of Residual Effects

Receptor	Description Of Impact	Geographical Significance							Impact	Nature	Significance	Mitigation Measures
		I	N	R	C	D	P	L				
Tram/Train lines at: - RAIL 3, 4 & 7	Solar Glare impacting the visibility of train drivers							X	Minor Adverse	Lt/Ir	Not Significant	
Road locations at: - CSCP - LMS3 - LMS2 - MS1	Solar Glare impacting the visibility of road users							X	Minor Adverse	Lt/Ir	Not Significant	Low VLR glazing, as required by further detailed testing. To be secured via planning condition
Tram/Train lines at: - TRAM 1-4 - TRAM 5-7 - RAIL 1-2 - RAIL 3-6	Solar Glare impacting the visibility of train/tram drivers							X	Minor Adverse	Lt/Ir	Not Significant	
Road locations at: - LMS4 - WSW2	Solar Glare impacting the visibility of road users							X	Moderate Adverse	Lt/Ir	Significant	

14.2 Cumulative Effects

14.2.1 When considering potential significant cumulative impacts, the assessments have (where appropriate) considered:

- Intra-cumulative effects (i.e. those occurring because of interactions between impacts of the Proposed Development e.g. where noise and air quality are separately assessed to affect the same receptor); and
- Inter-cumulative effects (i.e. those occurring because of the Proposed Development in combination with other development).

14.2.2 An assessment of the potential cumulative effects was undertaken within each of the technical chapters. A summary of the cumulative effects of the scheme is provided below and within Table 14.3, with further details provided within each technical chapter (Chapters 6 – 13).

Intra-cumulative effects

14.2.3 The EIA has taken into consideration where a significant residual effect is expected to occur on a particular receptor because of collective actions, aspects or impacts of the Proposed Development. These inter-relationships have been considered within each technical chapter as relevant, however no significant intra-cumulative effects have been identified.

Inter-cumulative effects

14.2.4 In relation to inter-cumulative effects, the EIA has considered committed developments in the area surrounding the Site which, in conjunction with the Proposed Development, could collectively impose a significant impact on the environment.

Table 14.3: Summary of Cumulative Effects	
Technical Chapter	**Summary of Cumulative Effects**
Air Quality	There is potential for concurrent dust generation from the surrounding area and the potential for cumulative effects. However, providing each site correctly implements their recommended mitigation measures in addition to good inter-site communication, it is anticipated that cumulative effects would be not significant.
Noise and Vibration	The demolition and construction cumulative predictions typically result in similar impact to shared receptors, it is expected that significance levels could increase from 'moderate adverse' to 'major adverse' at Army Careers (commercial), and minor adverse to major adverse at City Road (drinking establishment). The predictions for road traffic noise indicate no change in ambient noise levels due to increase in traffic introduced due to the Proposed Development taking place. The cumulative effect from other developments is therefore expected to be Negligible (not significant), local, permanent, and direct at all shared receptors. The building services noise associated with the Cumulative Schemes will be controlled to meet the same conditions as imposed on the Proposed Development and receptors closest to them. As a result, the cumulative effects of building services noise are likely to remain Negligible (not significant).
Built Heritage, Townscape and Visual Impact Assessment	The cumulative condition demonstrates a continued intensification of the well established secondary skyline that surrounds, but remains visually separate from, the historic core of Manchester. When seen together, the wider cumulative visual impact would lead to an intensification of development that would create a visual change within the setting of several receptors. However, the visual impact of the cumulative scenario would not combine with the impact of the Proposed Development so that it would alter its setting to the point that the cumulative scenario would impact the assessment of the Proposed Development in isolation. For most of the heritage receptors located some distance from the Site, the Proposed Development in the cumulative condition would be viewed as contributing to an existing context that forms a key feature in the setting of the listed buildings. This would not result in additional effects arising over and above those already identified in the assessment of the Proposed Development in isolation. Within the broader cityscape, the Proposed Development and surrounding cumulative schemes together reinforce Manchester's identity as a contemporary metropolitan centre, where the contrast between historic industrial townscape and modern high rise forms are already an established and characteristic feature of the skyline. Visibility of tall buildings in the wider setting of the receptors will read as the continued evolution of the city and does not erode the key attributes of their value, nor does it diminish their legibility, landmark qualities, or spatial relationships within the historic core. As such, it is considered that the assessment set out above in relation to the Proposed Development's potential effect on heritage impacts, remains the same as the likely effects arising from the Proposed Development in isolation. In the cumulative context, the Proposed Development would continue to be an attractive addition to the townscape and would demonstrably improve the character, appearance, and function of the area. The effects of additional tall and large-scale development in the character area would there lessen

Table 14.3: Summary of Cumulative Effects	
Technical Chapter	**Summary of Cumulative Effects**
	the effect of the Proposed Development on the character area. As a result of the magnitude of impact would be reduced slightly to Low and this would to give rise to Minor / Moderate Beneficial effect. The Geographical Significance of the effect would be at District level, and the Nature would be Long Term, Irreversible and Not Significant. Across the wider character areas, there would be numerous schemes that would be visible in conjunction with the Proposed Development. These cumulative schemes in the surrounding area in conjunction with the Proposed Development would be seen as part of the emerging context of taller and larger development in Manchester City Centre. The susceptibility to change for the townscape character areas would remain the same as stated in the Proposed Development Scenario above. The effects concluded from the Operational Stage would remain as identified at the completed development stage. The combination of the Proposed Development with the cumulative schemes will not alter any of the final effects found in the assessment for visual receptors. However, it is recognised that the scale of development within Manchester City Centre will intensify as a result of other tall and large schemes being developed. Collectively the schemes will emphasise the redevelopment of the wider Manchester City Centre to include that of further tall and large contemporary development. Again, the combination of the Proposed Development with the cumulative schemes will not alter any of the final effects found in the assessment for the static views. However, it is recognised that the scale of development within Manchester City Centre will intensify as a result of other tall and large schemes being developed.
Daylight, Sunlight and Overshadowing	If the Proposed Development and the consented developments were all fully built out at the same time then, compared to the Proposed Development in isolation, the effect upon the daylight and sunlight within some of the surrounding sensitive receptors would increase. Despite this, none of the inter-cumulative effects are considered to be significant on the basis that all of the cumulative schemes included in the Proposed Development's inter-cumulative assessment have already been assessed in combination as part of the application for the scheme at 2-4 Whitworth Street, with the resultant daylight, sunlight and overshadowing levels being considered to be acceptable.
Wind Microclimate	As construction of the Proposed Development and cumulative schemes progresses, wind conditions on and around the Site would gradually adjust from those of existing Site to those of the operational schemes. Therefore, all construction wind cumulative effects are direct, short-term, temporary, local wind effects of a negligible neutral level (Not Significant).

Table 14.3: Summary of Cumulative Effects	
Technical Chapter	**Summary of Cumulative Effects**
	Conditions for on-Site thoroughfares, off-Site pedestrian crossings, and off-Site roadways range between suitable for standing and leisure walking in the windiest season. This is suitable for the intended use so represents a direct, long-term, permanent, local wind cumulative effect of negligible neutral level (Not Significant). Conditions for on-Site entrances at wind tunnel location 98, the Deansgate Station bus stop on Whitworth Street West, and the southern platform of Deansgate tram stop records conditions which are suitable for leisure walking in winter, and there would be a "pocket" of conditions which would be suitable for standing between the actual entrance location and the location of the wind tunnel probe. As such, these would be suitable for the intended use. The other on-Site entrances are suitable for standing in the windiest season, so all on-Site entrances would be suitable for the intended use. This represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (Not Significant). Conditions for the proposed roof terraces and the roof terraces on Hewitt Street are suitable for sitting in summer. This is suitable for the intended use so represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (Not Significant). There is one off-site thoroughfare location (probe 68, on the north of Whitworth Street West) which shows conditions suitable for business walking in the windiest season. As this is a single isolated probe, the region of business walking is not considered sufficiently extensive to impact the usability of the thoroughfare. Conditions for all other off-Site thoroughfares range between suitable for sitting, standing and leisure walking in the windiest season. This is suitable for the intended use so represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (Not Significant). Conditions for the off-Site entrance to the Hacienda Apartments are suitable for business walking in the windiest season. This is two categories windier than the target condition but is consistent with the baseline conditions so is not attributable to the Proposed Development and represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (Not Significant). Conditions for the off-Site entrance to 28 Hewitt Street are suitable for standing in the windiest season. This is suitable for the intended use, having been one category windier than the target condition in the future baseline. Therefore, this represents a direct, long-term, permanent, local cumulative wind effect of minor beneficial level (Not Significant). Conditions for all other off-Site entrances, Deansgate Locks, and the future amenity around 2-4 Whitworth Street West are suitable for either sitting or standing in the windiest season. This is suitable for the intended use so represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (Not Significant). Conditions for the northern platform of Deansgate tram stop are suitable for standing in the windiest season. This is suitable for the intended use so represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (Not Significant).

Table 14.3: Summary of Cumulative Effects	
Technical Chapter	**Summary of Cumulative Effects**
	Conditions for the mixed amenity space in First Street are suitable for a mix of sitting and standing in summer. This is suitable for the intended use so represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (Not Significant). There is an instance of strong winds (wind speeds more than 15m/s for more than 0.025% annually) by the entrance to the Hacienda apartments to the northeast of the Site, at wind tunnel location 39. This is a pre-existing wind safety risk, which was identified in the baseline, so is not attributable to the Proposed Development and represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (Not Significant). All other on and off-Site wind tunnel locations do not show any exceedance of the strong wind's threshold. There are no material wind safety risks at these locations, so this represents a direct, long-term, permanent, local cumulative wind effect of negligible neutral level (Not Significant).
Socio-economic	Where developments come forward simultaneously or overlap in the locality, there is potential for cumulative benefits in construction employment and spend within the local supply chain as labour and materials are drawn together spatially to create a 'cluster' of inter-reliant activity that can support economies of scale, create synergy and in turn enhance productivity and output in the form of GVA. Based on professional judgement this could create a temporary but moderate beneficial effect (significant). Further, enhanced skills and experience acquired by employees during the construction phase could improve their employability on other local developments, in turn contributing to a longer term reduction in Manchester's higher unemployment rate. The cumulative impact of housing delivery in the local area from the Proposed Development and other schemes will have the combined benefit of contributing to Manchester's housing delivery targets and related economic growth aspirations. Together, the schemes will diversify and enhance the mix and quality of the City's housing offer, consequently having a catalytic effect of attracting more residents, increasing footfall and spend, and creating more jobs, thus raising perceptions of Manchester as a place to live, study and work and in turn, increasing sale and rental values, enhancing market confidence and encouraging further investment and physical development. The cumulative impact on increased population, job creation and local spend from the proposed and other local developments, is likely to create a synergy and 'critical mass' of socio-economic benefits that is sufficient to encourage new local businesses to be established and enable existing businesses to be sustained and to grow resulting in further indirect benefits in the form of additional employment and productivity. These represent a moderate beneficial (significant) cumulative effect on the identified receptors. The impact of the Proposed Development on local health care facilities has been considered in isolation within this assessment. In practice, the delivery of other local development schemes will have a cumulative impact on the demand for health services and capacity of those services to meet that demand which could be a moderate (significant) adverse cumulative effect based on professional judgement.

Table 14.3: Summary of Cumulative Effects	
Technical Chapter	**Summary of Cumulative Effects**
Climate Change	The impact of carbon emissions effects the global receptor, rather than the local receptor, as it contributes to the global issue of climate change. Consequently, there is no requirement to quantify the carbon impact for any inter-cumulative effects. The scheme should use a proactive approach to minimise embodied and operational carbon emissions integral to the design of the Proposed Development.
Solar Glare	The cumulative effects have not been considered as neighbouring developments can block sunlight reaching the facades of the Proposed Development and/or obscure the Proposed Development from the viewpoints to be assessed and as a result, lessen the effects. As such, the cumulative effects in terms of solar glare would be as per the residual effects of negligible adverse to moderate adverse (significant).

STATEMENT OF EXPERTISE

This Environmental Statement has been prepared by competent experts, and the following statement outlines this relevant expertise and qualifications of the EIA Co-ordinator and the lead author of each technical chapter.

EIA Coordination

The ES has been prepared and the EIA co-ordinated by Thomas Hackett BSc (Hons) PISEP, Principal Environmental EIA Co-ordinator at SLR. Thomas has a BSc (Hons) in Geography from the University of Derby. Thomas has over eight years of experience of co-ordinating EIAs and preparing ESs for a range of developments, including mixed-use/residential, renewable energy and waste projects. Thomas is also a Practitioner member of the Institute of Sustainability and Environmental Professionals (ISEP) (formerly the Institute of Environmental Management and Assessment (IEMA)).

The ES has been reviewed by Susan Raine, BSc MSc PISEP, Technical Director at SLR. Susan has an MSc in Environmental Impact Assessment and Management from the University of Manchester and is also a Practitioner member of ISEP. Susan has extensive experience in the co-ordination of EIAs and the preparation of ESs for a range of developments.

SLR is a registrant of the ISEP EIA Quality Mark, demonstrating their commitment to excellence in their EIA activities. Susan and Thomas assist in the management of SLR's registration to the EIA Quality Mark, ensuring the high standard of the scheme is adhered to.

Air Quality

The Air Quality Chapter has been prepared by Lewis Ellison, Technical Director at Planning and Environmental consultants. Lewis has over 10 years' experience in environmental planning consultancy, is a member of the Institute of Environmental Science (IES) and a member of the Institution of Air Quality Management (IAQM) and holds a Masters (Hons) degree in Geological Oceanography (MOcean). Lewis has experience of undertaking numerous Environmental Statements, Air Quality Assessments and Dust Risk Assessments for developments of varying land uses across the UK. This has included designing and deriving mitigation measures to air quality impact and enhance local air quality.

Noise and Vibration

All technical staff at Sandy Brown hold suitable qualifications in acoustics and the relevant level of membership in the Institute of Acoustics.

Sandy Brown is an independent acoustic consultancy that is a member of the Association of Noise Consultants and a sponsor member of the Institute of Acoustics. It is registered under the Association of Noise Consultants scheme for Approved Document E pre- completion testing (company number 141) which qualifies it as a 'compliant test body' for acoustics.

In this instance, the noise and vibration chapter has been written by Skylar Clark and reviewed by Matthew Robinson, who have the following qualifications:

- Skylar Clark, Engineer
    - BEng
    - 5 years experience
    - AMIoA
- Matthew Robinson, Associate Director
    - BSc, PhD
    - 14 years experience
    - CEng Engineering Council, MIoA

Built Heritage, Townscape and Visual Impact Assessment

The Built Heritage, Townscape and Visual Impact Assessment has been prepared by Dr Timur Tatlioglu, Partner at Montagu Evans. Dr Tatlioglu has over 16 years' experience in Heritage, Townscape and Visual Impact Assessment across the UK and leads Montagu Evans' Historic Environment and Townscape team. Dr Tatlioglu holds an MA in Archaeology of Buildings and a PhD in Historic Landscapes and Historic Buildings and is an Affiliate member of the Institute of Historic Building Conservation (IHBC). Dr Tatlioglu is also a member of the Westminster City Council and London Borough of Lambeth Design Review Panels. Dr Tatlioglu has extensive experience in the preparation of Environmental Statements, providing expert advice on heritage and townscape matters, and guiding the design and assessment of development proposals.

The Built Heritage, Townscape and Visual Impact Assessment has been prepared by Nicholas Garside, Senior Advisor at Montagu Evans. Nicholas Garside has over 7 years' experience providing Heritage, Townscape and Visual Impact Assessments for major regeneration and

development projects. Nicholas Garside holds a BA (Hons) in Geography and Planning and an MA in Urban Design and Planning. Nicholas Garside has experience advising on planning and design across residential, commercial and mixed-use schemes.

The Built Heritage, Townscape and Visual Impact Assessment has been prepared by Florence Loader, Advisor at Montagu Evans. Florence Loader holds a BA (Hons) in Archaeology and an MSc in Historic Conservation and is an Associate Member of the Institute of Historic Building Conservation (IHBC). Florence Loader is experienced in Heritage, Townscape and Visual Impact Assessment for redevelopment schemes across England and Wales, including major residential, commercial and mixed-use developments and tall buildings. Florence Loader has expertise in evaluating design quality, heritage significance and visual impacts to inform planning decisions and development proposals.

Daylight, Sunlight & Overshadowing

The Daylight, Sunlight & Overshadowing Chapter has been prepared by Nicola Hensey, Director at GIA Surveyors Limited. Nicola has over 18 years' experience in daylight and sunlight consultancy and holds an LLB (Hons) degree in Law. Nicola has experience of undertaking numerous Environmental Statements for developments of varying land uses across the UK.

Wind Microclimate

The Wind Microclimate Chapter has been prepared by Dr Jon Winchester, Director at GIA Surveyors. Dr Jon Winchester has over 14 years' experience in Wind Engineering, is a chartered engineer and holds a PhD in Mechanical Engineering, along with an BSc (Hons) degree in Mathematics and an MSc in Mechanical Engineering. Dr Jon Winchester has experience of undertaking numerous Wind Microclimate technical assessments and Environmental Chapters for developments of varying scale across the UK. This has included designing and deriving mitigation measures to address raised winds conditions to obtain safe and comfortable outdoor spaces.

Socio-economic

The Socio-Economic Chapter has been prepared by Heather Standidge, Associate at Cushman & Wakefield. Heather has over 20 years' experience in economic development and regeneration consultancy, is a Member of the Institute of Economic Development (MIED) and

holds a MSc degree in Local and Regional Economic Development and a BA(Hons) degree in Geography and Management Studies. She has experience of undertaking numerous studies to determine the social and economic impacts of various forms of development including residential, employment, mixed use and transport schemes across the UK.

This has included for the preparation of Environmental Statement Chapters, Green Book compliant Business Cases and appraisals, and in support of planning applications.

Climate Change

This chapter has been prepared by Alex Thompson (BA), who is a Senior Sustainability Consultant at Mainer Associates. Alex has >5 years of technical experience in the sustainability industry.

This chapter was reviewed by Oscar Holden (PIEMA AMIEnvSc), who is a Senior Sustainability Consultant at Mainer Associates. Oscar has >9 years of technical experience in the sustainability industry and is a member of PIEMA.

Solar Glare

The Solar Glare Chapter has been prepared by Krystle Stewart, Director at GIA. Krystle has over 10 years' experience in solar glare consultancy and holds a MBSc (Dist) degree. Krystle has experience of undertaking numerous Environmental Statements and Solar Glare Assessments for developments of varying scale across the UK. This has included designing and deriving mitigation measures to address solar glare concern. GIA are the largest specialist daylight and sunlight advisor in the UK, with over 30 years of specialisation and expertise, having advised on some of the largest developments within Greater Manchester and the United Kingdom.

REFERENCE LIST

The following provides a reference list of the sources used in the preparation of the ES.

Air Quality

- DEFRA (2021). Background Mapping data for local authorities - 2021
- Greater Manchester Combined Authority (2025). 2024 Air Quality Annual Status Report (ASR)
- Manchester City Council (2012). Manchester's Local Development Framework Core Strategy Development Plan Document

Noise and Vibration

- Association of Noise Consultants (ANC) Acoustics, Ventilation and Overheating guide, 2020 v1.1
- Association of Noise Consultants (ANC) guidelines Measurement and assessment of ground-borne noise and vibration, 3rd edition, 2020
- Association of Noise Consultants (ANC), Institute of Acoustics (IOA), Chartered Institute of Environmental Health (CIEH) ProPG: Planning & noise – Professional
- BS 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound
- BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise
- BS 5228-2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Vibration
- BS 6472-1:2008 Guide to evaluation of human exposure to vibration in buildings. Vibration sources other than blasting
- BS 8233: 2014 Sound insulation and noise reduction for buildings
- Building regulations Approved Document O 2021
- Control of Pollution Act 1974
- Department of Transport Calculation of Road Traffic Noise, 1988.
- Institute of Environmental Management and Assessment (IEMA) Guidelines for Environmental Noise Impact Assessment, 2014

- Institute of Environmental Management and Assessment (IEMA) Guidelines: Environmental Assessment of Traffic and Movement, 2023
- Manchester City Council Planning and Noise Technical Guidance 2022
- National Planning Guidance 2019
- National Planning Policy Framework, December 2024
- National Policy Statement for England 2010
- Practice Guidance on Planning & Noise, 2017
- The Control of Noise at Work Regulations 2005
- The Environmental Protection Act 1990
- The Health and Safety at Work Act 1974

Built Heritage, Townscape and Visual Impact Assessment

- Department for Levelling Up, Housing and Communities (2025). Draft National Planning Policy Framework (December 2025). Available at: https://www.gov.uk
- Greater Manchester Archaeological Advisory Service (2025). Historic Environment Record Search (CGM11936).
- Historic England (2015). Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment.
- Historic England (2017). Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets.
- Historic England (2022). Tall Buildings: Historic England Advice Note 4. Historic England. National Heritage List for England. Available at: https://historicengland.org.uk
- Institute of Environmental Management and Assessment (IEMA), Chartered Institute for Archaeologists (CIfA), and Institute of Historic Building Conservation (IHBC) (2021). Principles for Cultural Heritage Impact Assessment.
- Landscape Institute (2019). Technical Guidance Note 06/19: Visual Representation of Development Proposals.
- Landscape Institute and Institute of Environmental Management and Assessment (2013). Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3).
- Manchester City Council (1995). Saved Unitary Development Plan Policies.
- Manchester City Council (2008). Whitworth Street West Strategic Regeneration Framework.
- Manchester City Council (2012). Core Strategy Development Plan Document.
- Manchester City Council (2024). Core Strategy Addendum.

- Manchester City Council. Conservation Area Appraisals (various dates).
- Manchester City Council. Conservation Area Regeneration Plans (various dates).
- Ministry of Housing, Communities and Local Government (2024). National Planning Policy Framework (December 2024). Available at: https://www.gov.uk
- Ministry of Housing, Communities and Local Government. National Planning Practice Guidance (Online). Available at: https://www.gov.uk
- Natural England (2014). An Approach to Landscape Character Assessment.
- Planning (Listed Buildings and Conservation Areas) Act 1990. Available at: UK legislation database.
- Planning and Compulsory Purchase Act (2004). Available at: UK legislation database.
- Town and Country Planning (Environmental Impact Assessment) Regulations (2017, as amended). Available at: UK legislation database.

Daylight, Sunlight & Overshadowing

- Building Research Establishment (BRE) 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice', Third Edition, 2022
- Manchester Core Strategy (2012-2027)
- Manchester Residential Quality Guidance (2016)
- National Planning Policy Framework (NPPF) 2024
- Planning Practice Guidance (PPG) (2024 and regularly updated as a 'live' resource)

Wind Microclimate

- Bradford City Council (2025), Bradford City Village Environmental Statement Wind Microclimate Chapter
- London Borough of Barnet (2025), Great North Leisure Park Environmental Statement Wind Microclimate Chapter
- London Borough of Tower Hamlets (2025), Project Cross Environmental Statement Wind Microclimate Chapter
- Manchester City Council (2024), One North Parade Environmental Statement Wind Microclimate Chapter
- Manchester City Council (2024), Plot C ID Manchester Environmental Statement Wind Microclimate Chapter

Socio-economic

- Available at www.gov.uk
- Calculating Cost per Job Best Practice Note (2015). HCA
- Department for Business Innovation & Skills (BIS) Research to Improve the Assessment of Additionality (2009)
- Department for Education (DfE) Student Income and Expenditure Survey (2021-22). DfE, NatCen Social Research, Institute for Employment Studies.
- Guide to Development in Manchester Supplementary Planning Guidance (2007). Manchester City Council
- Higher Education Statistics Agency (HESA) Student Enrolment and Term Time Accommodation Data (2024-25). Available at https://www.hesa.ac.uk/
- HM Treasury The Green Book: Central Government Guidance on Appraisal and evaluation (2026). HM Treasury
- Homes & Communities Agency (HCA) Employment Density Guide (3rd Edition 2015). HCA and Bilfinger GVA
- Manchester City Council Annual Monitoring Review (2024). Manchester City Council
- Manchester Core Strategy (2012) and Addendum (2024). Manchester City Council
- Manchester Planning and Noise - Technical Guidance (2022). Manchester City Council
- Manchester Residential Quality Guidance (2017). Manchester City Council
- Manchester Retail and Leisure Study (2023). Manchester City Council, Nexus Planning
- Manchester Unitary Development Plan: Saved Policies (1995). Manchester City Council
- Ministry of Housing, Communities and Local Government (MHCLG) The MHCLG Appraisal Guide and Technical Annex (2025)
- National Health Service (NHS) Choices Find a GP and Dentist Service. Available at www.nhs.uk
- National Health Service (NHS) Rapid Health Impact Assessment Matrix (2019). London Healthy Urban Development Unit (HUDU)
- National Health Service England General Practice Workforce Statistics (2026). National Workforce Reporting Service (NWRS). Available at https://digital.nhs.uk/data-and-information/publications/statistical/general-and-personal-medical-services/31-march-2026
- National Planning Policy Framework (NPPF) (2024). Ministry of Housing, Communities and Local Government (MHCLG)

- NatWest Student Living Index (2025). NatWest. Available at https://www.natwest.com/life-moments/students-and-graduates/student-living-index.html
- Office for National Statistics (ONS) 2022 Based Sub-National Population Projections. Available at www.ons.gov.uk
- Office for National Statistics (ONS) Annual Population Survey (2025). Available at www.nomisweb.co.uk
- Office for National Statistics (ONS) Business Population Estimates (2025). Available at www.nomisweb.co.uk
- Office for National Statistics (ONS) Business Register and Employment Survey (2024). Available at www.nomisweb.co.uk
- Office for National Statistics (ONS) Census Data (2021). Available at www.ons.gov.uk
- Office for National Statistics (ONS) GVA per Capita Statistics (2023). Available at www.nomisweb.co.uk
- Office for National Statistics (ONS) Mid-Year Population Estimates (2024). Available at www.ons.gov.uk
- Our Manchester Strategy (2016). Manchester City Council
- Places for Everyone (PfE) Joint Development Plan Document (2024). Greater Manchester Combined Authority
- Police.uk Performance Data and Statistics (2026). Available at www.police.uk
- Visit Britain Domestic Day Visits Data (2025). Available at: www.visitbritain.org
- Whitworth Street West Strategic Regeneration Framework Area (2008). Manchester City Council

Climate Change

- BREEAM UK New Construction Version 6.1, Technical Manual – SD5079, 2024, Available at: https://tools.breeam.com/extranet/downloads/SD5079-BREEAM-UK-New-Construction-Version-6.1.2.pdf?id=00000000000000000001000000000000000040208&type=.pdf
- BSI, 2011, BS EN 15978:2011, Sustainability of construction works. Assessment of environmental performance of buildings. Calculation method, Available at: https://knowledge.bsigroup.com/products/sustainability-of-construction-works-assessment-of-environmental-performance-of-buildings-calculation-method

- DEFRA, UK Ambient Air Quality Map Available at: https://uk-air.defra.gov.uk/data/gis-mapping
- Environment Agency long-term flood risk mapping, Available at: https://flood-warning-information.service.gov.uk/long-term-flood-risk/map, accessed September 2025
- Environment Agency UK water stress report: https://www.gov.uk/government/publications/water-stressed-areas-2021-classification;
- GOV.UK, 'Plans unveiled to decarbonise UK power system by 2035', Available at: https://www.gov.uk/government/news/plans-unveiled-to-decarbonise-uk-power-system-by-2035, accessed April 2026
- Greater Manchester Combined Authority (GMCA), 2024, Places for Everyone Joint Development Plan Document for Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan, available at: https://www.greatermanchester-ca.gov.uk/media/9578/places-for-everyone-joint-development-plan document.pdf
- IEMA, 2020, Environmental Impact Assessment Guide to: Climate Change Resilience & Adaptation, Available at: https://www.isepglobal.org/media/mabhqino/iema-eia-climate-change-resilience-june-2020.pdf
- IEMA, 2022, Assessing Greenhouse Gas Emissions and Evaluating their Significance, 2nd Edition. Available at: https://www.iema.net/preview-document/assessing-greenhouse-gas-emissions-and-evaluating-their significance
- IPCC, Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, 2022, available at: https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_FullReport.pdf
- Manchester's Local Development Framework Core Strategy Development Plan Document, 2012, Available at: https://www.manchester.gov.uk/__data/assets/file/0018/123570/core_strategy_-_pdf.pdf
- Met Office Location-specific long-term averages, Available at: https://www.metoffice.gov.uk/public/weather/climate/, accessed September 2025
- National Planning Policy Framework, 2024, Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2National Planning Policy Framework, Available at: https://www.gov.uk/government/publications/national-planning-policy framework—2

- Planning and Energy Act, 2008, Available at: https://www.legislation.gov.uk/ukpga/2008/21/contents
- Royal Institute of British Architects (RIBA), 2021: RIBA 2030 Climate Challenge - version 2. Royal Institute of British Architects, London, UK, Available at: riba-2030-climate-challenge.pdf
- Royal Institution of Chartered Surveyors (RICS), 2023: Whole Life Carbon Assessment for the Built Environment, Professional Standard, Global, 2nd Edition. Royal Institute of Chartered Surveyors, London, UK
- The Carbon Plan: Delivering our low carbon future, 2011, Available at: www.gov.uk/government/publications/the-carbon-plan-reducing-greenhouse-gas-emissions--2
- The Climate change act, 2008 (2050 Target Amendment) Order 2019, Available at: https://www.legislation.gov.uk/ukdsi/2019/9780111187654
- The National Archives, The Air Quality Standards Regulations 2010, Schedule 2-3, available at: https://www.legislation.gov.uk/uksi/2010/1001/contents/made, accessed April 2026
- UK Net Zero Carbon Buildings Standard (UKNZCBS), 2026: Version 1, Available at: https://www.riba.org/media/rqtb35wb/riba-2030-climate-challenge.pdf
- UKCP18 climate change projection maps and data: https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/summaries/climate-change-projections-over-land, accessed July 2025 – March 2026

Solar Glare

- Building Research Establishment (BRE) (2022). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice, Third Edition.
- Commission Internationale De L'Eclairage (CIE), CIE 146:2002 & CIE 147:2002 - Collection on Glare, CIE, 2002.

GLOSSARY

Terminology	Explanation
Airborne sound	Sound propagating through the air.
Airborne sound insulation	The ability of building elements or structures to reduce airborne sound transmission.
Ambient	Background levels.
Ambient noise	Total encompassing sound in a given situation at a given time usually composed of sound from many sources near and far. Includes both the residual noise and the specific noise from site operations when present.
Analysis (Landscape)	The process of breaking the landscape down into its component parts to understand how it is made up.
Annual probable sunlight hours	The long-term average of the total number of hours during a year in which direct sun light reaches the unobstructed ground (when clouds are taken into account).
aOD	Above Ordnance Datum
Assessment (Landscape)	An umbrella term for description, classification and analysis of landscape.
AVR	Accurate Visual Representation
Background noise level	The A-weighted sound pressure level of the residual noise at the assessment position that is exceeded for 90 per cent of a given time interval, T, i.e. LA_{90},T.
Baseline conditions	The conditions that would pertain in the absence of the proposed project at the time that the project would be constructed / operated / decommissioned. The definition of these baseline conditions should be informed by changes arising from other causes (e.g. other consented developments).
BHTVIA	Built Heritage, Townscape and Visual Impact Assessment
Biodiversity	The biological diversity of the earth's living resources. The total variability among organisms and ecosystems. In common usage, and within these Guidelines, biodiversity is used to describe the conservation of the natural environment, rather than describing the variation within it.
CEMP	Construction Environmental Management Plan
CIfA	Chartered Institute for Archaeologists
Classification	A process of sorting the landscape into different types using selected criteria but without attaching relative values to different sorts of landscape.
CO_2	Carbon Dioxide (greenhouse gas)
CO_2e	Carbon Dioxide Equivalent. CO_2e is a unit of measurement to compare emissions from various greenhouse gas sources based on their warming potential.
Completed Development	Within the ES this phase refers to the Proposed Development when fully built and operational.
Connectivity (ecology)	A measure of the functional availability of the habitats needed for a particular species to move through a given area. Examples include the flight lines used by bats to travel between roosts and foraging areas or the corridors of appropriate habitat needed by some slow colonising species if they are to spread.
Conservation (for heritage policy)	The process of maintaining and managing change to a heritage asset in a way that sustains and, where appropriate, enhances its significance.
Conservation Area	An area of special environmental or historical importance that is protected from changes by law.
C_{tr}	The correction to a sound insulation quantity (such as Rw or DnT,w) to take account of a specific sound spectrum with low frequency sound energy.

Terminology	Explanation
Cumulative effects	The summation of effects that result from changes caused by a development in conjunction with other past, present or reasonably foreseeable actions.
dB(A)	Decibels measured on a sound level meter incorporating a frequency weighting (A weighting) which differentiates between sounds of different frequency (pitch) in a similar way to the human ear. Measurements in dB(A) broadly agree with people's assessment of loudness.
Decibel (dB)	A unit of level derived from the logarithm of the ratio between the value of a quantity and a reference level. For sound pressure level the reference quantity is 20 micro-pascals, the threshold of hearing (0 dB). 140 dB(A) is the threshold of pain.
Design Manual for Roads and Bridges	A comprehensive series of documents, including standards, specifications and standard details, for the design of new road infrastructure.
Designated heritage asset	A World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area designated under the relevant legislation.
Development plan	This includes adopted Local Plans, neighbourhood plans and the London Plan, as defined in section 38 of the Planning and Compulsory Purchase Act 2004 (regional strategies have all been abolished by Order using powers taken in the Localism Act 2011).
Direct sound transmission	The process in which sound that is incident on one side of a building element is radiated by the other side.
Distribution (ecology)	The geographical presence of a feature. This can depend on factors such as climate and altitude.
Diversity	Where a variety of qualities or characteristics occurs.
DRP	Design Review Panel
EIA Planning Regulations	In England and Wales these are The Town and Country Planning (Environmental Impact Assessment) Regulations 2017, plus amendments.
Ecological feature	Habitats, species or ecosystems.
Element	A component part of the landscape (e.g. roads, hedges, woods).
Embodied Carbon	The total GHG emissions and removals associated with materials and construction processes, throughout the whole life cycle of an asset (modules A0–A5, B1–B5, C1–C4).
Enhancement	Landscape improvement through restoration, reconstruction or creation.
Enhancement (ecology)	Improved management of ecological features or provision of new ecological features, resulting in a net benefit to biodiversity, which is unrelated to a negative impact or is 'over and above' that required to mitigate/compensate for an impact.
Environment	Our physical surroundings including air, water and land.
Environmental Assessment	A process by which information about the environmental effects of a project is collected, both by the developer and from other sources, and taken into account by the relevant decision making body before a decision is given and whether the development should go ahead.
Environmental Effects	The consequences for human being in terms of health and well-being, including the well-being of ecosystems and natural systems on which human survival depends, which stem from environmental impacts.
Environmental Fit	The relationship of a development to identified environmental opportunities and constraints in its setting.
Environmental Impact	The process whereby a change, which may be adverse, beneficial, or both, is brought about in the existing environment as a result of development activities.

Terminology	Explanation
Environmental impact assessment (EIA)	The evaluation of the effects of particular development proposals on the environment.
Environmental Statement (ES)	A document which sets out the developer's assessment of the likely effects of the project on the environment and which is submitted in conjunction with an application for planning permission.
Environment Agency	The EA is a non-departmental public body of the Department for Environment Food and Rural Affairs. Its purpose is, "to protect or enhance the environment, taken as a whole" (section 4, Environment Act 1995) to promote the objective of achieving sustainable development.
Fauna	All members of the animal kingdom: vertebrates (e.g. birds, mammals and fish) and invertebrates (e.g. insects).
Flood Zone 1	This zone comprises land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding.
Flora	All members of the plant kingdom: higher ferns, ferns and fern allies, mosses and liverworts, algae and phytoplankton, fungi and lichens.
Frequency	The number of cycles per second. The unit of frequency is the Hertz (Hz). Frequency gives a sound its distinctive tone.
Frequency band	A continuous range of frequencies between stated upper and lower limits (see also 'Octave band' and 'One-third octave band').
GLVIA	Guidelines for Landscape and Visual Impact Assessment
Greenhouse Gas (GHG) Emissions	Constituents of the atmosphere, both natural and anthropogenic (human-created), that absorb and emit radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere and clouds.
Ground conditions	An assessment of the history and chemical and physical characteristics of the soil conditions at a site.
Green infrastructure (GI)	A network of multi-functional green space, urban and rural, which is capable of delivering a wide range of environmental and quality of life benefits for local communities.
Greenhouse Gas (GHG)	Gases such as carbon dioxide, methane and nitrous oxide, that trap heat in the atmosphere.
Groundwater	All water which is below the surface of the ground in the saturated zone and in direct contact with the ground or subsoil.
ha	hectares
Habitat	The place or type of site where an organism or population naturally occurs. Often used in the wider sense referring to major assemblages of plants and animals found together.
Heritage	Historic or cultural associations.
Heritage asset	A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. Heritage asset includes designated heritage assets and assets identified by the local planning authority (including local listing).
Historic environment	All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.
Historic environment record (HER)	Information services that seek to provide access to comprehensive and dynamic resources relating to the historic environment of a defined geographic area for public benefit and use.

Terminology	Explanation
Hydrology	The study of the movement, distribution, and quality of water.
Hz	Hertz (Hz) is the unit of frequency (see also 'Frequency').
IEMA	Institute of Environmental Management and Assessment
IHBC	Institute of Historic Building Conservation
Inert	Chemically inactive.
Isolation	The absence of rigid connections between two or more building elements.
$L_{A90,T}$	The A-weighted sound pressure level exceeded 90% of the measurement period (T) over which a noise is measured (ie, the quietest 10% of the period). When not weighted it is denoted L90,T. This parameter is generally considered to be representative of a constant noise source, or background noise level.
$L_{Aeq,T}$	Equivalent A-weighted sound pressure level of a steady noise that has the same acoustic energy as a fluctuating noise over the measurement period (T). When not weighted it is denoted Leq,T .
$L_{Amax,T}$	The highest A-weighted sound pressure level measured in the period (T) with either fast (LAFmax) or slow (LASmax) time weightings. When not weighted it is denoted LFmax or LSmax.
Land Use	What land is used for, based on broad categories of functional land cover, such as urban and industrial use and the different types of agriculture and forestry.
Landscape	An area, as perceived by people, the character of which is the result of the action and interaction of natural and/or human factors.
Landscape Character	A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse.
Landscape Character Assessment	The process of identifying and describing variation in the character of the landscape, and using this information to assist in managing change in the landscape. It seeks to identify and explain the unique combination of elements and features that make landscape distinctive. The process results in the production of a Landscape Character Assessment.
Landscape Feature	Particularly prominent or eye-catching elements in the landscape, such as tree clumps, church towers or wooded skylines OR a particular aspect of the project proposal.
Listed Building	A building, object or structure that has been judged to be of national importance in terms of architectural or historic interest and included on a special register.
Local Plan	The plan for the future development of the local area, drawn up by the local planning authority in consultation with the community. In law this is described as the development plan documents adopted under the Planning and Compulsory Purchase Act 2004. Current core strategies or other planning policies, which under the regulations would be considered to be development plan documents, form part of the Local Plan. The term includes old policies which have been saved under the 2004 Act.
Local planning authority	The public authority whose duty it is to carry out specific planning functions for a particular area.
Local Transport Plan	A document that sets out the long-term strategy for travel and transport within an area for a defined plan period.
LVIA	Landscape and Visual Impact Assessment
Magnitude	A combination of the scale, extent and duration of an effect.
MCC	Manchester City Council
Methodology	The specific approach and techniques used for a given study.

Terminology	Explanation
Mitigation	Any process, activity or thing designed to avoid, reduce or remedy adverse environmental impacts likely to be caused by a development project.
Net Zero Carbon in Operation	When the amount of carbon emissions associated with the building's operational energy on an annual basis is zero or negative.
NGR	National Grid Reference
No sky line	The outline on the working plane of the area from which no sky can be seen.
Non-Technical Summary	A report which briefly describes the main points discussed in the Environmental Statement in a clear manner, without the use of technical jargon and phraseology.
NOx	Nitrogen Oxides (greenhouse gas). The collective term used to describe various oxides of Nitrogen.
NPPF	National Planning Policy Framework
Octave band	A frequency band in which the upper limit of the band is twice the frequency of the lower limit.
One-third octave band	A frequency band in which the upper limit of the band is the cube root of two times the lower limit of the band or more simply one third of an octave band.
Open space	All open space of public value, including not just land, but also areas of water (such as rivers, canals, lakes and reservoirs) which offer important opportunities for sport and recreation and can act as a visual amenity.
Operational Carbon	The GHG emissions arising from all energy and water consumed by an asset in use, over its life cycle.
OS	Ordnance Survey
Pathways	The routes by which impacts are transmitted through air, water, soils or plants and organisms to their receptors.
PBSA	Purpose-Built Student Accommodation
Ped	Soil particle.
Perception (of landscape)	The psychology of seeing and possibly attaching value and/or meaning (to landscape).
Planning condition	A condition imposed on a grant of planning permission (in accordance with the Town and Country Planning Act 1990) or a condition included in a Local Development Order or Neighbourhood Development Order.
Pollution	Anything that affects the quality of land, air, water or soils, which might lead to an adverse impact on human health, the natural environment or general amenity. Pollution can arise from a range of emissions, including smoke, fumes, gases, dust, steam, odour, noise and light.
Population (ecology)	A collection of individuals (plants or animals), all of the same species and in a defined geographical area.
Potential impacts	Impacts, which could occur in the absence of appropriate design modifications or preventative measures.
Predicted impacts	Those impacts which are predicted as a consequence of the development although the nature and severity of their effect will be conditioned by the scope for mitigation.
Quality	A measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the interactions of the landscape and the condition of individual elements.
R'w	Apparent weighted sound reduction index. The on-site equivalent of the weighted sound reduction index, Rw. A higher numerical quantity represents a better performance.
Receptor	Physical landscape resource, special interest or viewer group that will experience an effect.

Terminology	Explanation
Receptors	A component of the natural or man-made environment such as water, air, a building, or a plant that is affected by an impact.
Residual Effects	Those effects of a development that cannot be mitigated following implementation of mitigation proposals.
Scenario	A picture of a possible future.
Scheduled Monument	A nationally important archaeological site or historic building, given protection against unauthorised change.
Scope (Climate Change)	In the context of greenhouse gas emissions reporting, the term 'Scope' refers to a defined category for reporting purposes. There are 3 emissions scopes; Scope 1, Scope 2 and Scope 3 emissions.
Scoping	An initial stage in determining the nature and potential scale of the environmental impacts arising from the proposed development, and assessing what further studies are required to establish their significance.
Scree	Small, loose stones covering a slope.
Sensitivity	The extent to which a landscape can accept change of a particular type and scale, without unacceptable adverse effects.
Setting of a heritage asset	The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.
Significance (for heritage policy)	The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting.
Soil	The surface layer of the Earth's crust composed of weathered rock, alive and dead organic matter (plant roots, soil fauna and microorganisms), water and air. Soil has important functions such as providing habitat for plant growth, transformation of mineral and organic compounds, carbon storage (in soil organic matter, or humus), water and air filtration, support for buildings, protection of archaeological artefacts. Soil is typically divided into horizontal layers, the main ones are: topsoil and subsoil. Topsoil is the most biologically active and fertile surface layer rich in organic matter. Typical topsoil depth is 25 to 35 cm (plough layer in arable farming). Subsoil is typically characterised by low content of organic matter (except peat or organic soils) and is less biologically active and fertile, it typically extends to 1.20m or bedrock, if the soil is shallower.
Sound pressure level	A logarithmic measure of the effective sound pressure of a sound relative to a reference value, measured in decibels, dB. Sound pressure levels are dependent on the conditions under which they are measured.
Sound power level	A logarithmic measure of the sound power in comparison to specified reference level, measured in decibels, dB. Unlike sound pressure, sound power is not room or distance dependent.
Spectrum	The composition of a particular sound in terms of separate frequency bands.
Sustainable Drainage System (SuDS)	Sustainable Drainage Systems are drainage solutions that provide an alternative to the direct channelling of surface water through networks of pipes and sewers to nearby watercourses.

Terminology	Explanation
Sustainability	The principle that the environment should be protected in such a condition and to such a degree that ensures new development meets the needs of the present without compromising the ability of future generations to meet their own needs.
t	Tonne
TCA	Townscape Character Area
Technique	Specific working process.
Threshold	A specified level in grading effects e g of magnitude, sensitivity or significance.
Topography	The natural or artificial features, level and surface form of the ground surface.
Transport Assessment	A comprehensive and systematic process that sets out transport issues relating to a proposed development. It identifies what measures will be required to improve accessibility and safety for all modes of travel, particularly for alternatives to the car such as walking, cycling and public transport and what measures will need to be taken to deal with the anticipated transport impacts of the development.
Transport statement	A simplified version of a transport assessment where it is agreed the transport issues arising out of development proposals are limited and a full transport assessment is not required.
Travel plan	A long-term management strategy for an organisation or site that seeks to deliver sustainable transport objectives through action and is articulated in a document that is regularly reviewed.
Trip Generation	Quantification of travel patterns arising from a development proposal.
Vertical sky component (VSC)	This is a measure of the amount of light reaching a window. It is 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 illuminance on a horizontal plane due to an unobstructed hemisphere of this sky. Usually the 'given vertical plane' is the outside of a window wall. The VSC does not include reflected light, either from the ground or from other buildings.
Visual Amenity	The overall pleasantness of the views people enjoy of their surroundings, which provides an attractive visual setting or backdrop for the enjoyment of activities of the people living, working, recreating, visiting or travelling through an area.
Zone of Theoretical Visibility (ZTV)	Area within which a proposed development may have an influence or effect on visual amenity. Usually based on a bare ground model with no buildings or tree screening included.

NEXT STEPS

This ES has been submitted to Manchester City Council (MCC) for the respective Planning Officers to consider in consultation with the relevant stakeholders in the context of planning policy, prior to making a recommendation to the planning committee on the planning application.

During the period of determination, MCC will contact the relevant government bodies and agencies, and other consultees regarding the Proposed Development. Members of the public are also invited to make comments on the planning application.

Comments can be sent to:

Manchester City Council

PO Box 532

Town Hall

Manchester

M60 2LA

Telephone: 0161 234 5000

Email: planningandhousing@greatermanchester-ca.gov.uk

Copies of the Environmental Statement

The ES, including a copy of the planning application documents and the NTS, will be available to view online on the MCC planning website:

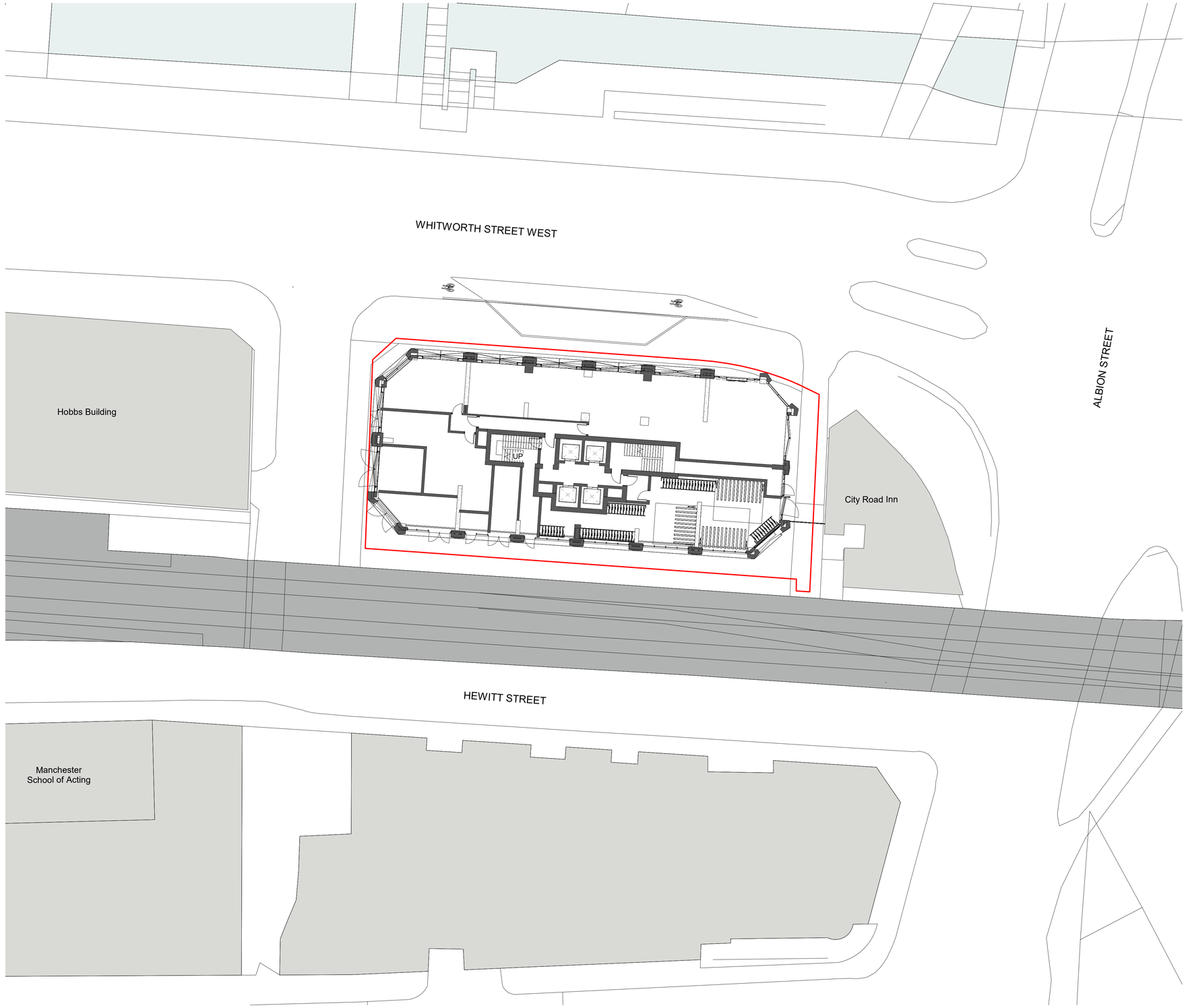
https://www.manchester.gov.uk/planning

Hard copies or CDs of the ES and NTS are also available and are charged at £25 per CD and £450 per hard copy plus P+P. Hard copies can be obtained by contacting Thomas Hackett at Wardell Armstrong on 07341 564 339.

APPENDICES

Appendix 1.1

Proposed Block Plan



NORTH

0 2.0 4.0 6.0 8.0 10.0 12.5m

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Rev.	Description	Date	Drawn	Chk.
01	Updated Draft Planning Issue	02.03.26	JP	NI

Client:
Fusion Tri 7

Project:
Whitworth Street, Manchester

Drawing Title
Proposed Block Plan

Drawing Status
WIP

Corstorphine & Wright

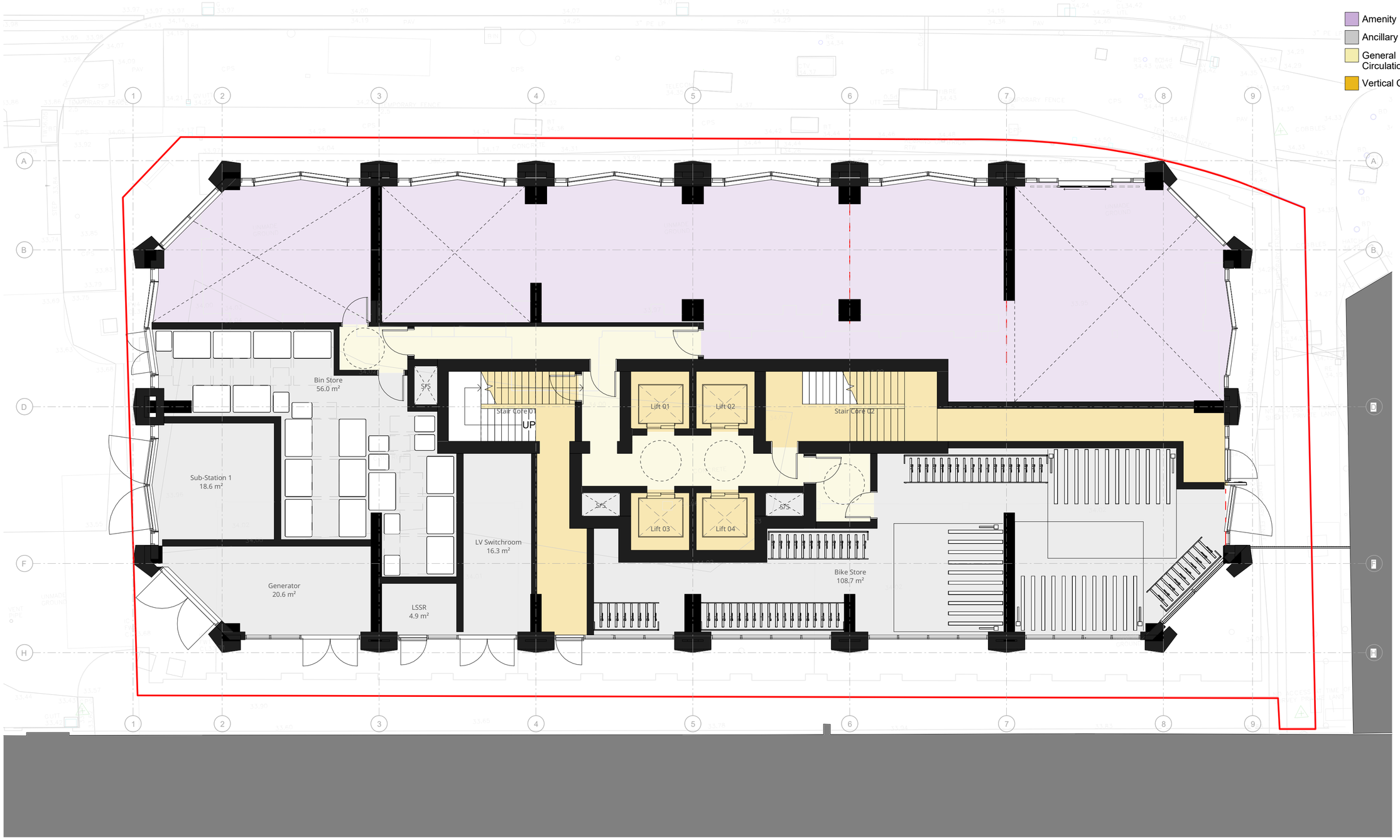
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Drawing No.	Revision
22987-CWA-DR-A-X096	01

Drawn	Checked	Paper Size	Scale	Date
AR	CM	A1	1 : 200	02/03/2026

Appendix 2.1

Development Plans



NORTH

0 1.0 2.0 3.0 4.0 5.0 10.0m

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01	Draft Planning Issue	03.02.26	JP	NI

Client:
Fusion Tri 7

Project:
Whitworth Street, Manchester

Drawing Title
Proposed Ground Floor Plan

Drawing Status
WIP

Corstorphine & Wright

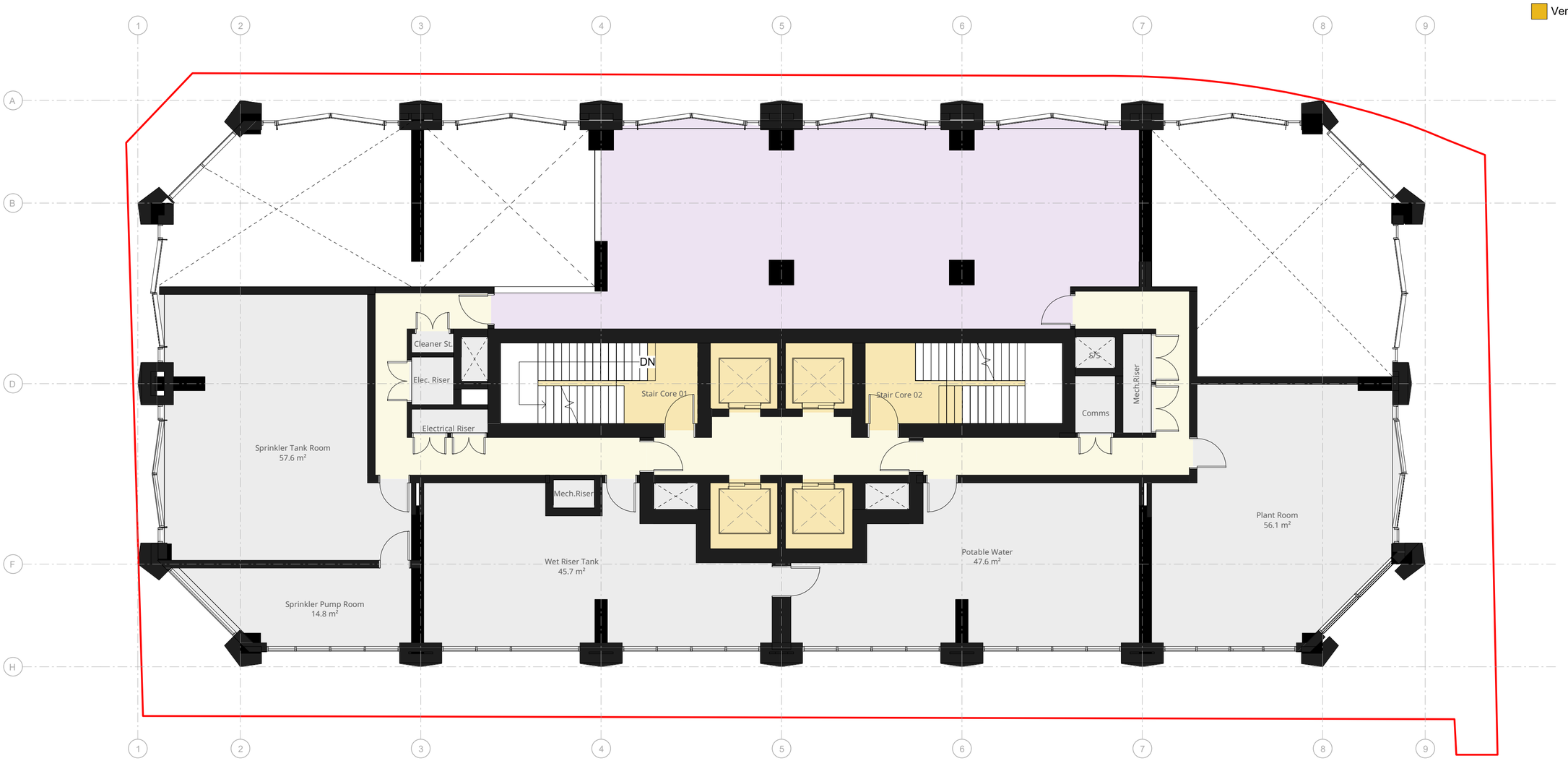
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Drawing No.	Revision
22987-CWA-DR-A-2001	02

Drawn	Checked	Paper Size	Scale	Date
JP	AR	A2	1 : 100	02/02/26

Department

- Amenity
- Ancillary
- General Circulation
- Vertical Circulation



NORTH

0 1.0 2.0 3.0 4.0 5.0 10.0m

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01	Draft Planning Issue	03.02.26	JP	NI

Client:
Fusion Tri 7

Project:
Whitworth Street, Manchester

Drawing Title
Proposed 1st Floor Plan

Drawing Status
WIP

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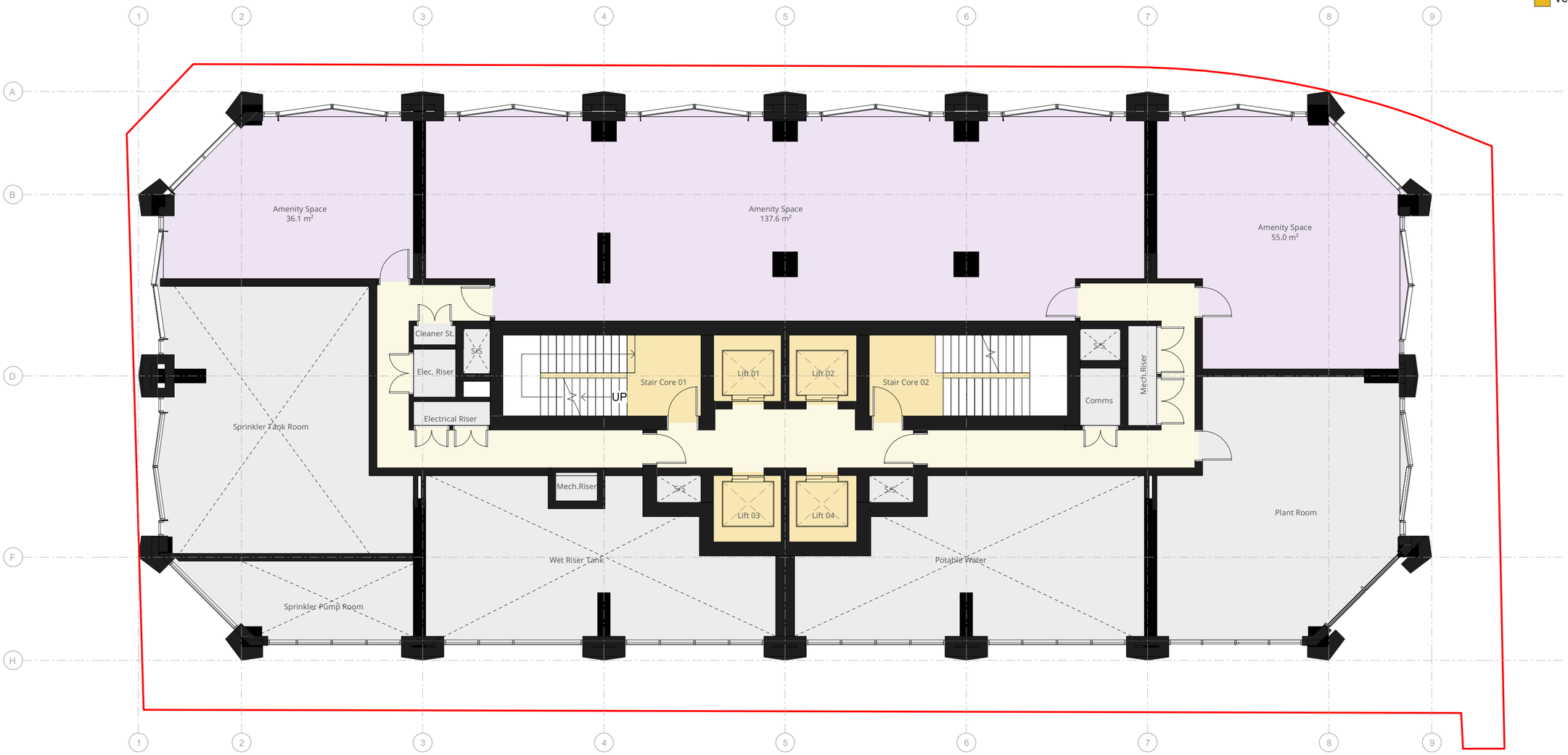
Drawing No.
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Revision
02

Drawn	Checked	Paper Size	Scale	Date
JP	AR	A2	1 : 100	02/02/26

Department

- Amenity
- Ancillary
- General Circulation
- Vertical Circulation



NORTH

0 1.0 2.0 3.0 4.0 5.0 10.0m

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01	Draft Planning Issue	03.02.26	JP	NI

Client:
Fusion Tri 7

Project:
Whitworth Street, Manchester

Drawing Title
Proposed 2nd Floor Plan

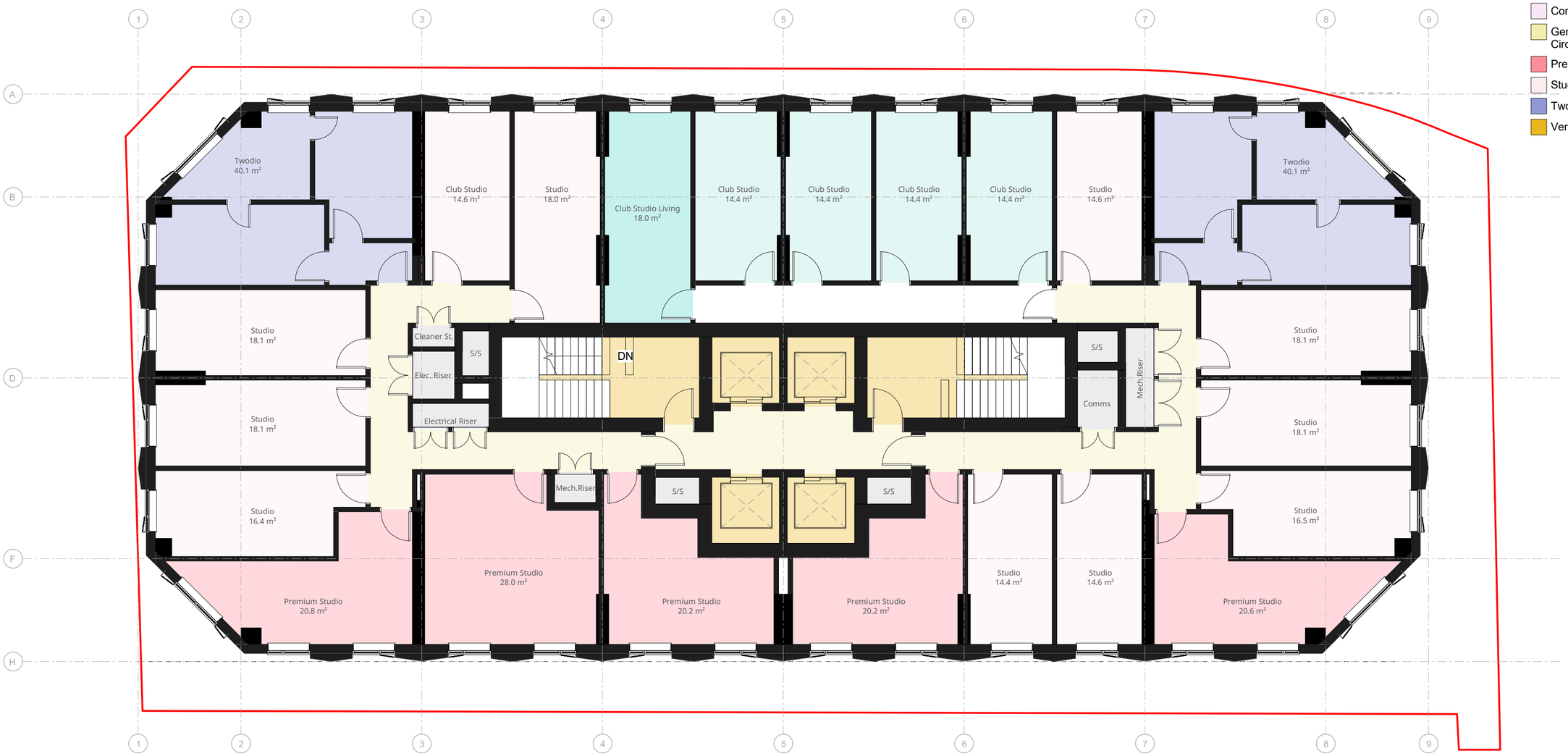
Drawing Status
WIP

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Drawing No.	Revision
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Drawn	Checked	Paper Size	Scale	Date
JP	AR	A2	1 : 100	02/02/26



Department

- Ancillary
- Club Studio
- Club Studio Living
- Cluster Circulation
- Compact Studio
- General Circulation
- Premium Studio
- Studio
- Twodio
- Vertical Circulation

NORTH

0 1.0 2.0 3.0 4.0 5.0 10.0m

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01	Draft Planning Issue	03.02.26	JP	NI

Client:
Fusion Tri 7

Project:
Whitworth Street, Manchester

Drawing Title
Proposed 3rd - 19th Floor Plan

Drawing Status
WIP

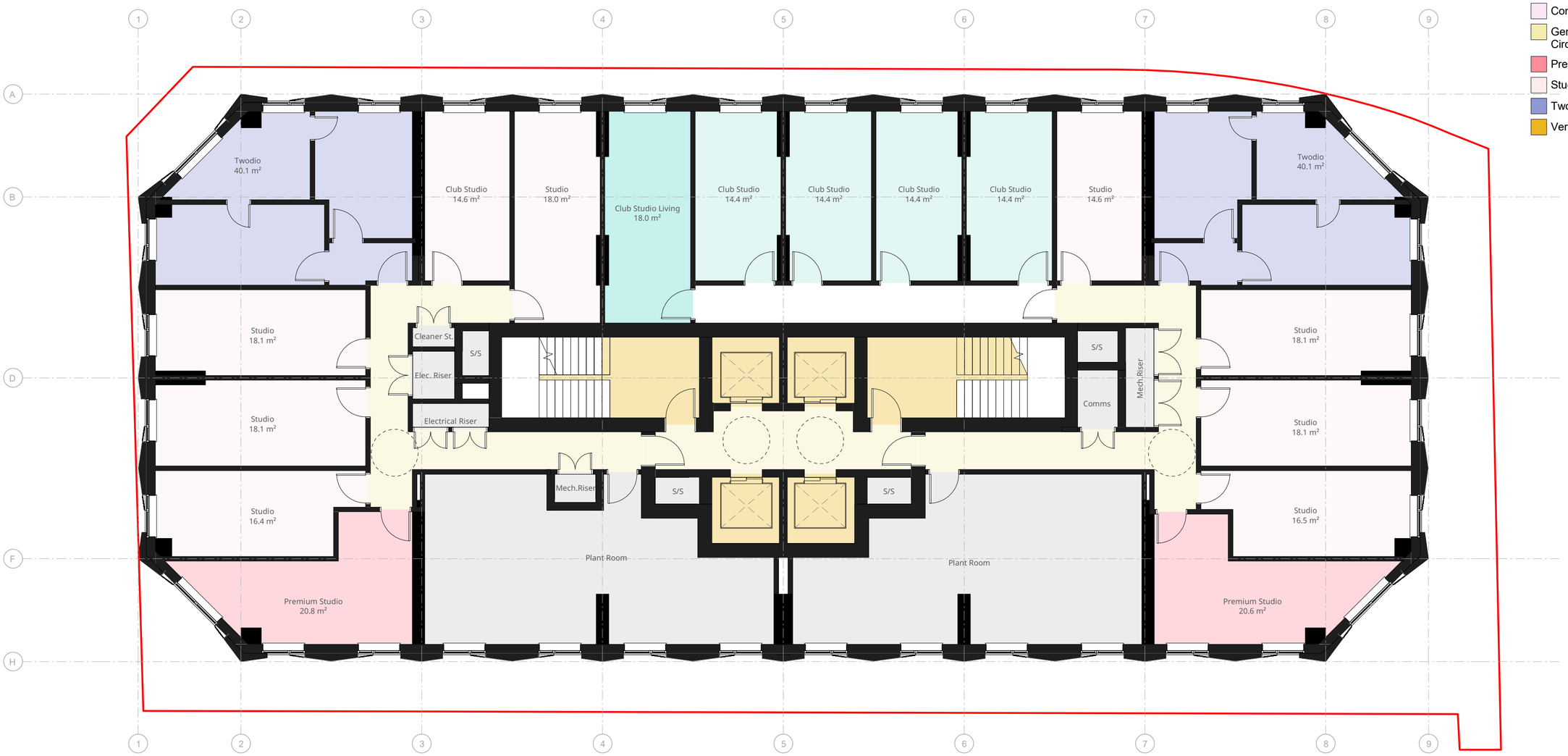
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Drawing No.
22987-CWA-DR-A-2004

Revision
02

Drawn	Checked	Paper Size	Scale	Date
JP	AR	A2	1 : 100	02/02/26



Department

- Ancillary
- Club Studio
- Club Studio Living
- Cluster Circulation
- Compact Studio
- General Circulation
- Premium Studio
- Studio
- Twodio
- Vertical Circulation

NORTH

0 1.0 2.0 3.0 4.0 5.0 10.0m

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Rev.	Description	Date	Drawn	Chk.
02	Updated Draft Planning Issue	02.03.26	JP	NI
01	Draft Planning Issue	03.02.26	JP	NI

Client:
Fusion Tri 7

Project:
Whitworth Street, Manchester

Drawing Title
Proposed 20th - 21st Floor Plan

Drawing Status
WIP

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Drawing No.
22987-CWA-DR-A-2021

Revision
02

Drawn	Checked	Paper Size	Scale	Date
JP	AR	A2	1 : 100	02/02/26



Department

- Ancillary
- Club Studio
- Club Studio Living
- Cluster Circulation
- Compact Studio
- General Circulation
- Premium Studio
- Studio
- Twodio
- Vertical Circulation

NORTH

0 1.0 2.0 3.0 4.0 5.0 10.0m

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Rev.	Description	Date	Drawn	Chk.
02	Updated Draft Planning Issue	02.03.26	JP	NI
01	Draft Planning Issue	03.02.26	JP	NI

Client:
Fusion Tri 7

Project:
Whitworth Street, Manchester

Drawing Title
Proposed 22nd - 25th Floor Plan

Drawing Status
WIP

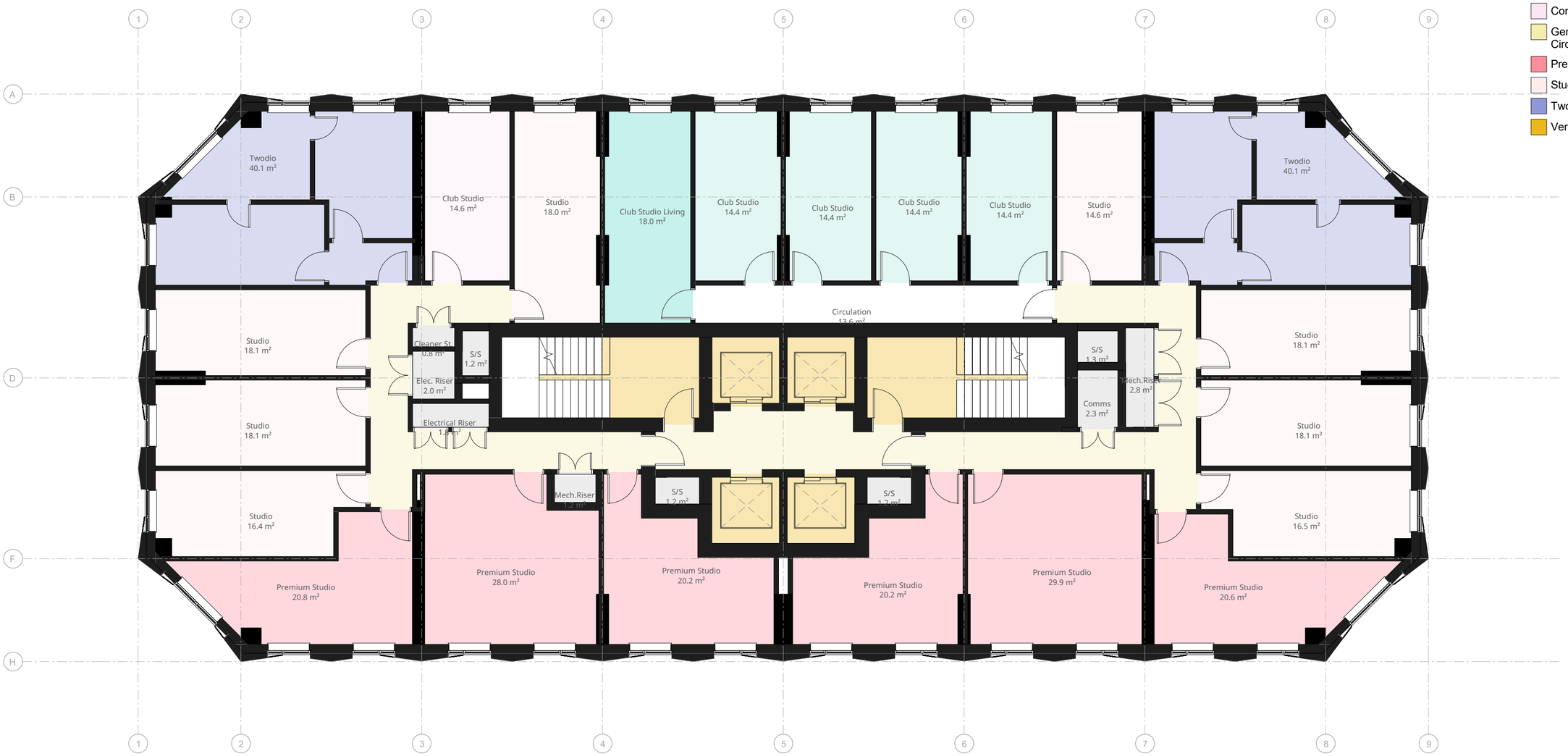
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Drawing No.
22987-CWA-DR-A-2023

Revision
02

Drawn	Checked	Paper Size	Scale	Date
JP	AR	A2	1 : 100	02/02/26



Department

- Ancillary
- Club Studio
- Club Studio Living
- Cluster Circulation
- Compact Studio
- General Circulation
- Premium Studio
- Studio
- Twodio
- Vertical Circulation

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01	Updated Draft Planning Issue	02.03.26	JP	NI

Client:
Fusion Tri 7

Project:
Whitworth Street, Manchester

Drawing Title
Proposed 26th - 37th Floor Plan

Drawing Status
WIP

Corstorphine & Wright

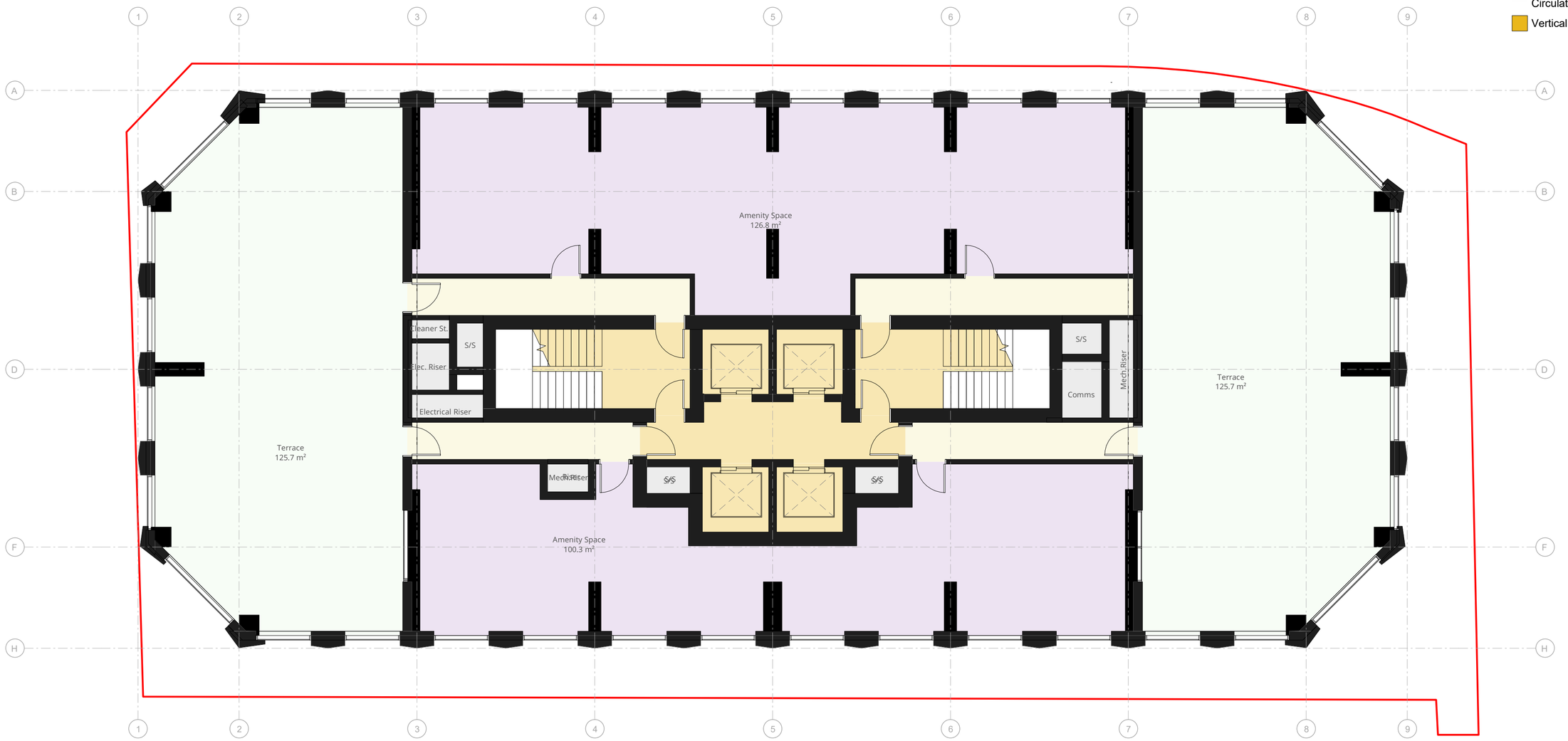
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Drawing No.	Revision
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Drawn	Checked	Paper Size	Scale	Date
JP	AR	A2	1 : 100	02/02/26

Department

- Amenity
- Ancillary
- External Amenity
- General Circulation
- Vertical Circulation



NORTH

0 1.0 2.0 3.0 4.0 5.0 10.0m

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Rev.	Description	Date	Drawn	Chk.
02	Updated Draft Planning Issue	02.03.26	JP	NI
01	Draft Planning Issue	03.02.26	JP	NI

Client:
Fusion Tri 7

Project:
Whitworth Street, Manchester

Drawing Title
Proposed 38th Floor Plan

Drawing Status
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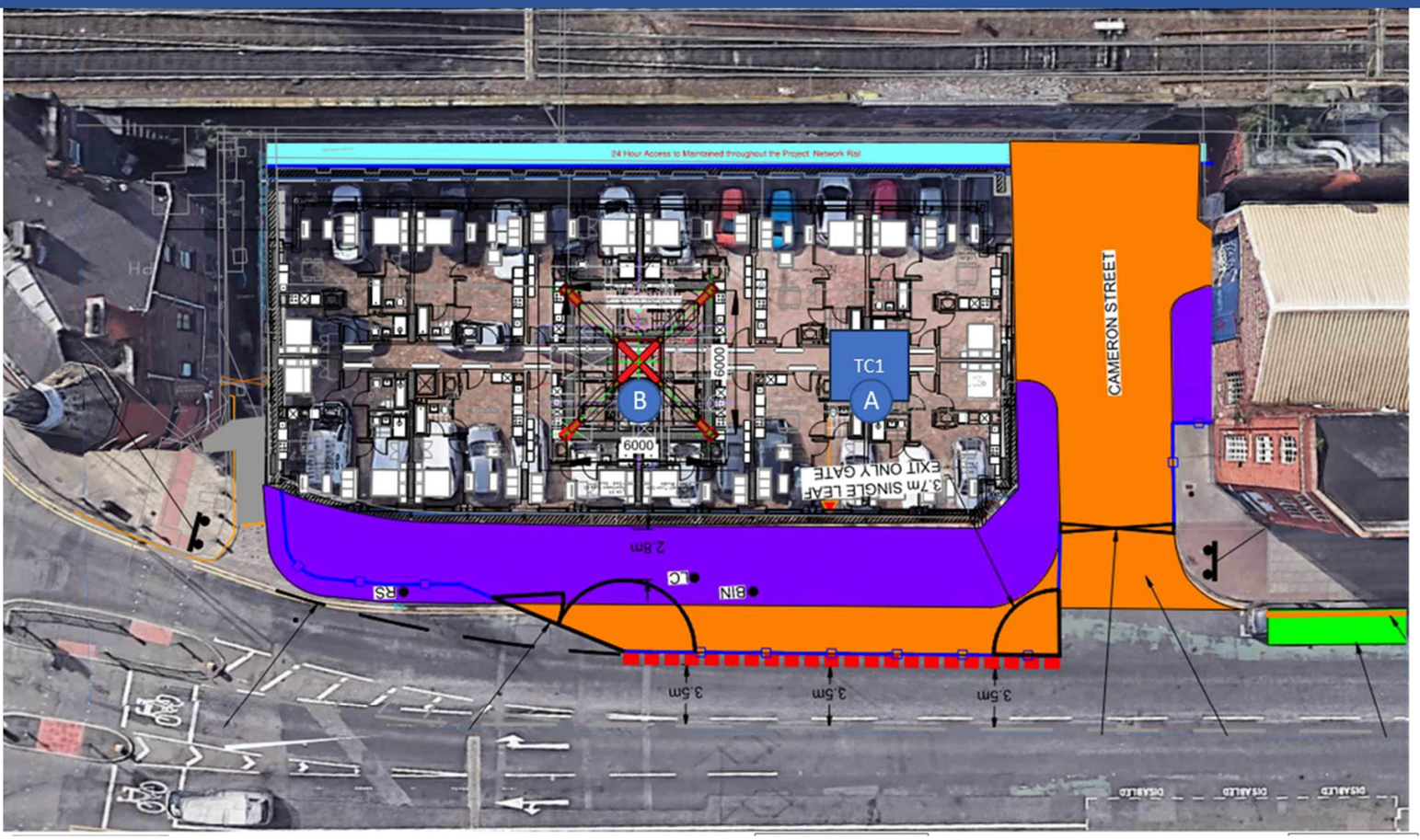
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Drawn	Checked	Paper Size	Scale	Date
JP	AR	A2	1 : 100	02/02/26

Appendix 3.1

Initial logistics strategy

Domis Fusion Tower Crane 1 & 2 Erection Sequence



Prior to the Erection of Tower Crane 1 the date will be agreed with Network Rail so one of their Engineers Can be in place to witness the mobiles crane and erection
Procedures as they take place. We will follow the same procedure when we erect Tower Crane 2.

A

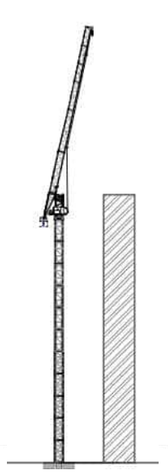
TC 1 will be erected and used to Slip Form the Core to Full Hight.

Once Erected the Core will cure for the agreed period prior to Tower Crane 2 ties or Grillage being installed.

B

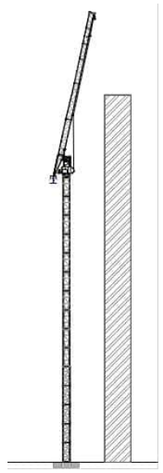
TC 2 which will fixed to the Grillage on top of Core will be erected Using Tower Crane 1.

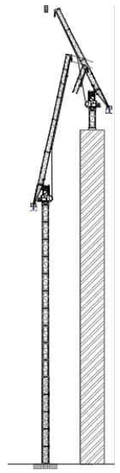
Once Erected the Core will cure for the agreed period prior to Tower Crane 2 ties or Grillage being installed.

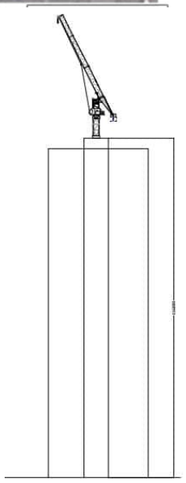


Tower Crane 1

1. JOST JTL208.12
2. Tower 89.8m
3. Jib 40m
4. SWL(De-Rated) 3.15t at 40M
5. Out of Service Radius 11.00m

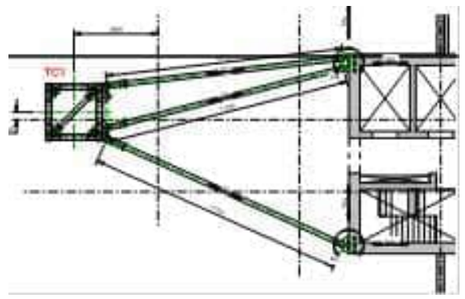






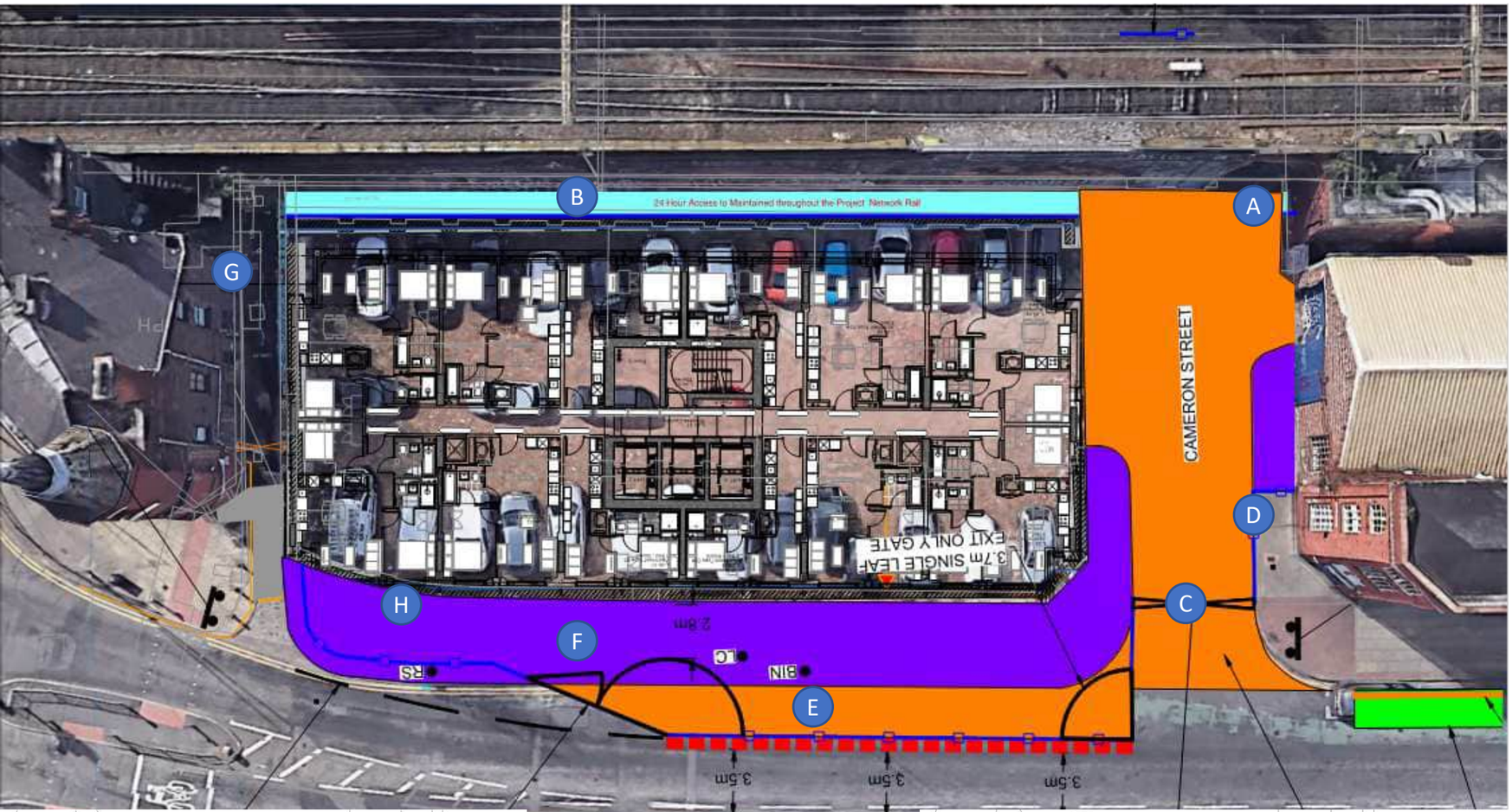
Tower Crane 2

1. JOST JTL268.16
2. Tower 6.0m on Grillage
3. Jib 30m
4. SWL(De-Rated) 6.85t at 40M
5. Out of Service Radius 11.00m

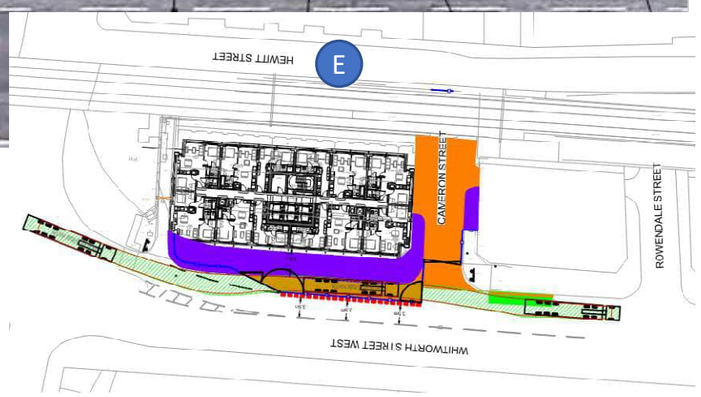


Tower Crane 1 Tie into Core

Domis Fusion Project : Site Logistics







A — Cameron Street Closed Including Underpass to Hewitt Street.
24 Hour Uninterrupted access will be maintained For Network rail throughout the Contract Period

Network Rail Out of Hours Access will be maintained at throughout the contract period to Face of Viaduct.

B — A Managed Procedure will be put in to place During Working Hours, to ensure Network Rail Gain access to the Face of the Viaduct within an agreed time period.

C — Controlled Vehicle Access to Cameron Street

D — Controlled Pedestrian Site Access to Cameron Street

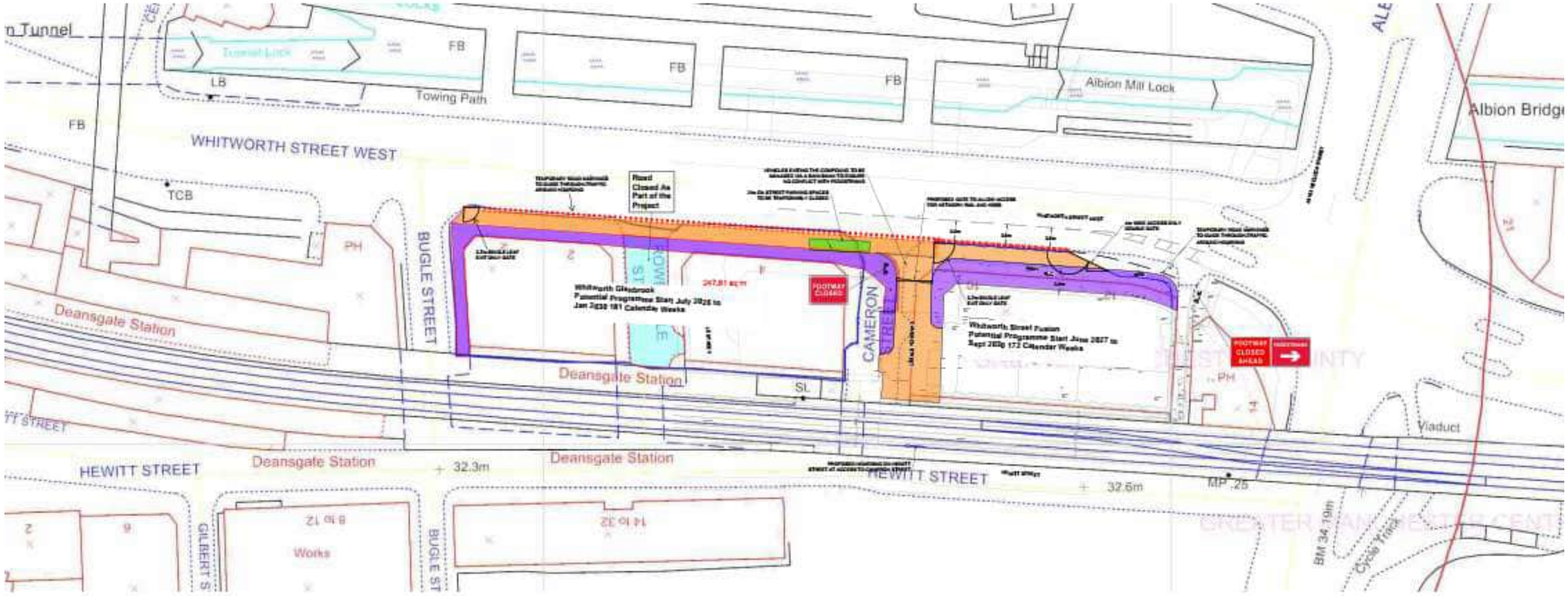
E — Tower Crane Off Loading Area & Delivery Access Route. & Tracking Drawing Showing drive through the Site.

F — Over slab the pavement to form haul road and to protect existing services.

G — Temporary works to existing Fire Escape and scaffold walkway

H — Potential Double Hoist Location

I — Tracking Drawing Showing Vehicle Access Past Site our site hoarding



KEY

PROPOSED WATER-FILLED HIGH VISIBILITY SAFETY BARRIERS OR EQUIVALENT	
PROPOSED HOARDING FENCE LINE	
TEMPORARY FOOTPATH CLOSURE	
TEMPORARY REMOVAL OF PARKING BAYS	
TEMPORARY ROAD CLOSURE	
EXISTING LIGHTING COLUMN TO BE REMOVED TO STORE. TEMPORARY LIGHTING TO BE CONFIRMED WITH MANCHESTER CITY COUNCIL	LC.
EXISTING TRAFFIC SIGN TO BE REMOVED AND RELOCATED. LOCATION TO BE CONFIRMED WITH MANCHESTER CITY COUNCIL	RS.
EXISTING BIN TO BE REMOVED TO STORE	BIN.

INFORMATION ISSUE

Draft Traffic Management Plan for Whitworth Street Fusion 828

Student Accommodation and 364 New Apartment Block Glenbrook Whitworth Street

DOMIS CONSTRUCTION LTD

Whitworth Street Fusion and Glenbrook Projects

Draft Traffic Management Plan

A1	17-11-2025			

Appendix 4.1

Scoping Report

wardell-armstrong.com

ENERGY AND CLIMATE CHANGE
ENVIRONMENT AND SUSTAINABILITY
INFRASTRUCTURE AND UTILITIES
LAND AND PROPERTY
MINING AND MINERAL PROCESSING
MINERAL ESTATES
WASTE RESOURCE MANAGEMENT



FUSION STUDENTS AND ATRI7 6 LIMITED

WHITWORTH STREET WEST

EIA SCOPING REPORT

JUNE 2025

wardell armstrong | PART OF SLR

Wardell Armstrong (part of SLR)
Sir Henry Doulton House, Forge Lane, Etruria, Stoke-on-Trent, ST1 5BD, United Kingdom
Telephone: +44 (0)1782 276 700 www.wardell-armstrong.com

DATE ISSUED:	**JUNE 2025**
JOB NUMBER:	**ST21315**
REPORT NUMBER:	**EIA-001**
VERSION:	**V1.0**
STATUS:	**FINAL**

FUSION STUDENTS AND ATRI7 6 LIMITED

WHITWORTH STREET WEST

EIA SCOPING REPORT

JUNE 2025

This report has been prepared by Wardell Armstrong LLP with all reasonable skill, care and diligence, within the terms of the Contract with the Client. The report is confidential to the Client and Wardell Armstrong LLP accepts no responsibility of whatever nature to third parties to whom this report may be made known.

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CONTENTS

1 INTRODUCTION 1
2 DESCRIPTION OF THE SITE AND THE PROPOSED DEVELOPMENT 2
3 PROPOSED SCOPE OF THE ENVIRONMENTAL STATEMENT 5
4 AIR QUALITY 24
5 NOISE AND VIBRATION 28
6 BUILT HERITAGE, TOWNSCAPE AND VISUAL IMPACT ASSESSMENT 38
7 DAYLIGHT, SUNLIGHT & OVERSHADOWING 54
8 WIND MICROCLIMATE 59
9 SOCIO-ECONOMICS 62
10 SUMMARY 67

APPENDICES

Appendix A Existing Site Plan
Appendix B Heritage Asset Plan
Appendix C Preliminary Ecological Appraisal
Appendix D Phase I Geo-Environmental Assessment Report
Appendix E Phase II Geo-Environmental Assessment Report
Appendix F Townscape Character Area Plan
Appendix G Viewpoint Location Plan
Appendix H Address Map

1 INTRODUCTION

1.1.1 This Scoping Report has been prepared on behalf of Fusion Students and ATRI7 6 Limited (the Applicants) in support of a request for a formal Environmental Impact Assessment (EIA) Scoping Opinion under the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations), Regulation 15, regarding a full planning application for a 40 storey purpose built student accommodation building (hereafter referred to as the 'Proposed Development') at 10-12 Whitworth Street West, Manchester, M1 5NZ (hereafter referred to as the 'Site'). The relevant planning authority is Manchester City Council (MCC).

1.1.2 This report sets out the proposed scope of the Environmental Impact Assessment (EIA) being prepared in support of the Proposed Development. As required by Regulation 15, the report includes the following information:

I. a plan sufficient to identify the land (Appendix A);

II. a description of the nature and purpose of the development, including its location and technical capacity (Section 2); and

III. an explanation of the likely significant effects of the Proposed Development on the environment (Sections 4 - 9).

1.1.3 In addition, this report includes information on the proposed methodologies to assess potentially significant environmental effects, and, if relevant, potential mitigation measures that may be implemented.

1.1.4 The Scoping Report has been submitted to MCC as the relevant planning authority who will provide a formal Scoping Opinion on the Proposed Development.

1.1.5 As a registrant of the Institute of Environmental Management and Assessment's (IEMA) EIA Quality Mark Scheme, Wardell Armstrong LLP (WA) is experienced and committed to the delivery of effective practice in EIA.

2 DESCRIPTION OF THE SITE AND THE PROPOSED DEVELOPMENT

2.1 The Application Site

2.1.1 The Site is approximately 0.12 hectares (ha) in size and is located at 10-12 Whitworth Street West, Manchester, M1 5NZ. The Site is illustrated on the Existing Site Plan included at Appendix A.

2.1.2 The Site is centred at National Grid Reference (NGR: SJ 83611 97506) and currently comprises made ground, concrete and hoarding. The Site is currently being used as a temporary storage area in relation to a nearby development site (using permitted development rights). It is noted that in accordance with the discharge of planning condition 1 (time frames and restoring of land) attached to planning permission 135272/JO/2022 the Site will be restored, and measures implemented to secure the Site and prevent unwanted public access. Such will be implemented within Q3 of 2025 and will comprise the turfing of the Site and the erection of perimeter fencing. Where relevant each of the technical assessments has considered this anticipated baseline to ensure a worst-case scenario has been considered.

2.1.3 The Site is bound by:

- Whitworth Street West and roadside footpath to the north;
- City Road Inn to the east;
- An elevated railway line to the south that runs between Deansgate and Manchester Oxford Road stations; and
- Camerson Street to the west.

2.1.4 The area surrounding the Site predominantly comprises built development, due to the Site being located within the city of Manchester. The majority of this development comprises apartment buildings, hotels (including the Hilton Manchester Deansgate c.0.14 km to the northwest), bars and nightclubs, a music venue (Rebellion Manchester c.0.08 km west) and restaurants.

2.1.5 The Site lies adjacent to the railway line that connects Deansgate station (0.09 km west) and Manchester Oxford Road station (0.40 km east). Rochdale Canal, Castlefield Metrolink tram stop, and AXIS Manchester apartment building are located immediately opposite the Site off Whitworth Street West/B6469. The canal runs in an east to west orientation whereas the tram line runs in a northeast to west orientation.

2.1.6 Castlefield Art Gallery is located 0.14 km to the west. Car parks can be found 0.07 km south and 0.19 km west of the Site.

Environmental Designations

2.1.7 The Site located within close proximity to a number of Grade I, II, and II* Listed Buildings and Conservation Areas. These can be found listed in Tables 7.1 and 7.2 and illustrated on the Heritage Asset Plan (Appendix B).

2.1.8 The closest ecological designations to the Site include Non-Statutory Designated Ashton Canal West Site of Biological Importance (SBI) and Rochdale Canal: Stott's Lane to Ducie St Basin SBI, both located 1.40 km northeast of the Site. The closest statutory designation comprises the Rochdale Canal Special Area of Conservation (SAC), located 6.45 km northeast of the Site.

2.1.9 The Site is located within Flood Zone 1.

2.1.10 The Site is located within an Air Quality Management Area (AQMA), which covers the entirety of Manchester City Centre.

2.2 The Proposed Development

2.2.1 The following section provides an initial indication of the proposals, correct at the time of writing this Scoping Report. Due to the iterative nature of EIA these proposals may evolve prior to submission of the ES, however the broad principle of the Site being developed for student accommodation will be unchanged, ensuring the Scoping Opinion remains valid.

2.2.2 The Proposed Development description is as follows;

"Full planning permission for a 40 storey purpose built student accommodation building".

2.2.3 The Proposed Development will provide student accommodation, along with a range of communal uses such as lounge areas, work stations, a café, cold storage space, concierge, gym, dinner party rooms and communal roof space.

2.2.4 Externally the Proposed Development will comprise a limited amount of panel types.

2.2.5 Pedestrian access to the building will be via Whitworth Street West. There will also be a separate access for cyclists to a dedicated cycle store off Cameron Street. A drop off bay is also proposed on Cameron Street for deliveries and taxi drop offs.

2.2.6 It is anticipated that the Proposed Development will be car free, although there is the potential for accessible parking (alternatively referred to as 'Blue Badge' parking) to be included.

2.3 Requirement for EIA

2.3.1 The Proposed Development falls within Schedule 2 Category 10 Infrastructure projects (b) urban development projects, including the construction of shopping centres and car parks, sports stadiums, leisure centres and multiplex cinemas, of the EIA Regulations owing to the size and scale of the proposals. An EIA will be undertaken and an Environmental Statement (ES) prepared and submitted in support of the application on a voluntary basis.

3 PROPOSED SCOPE OF THE ENVIRONMENTAL STATEMENT

3.1 Introduction

3.1.1 The EIA will be undertaken in accordance with the EIA Regulations with regard to Schedule 4 which sets out the information for inclusion within an ES.

3.1.2 Information relating to the scope of each of the technical chapters of the ES, together with a preliminary summary of baseline information and the potential significant effects related to each of these aspects, is provided in Sections 4 to 9 of this report. Details relating to the non-technical chapters, and the technical aspects to be 'scoped out' of the ES, are provided below.

3.1.3 A Non-Technical Summary will be produced as a separate standalone document.

3.2 Non-Technical Chapters

3.2.1 The following non-technical chapters will be included within the ES.

- Introduction: This chapter will outline the background to the application and provide a brief overview of the proposals.
- Site Description: This chapter will describe the location of the Proposed Development and provide a broad overview of the current state of the Site and surrounding area. Detailed baseline information will be provided within the relevant technical chapter.
- Development Description: This chapter will describe the Proposed Development, including a description of the proposed construction and operational phase activities (to the extent available at the time).
- Approach and Scope: This chapter will detail the requirement for EIA; the scope of the ES and how it was determined; any consultation undertaken; and the schemes to be considered within the cumulative assessment.
- Consideration of Alternatives: This chapter will describe any reasonable alternatives studied by the Applicant, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.
- Summary of Residual and Cumulative Effects: This will form the final chapter of the ES and will summarise the significant residual and cumulative effects identified within the technical chapter of the ES.

3.2.2 The ES will be prepared by competent experts and will be accompanied by a statement outlining the relevant expertise and/or qualifications of these experts.

3.2.3 The ES will also be accompanied by a reference list detailing the sources used for the descriptions and assessments included in the environmental statement.

3.3 Scope

3.3.1 It is anticipated that the following aspects will need to be addressed in the EIA:

- Air Quality;
- Noise and Vibration;
- Built Heritage, Townscape and Visual Impact Assessment;
- Daylight, Sunlight & Overshadowing;
- Wind Microclimate; and
- Socio-Economics

3.3.2 Sections 4 – 9 of this Scoping Report set out further details on the scope of the above aspects.

Aspects to be Scoped Out

3.3.3 Specific chapters will not be included for the following topics, as it is considered that these will be addressed sufficiently elsewhere within the ES or planning application, and/or the Proposed Development is unlikely to result in significant environmental effects relevant to these topics.

<u>Transport</u>

3.3.4 It is proposed that traffic and transport effects are fully scoped out of the Environmental Statement (ES) for the Proposed Development.

3.3.5 The Proposed Development is a car-free, high-density PBSA scheme in a central location with excellent access to public transport, including Deansgate rail and Metrolink stations within 150 metres, and high-frequency bus services.

3.3.6 The only on-site parking provision will be for Blue Badge holders, in accordance with inclusive design requirements. The Site benefits from established pedestrian and cycle networks, and further enhancements are being delivered along Whitworth Street West as part of city centre public realm upgrades.

3.3.7 As such, the scheme aligns closely with local and regional policy objectives promoting sustainable transport.

3.3.8 A Transport Statement (TS) will be prepared, by Stantec, to support the planning application and will confirm both the operational and construction phases of the development will have negligible impacts on the local or strategic highway network.

3.3.9 Trip generation associated with the construction and operational phases of the Proposed Development is extremely limited, and well below the thresholds for assessment set out in IEMA Guidelines for Transport in ES.

3.3.10 A Construction Traffic Management Plan (CTMP) will be secured by condition to manage contractor movements, deliveries, and pedestrian safety during the construction period.

3.3.11 It is considered that the Proposed Development:

- Will not result in severance, delay, or amenity issues for pedestrians or road users;
- Will not materially impact public transport services or their capacity;
- Will not generate significant levels of traffic during construction or operation;
- Will be regulated via standard planning and highways conditions; and
- Will not trigger any of the IEMA-defined transport-related significant effects.

3.3.12 Accordingly, based on professional judgement, policy alignment, and accepted precedent, there is no reasonable likelihood of significant environmental effects from transport, and it is entirely appropriate for this topic to be scoped out of the ES in full.

<u>Ecology</u>

3.3.13 It is considered that ecology can be scoped out of the EIA for the reasons set out below.

3.3.14 A Preliminary Ecological Appraisal (PEA) (Appendix C) has been undertaken to identify ecological receptors which could be impacted by the Proposed Development. These are further discussed below.

3.3.15 The Rochdale Canal SAC Statutory Designated Site is located 6.45 km northeast of the Site and the Non-Statutory Designated SBIs at Ashton Canal West and Rochdale Canal Stott's Lane to Ducie St Basin are both located 1.4 km northeast of the Proposed Development. These are sensitive to potential impacts of pollution, run off or dust which could have adverse effects upon aquatic flora that they are designated for. The SAC is hydrologically connected to the Site as the canal is located approx. 20 m to the north. However, the section of the canal that is designated as a SAC and the SBIs are located upstream (by flow of water) of the Proposed Development, therefore any run-

off or pollution would not flow into them as the canal would take it west/southwest. The impact of dust would also be very limited (if not negligible) due to the distances between the designated sites and the Proposed Development, intervening development, and the anticipated amount of dust to be produced by the Proposed Development will be low.

3.3.16 Any dust pollution would result in at most a minor adverse effect to Rochdale Canal SAC and negligible effect to the SBIs. Neither effect is considered to be significant.

3.3.17 It is assumed that measures for pollution prevention and dust control would be put in place as appropriate (such as Working Methods or a Construction Environmental Management Plan (CEMP)), thereby reducing any pollution or dust creation arising from the Proposed Development to none or very minimal. This will ensure no significant adverse effects occur upon the Rochdale Canal SAC or SBIs.

3.3.18 Notable bird species that may be present on or close to the Site are black redstart *Phoenicurus ochruros*, which are a Schedule 1 Species and Local Biodiversity Action Plan species. The adjacent railway bridge is considered to provide nesting habitat, but there is limited foraging habitat in the surrounding area and none on Site. Impacts to this species are restricted to limited disturbance. Standard mitigation measures of initial works avoiding the nesting bird season or a pre-works nesting bird check will avoid significant adverse effects.

3.3.19 The railway bridge is also suitable for roosting bats. Any works that are directly on the bridge would result in potential adverse impacts to roosting bats, however the current proposals do not propose works on this bridge. As such significant adverse effects will not occur. If works do change and involve the bridge, then to assess if bats are present, an endoscopic inspection and/or an emergence survey would identify if the identified feature were suitable and if bats are roosting within.

3.3.20 The temporary turfing of the Site may provide limited ecological value for invertebrates and foraging birds. No significant ecological value should arise from changing the site in its current condition to turf. Pre-works checks of the Site will avoid significant adverse effects.

3.3.21 It is considered that if the mitigation mentioned above is put in place, then the already limited impacts from the Proposed Development upon any ecological receptor is likely to be negligible to minimal and would not result in a significant effect. There were no other ecological receptors that were identified as subject to potential impacts as a result of the development.

Water Resources & Flood Risk

3.3.22 The Site is located wholly within Flood Zone 1 in accordance with the Environment Agency's Development Advice maps and therefore comprises land assessed as having a less than 1 in 1000 annual probability of river or sea flooding in any year (< 0.1%).

3.3.23 The implementation of mitigation measures into the design of the Proposed Development will ensure that the flood risk at the Site remains low and acceptable. The Proposed Development will include for standard industry practice for the type of development proposed, including the implementation of Sustainable Drainage Systems (SuDS) prior to occupation, to reduce the potential for impacts on flood risk, hydrology and water quality.

3.3.24 It is acknowledged that the Proposed Development will result in the construction of low permeability surfacing, increasing the rate of surface water run-off from the Site. Drainage Strategies will be produced, and suitable measures will be implemented to ensure the existing runoff rates to the surrounding water environment are maintained at pre-development rates accounting for the effects of climate change. Drainage systems and wastewater discharge shall be designed in line with best practice guidance, to eliminate any pollution risks for watercourses and underground water.

3.3.25 To control environmental issues during the construction process, good environmental practice will be followed, and a CEMP will be developed. The CEMP will form part of the project management plan, which will integrate the core arrangements for health and safety, quality and environmental management for the construction phase. This integrated approach ensures that environmental aspects are considered at all stages of the design and construction process.

3.3.26 Significant effects are not anticipated in relation to water resources and flood risk and this aspect can be scoped out of the ES.

Ground Conditions and Contamination

3.3.27 A number of site investigations have been carried out on the Site.

3.3.28 A Phase I Geo-Environmental Assessment Report (December 2024) (Appendix D) concluded that the Site '*has had previous uses of residential dwellings and more recently a warehouse, based on the proposed residential development, the overall risk to human health from on site soils contamination is considered to be moderate to low'*. The report also concluded that the risk from off-site sources of contamination is considered to be moderate to low; permanent ground gases is considered to be

moderate to low; radon is not considered to pose a risk; and the overall risk to controlled waters is considered to be low.

3.3.29 A Phase II Geo-Environmental Assessment Report (December 2024) (Appendix E) has also been prepared. As the Proposed Development does not propose any soft landscaping, the risk is considered to be low and no remedial measures in respect to human health are required. The assessment confirmed that '*the overall risk to controlled waters is considered to be low and no further action is required*'.

3.3.30 The report also states that '*Based on the gas monitoring the site is classified as Characteristic Situation 1 and ground gas protection measures are not required*'. It is proposed to undertake a ground gas monitoring programme prior to construction, following which this will be re-assessed.

3.3.31 During construction standard protocols and best practice will be implemented to ensure there is no risk of contamination. If required a Materials Management Plan (MMP) will be prepared.

3.3.32 Further site investigations and a Risk Assessment will be undertaken prior to any development work on the Site. This can be secured as a condition to the planning permission.

3.3.33 Considering the above it is proposed to scope Ground Conditions out of the ES.

<u>Waste</u>

3.3.34 A Phase II Geo-Environmental Assessment Report (December 2024) has been prepared in support of the Proposed Development. The report concluded that '*Waste classification for the made ground at the site has revealed the majority of the soils to be non-hazardous with some soils suitable for disposal at an inert landfill and some at a non-hazardous landfill*'. Further testing of waste arisings will be undertaken where necessary to determine the most appropriate accepting landfill.

3.3.35 During both the construction and operational phases the Proposed Development will be managed to integrate the core principles of the waste hierarchy circular economy to enable resources and waste to be managed sustainably and to their highest value for as long as possible.

3.3.36 During construction a Site Waste Management Plan (SWMP) will be prepared which will detail the design measures towards optimum use of materials, set specific targets for construction waste generation and appropriate mechanisms/protocols for segregating waste on-site and monitoring overall waste management. Areas designated for the safe storage of waste will be provided during construction. All

storage areas will be appropriately designed for environmental protection and will be organised so that they can be safely accessed by construction staff. Staff will be appropriately trained in the use of waste storage facilities on Site and clear labelling and signage will be employed to ensure that materials are handled and stored in-line with legislative requirements. Wastes will only be removed from the Site by registered waste carriers and the movements will be accompanied by a Waste Transfer Note (and a Waste Consignment Note, if appropriate) in accordance with Duty of Care. Copies of these will be stored on the Site. Wastes will only be sent to sites appropriately permitted for the treatment, recycling and/or disposal of the specific waste stream.

3.3.37 During the operational phase of the Proposed Development, suitable waste storage and recycling facilities will be provided in accordance with the regulations and policy set out by MCC, who will collect the waste from the Site under their statutory duties, and as part of MCC's existing waste collection scheme. The facilities will facilitate the separation of waste, promoting the diversion of waste from landfill in line with the Waste Hierarchy.

3.3.38 The design of the Proposed Development would provide appropriate access for refuse collection vehicles and ensure safe access and manoeuvrability for collection crews.

3.3.39 It is not anticipated that the construction or operation of the Proposed Development will generate hazardous waste.

3.3.40 With implementation of appropriate design features to facilitate waste collection, it is considered that there is limited potential for significant waste effects to arise as a result of the Proposed Development. Consequently, waste has been scoped out of further assessment within the ES.

Human Health

3.3.41 Impacts of the Proposed Development on human health are likely to relate to noise, air quality, and transport, which will be considered within the relevant ES chapters and reports supporting the Planning Application.

3.3.42 During the construction phase, health and safety regulations, will be adhered to reduce the likelihood of any impacts occurring to human health.

3.3.43 The construction of the Proposed Development will create direct and indirect employment opportunities in the short term which will likely have a beneficial effect upon the local population through increased employment opportunities, enhanced future job security and contribution to the economy through expenditure. Impacts

upon employment, economy, housing provision, education, healthcare and crime will be considered as part of the Socio-Economics ES Chapter.

3.3.44 The risk to human health from events such as major pollution and fires will be controlled through adherence to the relevant environmental permits and regulations during both construction and operation.

3.3.45 Owing to the nature of the Proposed Development no adverse effects on human health are expected to be introduced by the Proposed Development during the operational phase. The Proposed Development will provide a beneficial effect through increased student accommodation provision and will also promote healthy travel through the provision of cycle parking.

3.3.46 In conclusion, it is not considered that the proposals are likely to result in significant adverse effects on population and human health, beyond those already being considered elsewhere within the ES.

Climate Change

3.3.47 The EIA Regulations state that an EIA should consider potential climate related effects. It is considered that these comprise the impact of the Proposed Development on the climate (i.e. greenhouse gas (GHG) emissions) and the impact of climate change on the Proposed Development.

3.3.48 As for any development, the Proposed Development will result in GHG emissions and these are unavoidable. It is not considered that the GHG emissions of the Proposed Development will be significantly different from other proposals of a similar nature and scale as the Proposed Development will be constructed, at a minimum, in accordance with relevant regulations, with betterment of Building Regulations being achieved where possible. In addition, the proposals will meet the requirements of policies that aim to reduce GHG emissions, through the use of sustainable design and other relevant measures.

3.3.49 The Proposed Development could potentially be affected by the impacts of climate change, including increased risk of extreme weather events and flooding. However, resistance to extreme weather events will be incorporated within the design process, and the Proposed Development will be constructed in accordance with relevant regulations and guidance. The Proposed Development is not expected to be severely affected by climatic changes.

3.3.50 In conclusion, it is not considered that the Proposed Development is likely to result in significant adverse effects on climate, and that the risk of the Proposed Development

being significantly affected by climate change is being considered sufficiently elsewhere within the ES and standalone reports submitted as part of the application package. The sustainability credentials of the Proposed Development will be considered more generally through the planning application.

Risks of Major Accidents and/or Disasters

3.3.51 The EIA Regulations state that an EIA should consider the vulnerability of a development to risks of major accidents and/or disasters, relevant to the project concerned.

3.3.52 'Risk' can be defined as the 'likelihood of an impact occurring, combined with effect or consequence(s) of the impact on a receptor, if it does occur'; a 'Major Accident' can be defined as an event which threatens immediate or delayed serious environmental effects to human health, welfare and/or the environment, and requires the use of resources beyond those of the client or its appointed representatives (i.e. contractors) to manage'; and a 'Disaster' can be defined as 'naturally occurring extreme weather events (e.g. storm, flood) or ground-related hazard events (e.g. subsidence, landslide, earthquake) with the potential to cause an event or situation'. Disaster and natural disaster are often used interchangeably.

3.3.53 The proposals will be designed to ensure that the likelihood of it resulting in or causing an event to occur that threatens serious damage to human health, welfare and/or the environment is low. The vulnerability of the Proposed Development to naturally occurring extreme weather events (i.e. flooding, storms and extreme temperature beyond that of weather events experienced in the UK) and/or ground related hazard events, (e.g. subsidence, earthquakes and ground contamination) that could lead to an event or situation is low.

3.3.54 For the purpose of this ES, a 'significant adverse effect' is considered to be one which results in the loss of life or permanent injury, and/or permanent or long-lasting damage to an environmental receptor.

3.3.55 Table 3.1 below sets out the accidents and disasters of relevance to the Proposed Development (based on the location of the Site and proposed land uses), and how these will be mitigated.

Table 3.1: Consideration of major accidents and/or disasters to the Proposed Development

Major accident/disaster type	Description
Extreme weather events	The Proposed Development could be damaged by extreme weather events (exacerbated by climate change), including storms, snow, ice and heatwaves. Resilience to extreme weather events will be incorporated within the design

Table 3.1: Consideration of major accidents and/or disasters to the Proposed Development	
Major accident/disaster type	**Description**
	process, and the building will be constructed in accordance with relevant building and fire regulations.
Flooding	The Site is wholly located within Flood Zone 1 with a low risk of flooding. The development will incorporate suitable sustainable drainage systems (SuDS) to reduce the volume of water run-off over the building's lifecycle
Electricity, gas, water supply or sewerage system failures	Users of the Proposed Development could be at risk of utilities system failures. However, it is assumed that this risk will be mitigated through standard protocols implemented by the utilities providers, including emergency call and response procedures.
Ground contamination / Pollution incidents	A number of site investigations have been carried out on the Site. These have identified the Site to be of a moderate to low risk from contamination. During construction standard protocols and best practice will be implemented to ensure there is no risk of contamination. If required a Materials Management Plan (MMP) will be prepared. Further assessments of this risk will be undertaken, and mitigation measures will be recommended where required.
Transport accidents	The Proposed Development could affect traffic flows on the local highway network, which could increase the risk of transport accidents. A Transport Statement will be prepared which will consider highway safety in proximity of the Site. Where relevant measures to increase safety will be identified.
Rail accident	The Site is located adjacent to a railway line. Impacts from an associated accident will be controlled by existing best practice and safety measures implemented by the rail operators.
Major fire	Construction of the Proposed Development will follow standard good practice and a suitable fire risk assessment and fire precautions will be adhered to. The risk assessment will take account of relevant guidance. The Proposed Development will be built to national fire regulations and to have the standards of fire protection required by Building Regulations. The Proposed Development will include the use of linings, materials and finishes that limit the release of heat. Good design will reduce the risk of fire significantly.

3.3.56 Based on the above, it is not considered that the Proposed Development will result in any significant adverse effects on the environment deriving from the vulnerability of the Proposed Development to the risk of major accidents and/or disasters (relevant to the Proposed Development).

Lighting

3.3.57 The lighting design of the Proposed Development is intended to be efficient and in excess of Building Standards requirements.

3.3.58 Temporary lighting implemented during the construction phase, such as on-site temporary light fittings, construction compounds and on-Site security lighting have the potential to result in sky glow and light trespass or 'spill'. The level of light will be dependent on the location of the construction activities on a daily basis and the

equipment being used, with light levels being attenuated as the distance between the source and receptor increases. Any impacts would be temporary.

3.3.59 Lighting associated with the operation of the Proposed Development will be designed in accordance with the most relevant lighting standards and will be assessed in relation to sensitive receptors. An appropriate lighting strategy will be implemented, as such, no significant operational effects are anticipated.

3.3.60 It is therefore considered that it is not necessary to assess lighting further within the ES.

Aviation

3.3.61 The Site is located in the Manchester control zone (CTR) airspace, which extends from the ground to 3,500 feet above mean sea level (AMSL).

3.3.62 The Proposed Development is unlikely to result in an adverse effect upon the operations of Manchester Airport due to the scale of the Proposed Development and the location of the Site relative to the number of existing high-rise buildings in the surrounding area.

3.3.63 The proposed building and cranes used during construction will be lit in accordance with external lighting requirements. No effects upon helicopters are anticipated.

3.3.64 In summary, it is unlikely that significant effects would occur with respect to aviation. This discipline can therefore be scoped out of the EIA.

TV, Radio, & Broadband Connectivity

3.3.65 The Proposed Development has the potential to adversely impact the reception of TV transmissions (both digital terrestrial television (DTT) and digital satellite television services) in certain areas surrounding the Site, in particular the area ‘behind’ the Proposed Development with respect to the serving transmitter or serving satellite. These areas are known as ‘signal shadow zones’. The main regional DTT transmitter serving the area surrounding the Site is the Winter Hill transmitter, located towards the northwest and approximately 24km from the Site. This is a main UK DTT transmitter, broadcasting local and national television services in the northwest region.

3.3.66 A TV baseline reception survey will be completed within the various shadow zones created by the built form of the Proposed Development, using professional reception equipment, connected to calibrated antenna systems. This process will confirm the transmitter serving the surrounding area, as well as the baseline signal strength and quality. The data recorded will allow for a ‘before and after’ comparison should

interference be reported either during the construction phase or the operational phase of the Proposed Development.

3.3.67 Any reported TV interference once construction of the Proposed Development has begun will be investigated. It is not standard practice to apply mitigation in advance because specific instances of interference cannot be easily predicted in such a densely cluttered urban environment. It is also not standard practice to alter plans of a Proposed Development solely for possible TV interference matters. Any TV interference confirmed to be caused by the Proposed Development will be mitigated by the developer.

3.3.68 Whilst the Proposed Development may have the potential to impact TV reception in certain areas around the Site, it is not anticipated that there will be significant effects on coverage in the area as a result of the Proposed Development; therefore, it is proportionate that television interference is scoped out of the ES. A TV reception impact assessment will be prepared and submitted as part of the planning application.

3.4 Determining Significance

3.4.1 The significance of environmental effects will be determined within the ES to assist MCC in identifying the potential significant effects of the Proposed Development, if any.

3.4.2 Significance is a function of impact magnitude and the importance/sensitivity of the resources or receptors. Whilst the methods for determining the significance of an effect will vary according to the environmental discipline, this underlying principle remains the same. The assessment of 'significance' makes a judgement of the severity of the effect on a particular environmental receptor, and will take into consideration all or a combination of the following factors:

- Geographical extent;
- Rate of change;
- Reversibility of the effect;
- Probability of the effect;
- Duration of the effect;
- Size and magnitude of the effect; and
- Sensitivity/importance/substitutability of the receptor.

3.4.3 The specific criteria for the assessment of significance will be in accordance with current published guidance specific to the discipline to which it relates where available. The published guidance documentation will be referenced within each technical chapter of the ES. Where published guidance is not available the criteria for determining the significance of an effect will be based on best practice and professional judgement. Each technical chapter will clearly define how the significance of effect has been determined.

3.4.4 Where potential significant adverse effects are identified, mitigation measures will be proposed in order to avoid, reduce or remove such effects. The mitigation measures will include refinements to the scheme design (as much as is possible at this stage) and/or the introduction of best practice methodology and specific safeguards.

3.4.5 Through the incorporation of appropriate mitigation measures, the effects will be reduced to the lowest practicable level, consistent with the overall objectives of the development. Any residual effects will be identified, and the significance of these residual effects addressed.

3.5 Cumulative Effects

3.5.1 In accordance with Schedule 4 of the EIA Regulations, an assessment of potential cumulative impacts will be undertaken.

3.5.2 Cumulative impacts can take two forms; intra-cumulative and inter-cumulative, and the consideration of both will be incorporated into the ES. Intra-cumulative being those impacts that occur as a result of the combination of multiple environmental impacts (from the development in isolation) on a single receptor, and inter-cumulative being those impacts that occur as a result of the development in combination with other development(s).

3.5.3 The assessment of intra-cumulative impacts will consider the residual impacts likely to be experienced for each type of receptor and assess the significance of these cumulative effects.

3.5.4 The assessment of inter-cumulative impacts will consider potential significant effects arising from the cumulation of effects with other existing and/or approved projects. It is proposed that the ES will consider the following schemes, set out within Table 3.2, within the assessment of cumulative effects.

Table 3.2: Schemes for consideration within cumulative impact assessment		
Scheme	**Description**	**Status**
Manchester City Council (MCC)		
141773/FO/2024 2-4 Whitworth Street West, Manchester, M1 5WY.	Demolition of buildings at 2 and 4 Whitworth Street West and the construction of a residential building (Class C3) with associated servicing arrangements, landscaping, and associated works.	Approved 10tth April 2025. Decision notice pending.
EIASCO/25/001 Manchester Oxford Road Station, Remodelling Manchester M1 6FU.	Request for Scoping opinion under Part 4, Regulation 15 of The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended).	Scoping Opinion Issued 10th March 2025
129273/FO/2021 34 Great Jackson Street, Manchester, M15 4NG.	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.	Approved Wednesday 20th November 2024
137227/FO/2023 Plot D, Great Jackson Street, Manchester, M15 4NP.	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.	Approved subject to a S106 August 2024. Decision notice pending.
137226/FO/2023 Part Of Plot C And Plot E, Great Jackson Street, Manchester, M15 4NP.	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 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.	Approved subject to a S106 August 2024. Decision notice pending.

Table 3.2: Schemes for consideration within cumulative impact assessment		
Scheme	**Description**	**Status**
Manchester City Council (MCC)		
132199/FO/2021 Plot F, Great Jackson Street, Manchester, M15 4AX. (including subsequent applications (Discharge of Conditions and Non-material amendments))	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.	Approved Friday 1st July 2022
139715/FO/2024 Viadux Phase 2 Land Bounded By Albion Street, Great Bridgewater Street, And Trafford Street, Manchester, M60 2AT.	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.	Approved April 2025
133172/FO/2022 Land Bounded By Trumpet Street, Albion Street & Great Bridgewater Street, Manchester, M1 5LE.	Erection of a 26 storey residential tower for 72 apartments (Use Class C3) with associated car parking, cycle parking, servicing, and associated landscaping works.	Awaiting decision Validated 9th March 2022
133176/FO/2022 50-56 Great Bridgewater Street, Manchester, M1 5LE.	Erection of a 7-storey building with commercial floorspace (Use Class E/Sui Generis) to first and second floors and residential use to floors three to six containing 4 no. apartments (Use Class C3) with associated parking and servicing.	Awaiting decision
141786/FO/2024 Plot 9B, First Street, Manchester.	Erection of part 12, part 33 storey purpose-built student accommodation (PBSA) building (Sui Generis), alongside ancillary amenity space, landscaping, secure cycle parking and other associated works; and use of land east of River Street as a construction compound (Plot 9B).	Approved April 2025. Decision notice pending.

Table 3.2: Schemes for consideration within cumulative impact assessment		
Scheme	**Description**	**Status**
Manchester City Council (MCC)		
136170/FO/2023 Land Bounded By River Street To The North, River Street And Vacant Lane To The East, Hulme Street To The South, And Plot 10A Of The First Street Masterplan To The West, Manchester. Varied by 141139/NMC/2024 and 141162/JO/2024 (including subsequent applications (Discharge of Conditions and Non-material amendment))	Erection of 14-storey building comprising purpose-built student accommodation (PBSA) (Sui Generis) and ground floor Food Hall (Sui Generis Use), and other associated works including external amenity spaces, public realm, secure cycle parking, access and servicing arrangements (Plot 10B).	Approved 25th July 2023 Under construction
138831/FO/2023 Plot 11, Block C, First Street, South Manchester, M15 6JE.	Erection of a ground plus 28-storey building plus plant level, comprising purpose-built student accommodation (PBSA -Sui Generis) and other associated works including public realm, secure cycle parking and servicing arrangements.	Awaiting decision 18th December 2023
114664/FO/2016 Land Bounded By Jacksons Row, Bootle Street, Southmill Street & 201, Deansgate, Manchester, M2 5GU. Varied by 125549/JO/2019 137873/JO/2023 (Amendment App) Varied by 141519/JO/2024 (including subsequent Partial Discharge of Conditions and Discharge	Partial demolition of existing buildings. Development up to 171.6m AOD comprising residential (Use Class C3), offices (Use Class B1), hotels (Use Class C1), place of worship (Use Class D1) and leisure/food and drink uses (Classes A1, A3, A4, A5 and D2). Creation of public spaces and new public realm, provision of basement car parking, highway alterations, landscaping and associated works. Variation of planning conditions 2 and 7 attached to planning permission 135827/JO/2022 to allow increase in height of building by two floors to facilitate the increase in the number of residential apartments from 213 to 229, reconfiguration of level 6 hotel, amendment to basement cycle store and other associated elevational alterations.	Approved 20th June 2018 Under construction

Table 3.2: Schemes for consideration within cumulative impact assessment		
Scheme	**Description**	**Status**
Manchester City Council (MCC)		
of Conditions applications)		
125804/FO/2019 325 - 327 Deansgate, Manchester, M3 4LQ. Varied by 139059/JO/2024 (including subsequent applications (Discharge of Conditions and Non-material amendment))	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.	Approved 26th June 2020 Under construction
129406/FO/2021 Land At Deansgate South Manchester (including subsequent applications (Discharge of Conditions, re-discharge condition, and Non-material amendments))	Full planning permission for a 28-storey purpose built student accommodation building (Sui Generis).	Appeal Allowed 4th June 2021 Under construction
134694/FO/2022 Bridgewater House, Great Jackson Street, Manchester, M15 4WG.	Restoration and conversion of the Grade II listed Bridgewater House and redevelopment of car park area to create a ground plus three storey apartment building; overall providing 53 residential units, including landscaping to courtyard, bike storage and associated works.	Approved 6th February 2023
128002/FO/2020 One City Road, East Manchester,M15 4PN. (including subsequent applications (Discharge of Conditions and Non-material amendment))	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.	Approved 26th January 2021
135565/FO/2022 Land Bounded By Deansgate, Great Bridgewater Street, Watson Street & Peter Street Manchester M3 4EN.	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,	Approved February 2023. Decision notice pending.

Table 3.2: Schemes for consideration within cumulative impact assessment		
Scheme	**Description**	**Status**
Manchester City Council (MCC)		
	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 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.	
135419/FO/2022 One Medlock Street, Manchester, M15 5FJ. (including subsequent applications (Discharge of Conditions and Non-material amendment))	Demolition of the existing hotel building and structures and redevelopment of the site to comprise two separate buildings: one 13 storey office building with commercial unit (Use Class E) at ground floor; a part 11, part 38 storey building comprising 1,014 purpose built student accommodation units (sui generis) with ground floor office/community uses (Use Class E, F1 or F2); and associated ancillary internal and external amenity space, hard and soft landscaping and associated highway works.	Approved 7th November 2023
136043/FO/2023 Land Bounded By River Street To The North, Plot 10B To The East, Hulme Street To The South And	Erection of 13-storey office building (Use Class E) with associated public realm, external roof terraces (floors 11 and 12) and other associated works including external amenity spaces (Plot 10A).	Approved 12th May 2023

Table 3.2: Schemes for consideration within cumulative impact assessment		
Scheme	**Description**	**Status**
Manchester City Council (MCC)		
The Development Plot 9A To The West Manchester. (including subsequent Discharge of Conditions application)		
138805/FO/2023 2 Gloucester Street, Manchester, M1 5QR.	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.	Approved at committee in May 2024NB. Revised plans have been submitted.

3.5.5 It is acknowledged that the construction of the proposed developments at the former Bauer Millet Site, Albion Street, Manchester (planning ref: 115871/FO/2017 (Varied by: 126868/JO/2020 and 133998/JO/2022)) and at Plot 9, First Street, Manchester, M15 4FN (planning ref: 132600/FO/2021 (Varied by 140926/JO/2024) have concluded. Thes schemes will therefore be considered as part of the baseline scenario within the ES.

3.5.6 It would be appreciated if MCC could confirm within their Scoping Opinion if the above list of schemes is sufficient and identify any additional schemes that may require consideration.

4 AIR QUALITY

4.1 Introduction

4.1.1 An assessment will be undertaken by Planning and Environmental Consultants Ltd of the likely significant effects of the Proposed Development on the environment with respect to Air Quality and Construction Dust.

4.2 Study Area

4.2.1 Due to the location of the Proposed Development, there is potential for Air Quality Impacts at proposed receptors across the Site due to existing high levels of existing traffic. At present the Site is anticipated to be car-free or shall only provide Blue Badge parking for future site users affectively limiting vehicular trip generation from the Development, as such impacts on the surrounding area as a result of operational phase traffic emission are anticipated to be scoped out. Additionally the building of the development itself has a high potential to result in construction dust impacts on human health and property within 250 m of the Site boundary and within 50 m of the construction traffic routes up to 250 m from the Site entrance in line with the Institute of Air Quality Management (IAQM) guidance on the Assessment of Dust for Demolition and Construction.

4.3 Baseline Conditions

Current Baseline

4.3.1 The Site is located within an area specified by the Greater Manchester Combined Authority (GMCA) as an Air Quality Management Area, this area has been designed due to elevated annual mean concentration of Nitrogen Dioxide (NO_2). Critically this does not mean that all other pollutants fall within acceptable limits. Additionally, GMCA operate Air Quality Monitors across their area of administration including in close proximity to the Site. Several nearby monitors have indicated that in recent years Air Quality has regularly exceeded the established limits.

Future Baseline

4.3.2 Baseline conditions are predicted to improve in future years due to the anticipated improvements to combustion engines and uptake in EV's. Critically however, this is not a guarantee and must be taken with careful consideration and rational assumptions made in the assessment of future baseline.

4.4 Embedded Mitigation & Design Assumptions

4.4.1 For the purposes of scoping, the following design assumptions have been made:

- Any and all parking will comply with the requirements for EV infrastructure; and
- Any and all parking will comply with the requirements for disabled parking infrastructure.

4.5 Likely Significant Effects

4.5.1 Due to the location of the Proposed Development, there is a high number of nearby human and property receptors which have the potential to experience significant impacts during the construction phase as a result of dust soiling, or pollutant emissions associated with construction processes and vehicular trips to and from the development. These surrounding receptors will be reviewed as part of the chapter, with any that have potential to experience significant adverse impact assessed further. Additionally, future site users have the potential to experience significant impacts from the surrounding area.

4.5.2 Table 5.1 provides a summary of the key issues to be considered in relation to air quality.

Table 5.1 Summary of Likely Significant Effects

Receptor	Potential Effects	Scoped In
Construction Phase		
Dust	Dust generated during earthworks, construction or trackout activities	✓
Pollution	Air quality pollutants associated with construction activities such as from vehicles movements to and from the Site.	X
Operational Phase		
Impacts	The proposed development is anticipated to have at most limited parking reserved for Blue Badge users, the potential for emissions from vehicle movements associated with the development to significantly impact the surrounding area is therefore limited,	X
Exposure	The potential for emissions from vehicle movements associated with the development and existing vehicle movements on the local road network to impact the Proposed Development,	X

4.5.3 Further to the above, Table 5.2 below provides details on the matters to be scoped out of further assessment within the ES.

Table 5.2 Matters to be scoped out of the assessment	
Matter	**Rationale**
Pollution	Construction vehicles are unlikely to exceed the scoping criteria outlined within IAQM guidance of 25 Heavy Duty Vehicle (HDV) Annual Average Daily Traffic (AADT) within an Air Quality Management Area (AQMA).
Impacts	The EPUK and IAQM document states the following criteria to help establish when an air quality assessment is likely to be considered necessary: • Proposals that will cause a change in Light Duty Vehicle (LDV) flows of more than 100 AADT within or adjacent to an AQMA or more than 500 elsewhere; • Proposals that will cause a change in HDV flows of more than 25 AADT within or adjacent to an AQMA or more than 100 elsewhere; • Proposals which include either a centralised plant using biofuel, a combustion plant with single or thermal input >300 KWh or a standby emergency generator associated with a centralised energy centre; and • Proposals which include combustion processes of any size. Should the above criteria not be met, the EPUK and IAQM document considers air quality impacts associated with the scheme to be not significant and no further assessment is required. Conversely, should the criterion be exceeded it may be deemed necessary that further assessment is required. Any additional vehicle movements associated with the Proposed Development will generate exhaust emissions, such as NO_2, PM10 and PM2.5 on the local and regional road networks. Given the scale of the development and the quantity of proposed parking, the Proposed Development is anticipated to generate less than 500 AADT flow (100HDV) on the local road network. Subsequently, potential air quality impacts associated with operational phase road vehicle exhaust emissions can be scoped out as unlikely to result in significant impact
Exposure	The potential for emission impacts from vehicle movements associated with the development and existing vehicle movements on the local road network can be mitigated through building and ventilation design.

4.6 Proposed Methodology

Construction Phase Air Quality Assessment

4.6.1 During the construction phase of the Proposed Development there is the potential for air quality impacts as a result of fugitive dust emissions associated with earthworks, construction and track-out activities on the Site. It is proposed to assess these qualitatively in accordance with the IAQM methodology 'Guidance on the Assessment of Dust from Demolition and Construction'. The methodology provided within this guidance document is widely regarded as an example of best practice and results are accepted throughout the UK.

4.7 Potential Mitigation Measures

4.7.1 Mitigation will be recommended in line with the IAQM guidance and the DEFRA guidance. If specific situations occur where this guidance is required to be altered to fit the real world scenario, this will be noted within the assessment.

4.8 Consultation

4.8.1 PEC will consult with the Manchester City Council Environmental Health Officer to determine the acceptability of the proposed methodology, acceptable local monitoring data, determine the presence of any specific receptor sensitivities in the local area, and highlight any assumptions which need to be made within the creation of the air quality model.

5 NOISE AND VIBRATION

5.1 Introduction

5.1.1 An assessment will be undertaken by Sandy Brown of the likely significant effects of the Proposed Development on the environment with respect to Noise and Vibration.

5.1.2 The Noise and Vibration ES chapter will:

- Define noise and vibration baseline conditions;
- Identify relevant noise and vibration receptors;
- Assess:
    - The potential for noise and vibration impacts throughout the construction works and resultant noise and vibration effects during operation;
    - The likely significant noise and vibration effects;
    - Any required mitigation or monitoring to address any likely significant adverse noise and vibration effects; and
    - The potential for residual and cumulative noise and vibration effects.

5.2 Study Area

5.2.1 The Site is on the southwest corner of the intersection between Whitworth Street West and Albion Street. The elevated mainline railway between Manchester Oxford Road station and Deansgate station forms the southern boundary of the Site.

5.2.2 A mark-up of the Site (outlined in red) is provided in Figure 6.1.

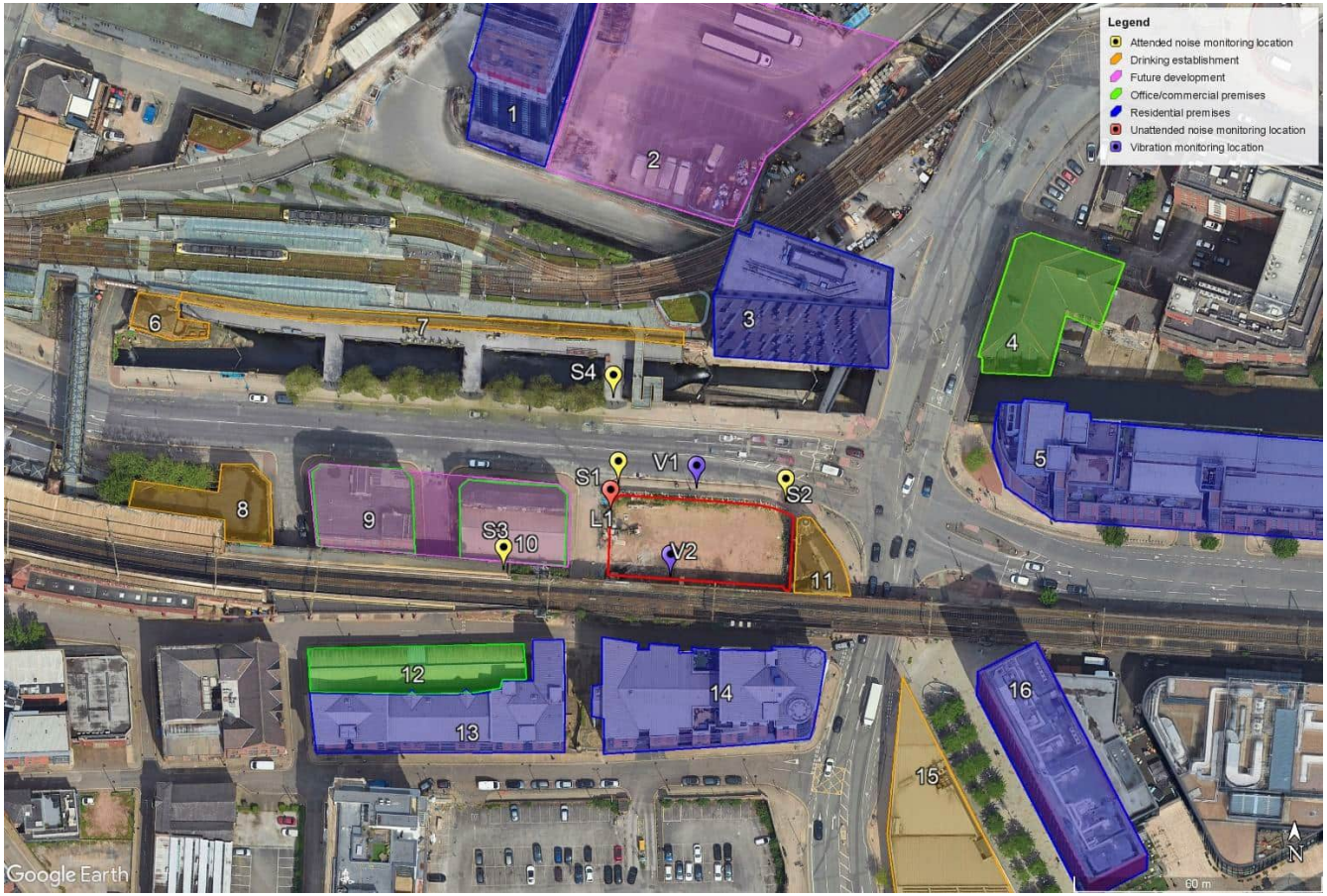


Figure 6.1: Mark-up of the site in relation to the elevated railway (Image courtesy of Google Earth Pro)

5.3 Baseline Conditions

Current Baseline

5.3.1 The Site location in relation to its surroundings is shown in Figure 6.1 outlined in red.

5.3.2 Baseline noise monitoring has been undertaken by Sandy Brown between 13th January 2023 and 17th January 2023. The ground-borne vibration survey was undertaken on 17th January 2023. The results of the environmental noise and vibration survey are detailed within the environmental noise survey report 22235-R01-B *Noise and vibration planning report* dated 1st June 2023.

5.3.3 The existing environmental noise climate at the Site is dominated by road traffic during the daytime from Whitworth Street West, and train noise is noted, with club noise over the night-time period audible.

5.3.4 Less significant noise sources included tram noise from Deansgate Castlefield and pedestrian noise from Whitworth Street West.

5.3.5 Subjectively there was slight perceptual vibration at the measurement location during train passes.

Noise monitoring locations

5.3.6 The long term noise monitoring location 'L1' is denoted by the red icons in Figure 6.1. At this location, noise monitoring was undertaken over 15-minute periods between 16:00 on 13 January 2023 and 14:15 on 17 January 2023.

5.3.7 The short term noise monitoring locations 'S1 – 4' are denoted by yellow icons in Figure 6.1. At these locations, noise monitoring was undertaken for 12 x 5-minute durations during the day and 12 x 5-minute durations during the evening.

Vibration monitoring locations

5.3.8 Vibration measurements were taken at two locations around the Site in order to determine the vibration levels resulting from the passage of trains on the railway tracks adjacent to the Site. The vibration measurement locations are indicated in Figure 6.1 as positions 'V1' and 'V2'.

5.3.9 The measurements were taken on 17 January 2023 between 14:35 and 17:00. Measurement periods containing multiple train events (both passenger and freight trains) were obtained during the survey.

5.3.10 An additional vibration survey was undertaken on 6 March 2025. The environmental ground-borne vibration survey was carried out at the Site to an existing pile, and non-pile location.

Noise Baseline

5.3.11 The following section sets out the baseline noise climate based on the outcomes of the Sandy Brown noise survey undertaken between 13th and 17th January 2023.

5.3.12 The average ambient noise levels measured at the unattended logger location 'L1' were: LAeq,16h 64 (dB) during the day and LAeq,8h 63 (dB) at night.

5.3.13 The representative background sound levels measured at the unattended logger locations were:

- Location 'S1' on the west corner of the Site: LA90,5min 60 dB during the day and LA90,5min 62 dB at night;
- Location 'S2' on the east corner of the Site: LA90,5min 60 dB during the day and LA90,5min 62 dB at night;
- Location 'S3' to the west of the Site: LA90,5min 60 dB during the day and LA90,5min 62 dB at night; and
- Location 'S4' to the north of the Site: LA90,5min 59 dB during the day and LA90,5min 62 dB at night.

Vibration Baseline

5.3.14 The following section sets out the baseline vibration climate based on the outcomes of the Sandy Brown vibration survey undertaken on 17th January 2023.

5.3.15 The maximum VDV (m/s1.75) measured for each of the directions measured at the monitoring locations were;

- Location 'V1' X-0.0055 m/s1.75, Y-0.0052 m/s1.75 and Z-0.0348 m/s1.75; and
- Location 'V2' X-0.016 m/s1.75, Y-0.0211 m/s1.75 and Z-0.1432 m/s1.75.

5.3.16 An additional vibration survey was undertaken on 6 March 2025. The environmental ground-borne vibration survey was carried out at the Site to an existing pile, and non-pile location.

5.3.17 The maximum VDV (m/s1.75) measured for each of the directions measured at the monitoring locations were:

- Location 'existing pile' X-0.00186 m/s1.75, Y-0.00226 m/s1.75 and Z0.00344 m/s1.75; and
- Location 'non-pile' X-0.00074 m/s1.75, Y-0.00129 m/s1.75 and Z-0.01071 m/s1.75.

Receptors

5.3.18 The Site is located adjacent to the following existing and future premises (receptors) which are considered sensitive to noise and vibration impacts. The following list will be refined as part of the ES assessment and chapter:

(1) Residential premises (Viadux 1) highlighted in blue on Figure 6.1;

(2) Future development (Viadux 2) highlighted in pink on Figure 6.1;

(3) Residential premises (Axis Apartments) highlighted in blue on Figure 6.1;

(4) Office/commercial premises (Army careers) highlighted in green on Figure 6.1;

(5) Residential premises (Hacienda) highlighted in blue on Figure 6.1;

(6) Drinking establishment (Lock 91) highlighted in orange on Figure 6.1;

(7) Several drinking establishments (Deansgate Locks) highlighted in orange on Figure 6.1;

(8) Drinking establishment (Rebellion) highlighted in orange on Figure 6.1;

(9) Office/commercial premises (2 Whitworth Street) highlighted in green on Figure 6.1;

(10) Office/commercial premises (4 Whitworth Street) highlighted in green on Figure 6.1;

(9/10) Future development (2-4 Whitworth Street) highlighted in pink on Figure 6.1;

(11) Drinking establishment (City Road) highlighted in orange on Figure 6.1;

(12) Office / commercial premises (88 Hewitt Road) highlighted in green on Figure 6.1;

(13) Residential premises (Ropeworks Block A) highlighted in blue on Figure 6.1;

(14) Residential premises (Ropeworks Block B) highlighted in blue on Figure 6.1;

(15) Drinking establishment (Junkyard Golf) highlighted in orange on Figure 6.1; and

(16) Hotel (INNSiDE by Meliá) highlighted in blue on Figure 6.1.

Future Baseline

5.3.19 Future developments highlighted in pink in Figure 6.1 including (9/10) 2-4 Whitworth Street and (2) Viadux 2, would impact the future.

5.3.20 The relevant submitted planning applications for the future developments will be reviewed as part of the assessment, this will look at the potential future baselines due

to these schemes and will likely be focused on any potential effects of operational road traffic noise to and around the surrounding area.

5.4 Embedded Mitigation & Design Assumptions

5.4.1 For the purposes of scoping, the following design assumptions have been made.

- Preparation of a Construction Management Plan (CMP) for MCC approval.
- Use of continuous augured piling (CFA piling).
- Plant and operational noise egress limits derived using representative background sound levels in line with the *MCC Planning and Noise Technical Guidance* 2022. Adhering to these limits will require embedded mitigation in the form of acoustic attenuation measures to building services plant. These could include the use of in-duct attenuation, acoustic screening or a fully enclosed plant area.

5.5 Likely Significant Effects

5.5.1 The potentially significant effects to be considered at nearby sensitive receptors comprise those during (temporary) construction activities and those when the Proposed Development is complete and operational. The potential effects of the Proposed Development are as follows:

- Effects due to noise and vibration from construction including road traffic;
- Effects due to noise and vibration from the operation of building services plant equipment; and
- Effects due to changes in road traffic noise on the local road network.

5.5.2 Table 6.1 provides a summary of the key issues to be considered in relation to noise and vibration.

Table 6.1 Summary of Significant Effects

Receptor	Potential Effects	Scoped In
Construction Phase		
Construction noise	The (temporary) effects of noise on noise-sensitive premises (NSPs) are varied and complicated. They include interference with speech communication, disturbance of work or leisure activities, disturbance of sleep, annoyance and possible effects on mental and physical health. In any neighbourhood, some individuals will be more sensitive to noise than others. There will therefore likely be significant	✓

Table 6.1 Summary of Significant Effects		
Receptor	**Potential Effects**	**Scoped In**
	effects.	
Construction vibration	Vibration, even of very low magnitude, can be perceptible to people and can interfere with the satisfactory conduct of certain activities. Transmissions from the site activities to the neighbourhood can, therefore, cause anxiety as well as annoyance, and can disturb sleep, work or leisure activities, some individuals will be more sensitive to vibration than others. There will therefore likely be significant effects.	✓
Construction road traffic	Introduction of (temporary) construction works would increase the road traffic on the adjacent road. Due to the size constraints of the site, times of material delivery and unloading processes could cause likely significant effects.	✓
Operational Phase		
Site suitability	Assessments of facade noise ingress, noise ingress during the overheating condition, ground-borne vibration ingress and operational noise transfer within the building will be carried out. Criteria set out in MCC planning and Noise Technical Guidance 2022 are to be adopted, as such no significant effects are expected.	✓

5.5.3 Further to the above, Table 6.2 below provides details on the matters to be scoped out of further assessment within the ES.

Table 6.2 Matters to be scoped out of the assessment	
Matter	**Rationale**
Building services plant noise egress	Both building services plant noise egress and operational noise egress will have to meet limits as set out in MCC Planning and Noise Technical Guidance 2022. In meeting these limits noise egress levels will be controlled such that no significant effects are likely.
Operational noise egress	
Operational road traffic	IEMA guidelines state that a 1 dB increase or less is considered a negligible effect. A 24% increase in the number of vehicles would be required to exceed this threshold, this increase is highly unlikely as it is understood the scheme will either include limited accessible parking spaces or be car-free. Either scenario is understood to have no significant effect on the surrounding road traffic.

5.6 Proposed Methodology

5.6.1 The scope of the noise and vibration assessments will include:

- Site suitability, including facade noise ingress, noise ingress during the overheating condition, ground-borne vibration ingress and operational noise transfer within the building;
- Identifying the potential noise sensitive receptors on and surrounding the Site; and
- Identifying whether the overall effects of noise and vibration exposure generated by the Proposed Development, during construction and when the Proposed Development is fully complete and operational, is, or would be, above or below the significant observed adverse effect level (SOAEL) and the lowest observed adverse effect level (LOAEL).

5.6.2 The scale of effects and significance will refer to guidance within the IEMA *Guidelines for Environmental Noise Impact Assessment*, 2014. This will be based on the magnitude/scale of predicted change in noise level exposure and the importance/sensitivity of the receptor being assessed to.

<u>Construction</u>

5.6.3 Noise and vibration due to construction will need to be managed to avoid (as far as reasonably practical to do so) significant effects at the nearby sensitive receptors, though any effects would be local, direct and temporary in nature. It is expected that should planning permission be granted, there will be a planning condition requiring the preparation of a CMP for MCC approval.

5.6.4 This is likely to require a subsequent assessment of construction noise and vibration, accounting for the likely construction methodologies, major activities, and expected programme. The level of enabling/construction noise and vibration at the nearest sensitive receptors will then be assessed by the Contractor following guidance within BS 5228:2009+A1:2014 *Code of practice for noise and vibration control on construction and open sites* and MCC *Planning and Noise Technical Guidance* 2022. The impacts of road traffic associated with the construction works will also be assessed.

Site Suitability

5.6.5 The suitability of the Site for the Proposed Development will be assessed as part of the detailed design process with reference to internal and external noise guidelines within best practice guidance and standards such as BS 8233: 2014 *Sound insulation and noise reduction for buildings* and MCC *Planning and Noise Technical Guidance* 2022.

5.6.6 Internal noise level criteria will be established for each proposed use and the suitable methods of ventilating the building will be determined along with specifications for the building envelope. No significant effects will occur where internal noise level criteria are achieved upon completion. An assessment of the expected level of internal and external noise at relevant parts of the Proposed Development will be provided.

5.6.7 External noise levels in residential amenity areas will be set in line with best practice guidance and standards such as BS 8233: 2014 *Sound insulation and noise reduction for buildings* and MCC *Planning and Noise Technical Guidance* 2022.

5.6.8 Overheating assessments will be undertaken for bedrooms in line with the requirements of Approved Document O, and for living rooms in line with the requirement of the ANC Acoustics, Ventilation and Overheating guide.

Cumulative Effects Assessment

5.6.9 Two surrounding schemes (which are also future receptors) have been identified initially that would potentially be in the early stages of construction at the same time as the Proposed Development.

- 2-4 Whitworth Street (Planning ref: 141773/FO/2024); and
- Viadux 2 (Planning ref: 139715/FO/2024).

5.6.10 The cumulative impacts associated with the Proposed Development and cumulative schemes agreed through the scoping stage within the locality will be established and assessed. This will be in relation to construction noise and vibration effects and

construction road traffic with the assessments undertaken in line with the methods outlined above.

5.6.11 Any noise and vibration levels from construction beyond a distance of 400 m are not expected to result in a cumulative effect which could be considered significant during the construction of the Proposed Development.

5.7 Potential Mitigation Measures

5.7.1 Potential mitigation measures relating to construction noise and vibration will be developed as a result of the construction noise and vibration assessment.

5.7.2 Appropriate noise and vibration mitigation measures will need to be considered by the Contractor where the potential significant effect at existing sensitive receptors is identified. Mitigation measures would then be included as part of a CMP, with the aim of reducing adverse effects and avoiding adverse effects and protecting the amenity of nearby receptors.

5.7.3 The preferred approach for controlling construction noise is to reduce source levels where possible but with due regard to practicality. The simplest and most effective method of reducing noise at nearby receptors is to ensure that noisy plant is located as far from receptors as practicable and screened using temporary barriers. Noise experienced by receptors can also be reduced by limiting the daily time that noisy equipment is operated.

5.7.4 For controlling construction vibrations, where reasonably practicable, plant and/or methods of work causing significant levels of vibration at sensitive premises should be replaced by other less intrusive plant and/or methods of working. Vibration from stationary plant should be re-located or isolated using resilient mountings.

5.8 Consultation

5.8.1 Consultation should be carried out with the MCC environmental health team on the proposed likely significant effects, matters to be scoped out and the proposed assessment methodologies.

6 BUILT HERITAGE, TOWNSCAPE AND VISUAL IMPACT ASSESSMENT

6.1 Introduction

6.1.1 An assessment will be undertaken of the likely significant effects of the Proposed Development on the environment with respect to Built Heritage, Townscape and Visual Impact.

6.1.2 It is considered that there is the potential for likely significant effects relating to Built Heritage, Townscape and Visual receptors, and so this topic shall be scoped into the ES.

6.1.3 The (Built) Heritage, Townscape and Visual Impact Assessment (the 'HTVIA') will identify the likely effects of the Proposed Development on such receptors.

6.1.4 Matters relating to 'built heritage' and 'townscape and visual' impact will be dealt with as two separate disciplines. They are to be incorporated into one chapter within the ES due to their commonalities, including the use of verified views to inform the individual assessments. The assessment would form a chapter of the ES and will be prepared by Montagu Evans LLP.

6.1.5 The HTVIA chapter within the ES shall:

- Define the built heritage, townscape and visual baseline conditions;
- Identify relevant built heritage, townscape and visual receptors;
- Assess:
    - the potential for built heritage, townscape and visual impacts through the construction works and as a result of the completed development;
    - the likely significant built heritage, townscape and visual effects;
    - any required mitigation or monitoring to address any likely significant adverse built heritage, townscape and visual effects;
    - the resulting residual effects; and
    - the potential for cumulative built heritage, townscape and visual effects.

6.2 Study Area

6.2.1 A Zone of Theoretical Visibility (ZTV) has been produced to outline the potential areas where the Proposed Development may be visible, up to 2 km^2 from the Site. The ZTV has been used to inform the study area for built heritage, townscape receptors and townscape views. The ZTV has been produced using topographically referenced three-

dimensional models from VuCity software. It is a tool for a high-level understanding of the extent of visibility, which was further interrogated through review of individual viewpoints using field surveys and digital software.

6.2.2 The study area radius for designated heritage receptors is 500 m for all designated heritage receptors from the site boundary. Grade I and II* receptors within a 750 m radius of the Site will be considered for assessment, where they align with the Site and would likely share intervisibility with the Proposed Development.

6.2.3 The study area for townscape receptors is 500 m from the Site boundary. This study area was informed by a review of surrounding building locations and heights, topography, townscape features and an understanding of the scale of the Proposed Development.

6.2.4 Viewpoints proposed for assessment are informed by an analysis of the street structure and townscape character (i.e., where there is likely to be a direct line of sight), open spaces or other public areas.

6.3 Baseline Conditions

Current Baseline

6.3.1 The Site is located in central Manchester, close to Deansgate train station and c.425m from Oxford Road station. It is a sustainable location for a development of this size and use, being close to universities and sited within the city centre.

6.3.2 The Site has been cleared and does not contain any heritage assets. In its current condition, it detracts from the way the area appears and functions. The cleared condition also detracts from the visual amenity of receptors comprising road users, pedestrians, and those who live of work close to the Site.

6.3.3 The Site is experienced in the existing and emerging context that includes several tall buildings demonstrating that the skyline of the surrounding area is therefore evolving.

6.3.4 The identification of built heritage, townscape and visual receptors has been informed by primary and secondary resources, including:

- The National Heritage List for England (‘NHLE’);
- Manchester Core Strategy (2012) and Addendum (2024);
- Guide to Development in Manchester Supplementary Planning Document and Planning Guidance; and
- Site observations, obtained through a site walkover.

Heritage

6.3.5 The (built) heritage assessment will assess the likely effect of the Proposed Development on 'built' or 'above ground' heritage receptors.

6.3.6 (Built) heritage receptors include world heritage sites, listed buildings, scheduled monuments (with upstanding remains), conservation areas, registered parks and gardens and non-designated heritage receptors, such as locally listed buildings. All designated heritage receptors within 500 m of the Site boundary are identified on the Heritage Asset Plan (Appendix B). Grade I and II* listed buildings within a 750 m radius are also illustrated on the Heritage Receptor Plan.

6.3.7 This is the study area, which has been identified in accordance with the methodology, as described below.

6.3.8 For the purposes of the HTVIA, a ZTV and professional judgement has been used to identify those built heritage receptors that are likely to experience change to their setting, and by extension their heritage value, as a result of the Proposed Development. For a number of heritage receptors in the study area, there is no setting relationship with the Site, being physically and functionally separated from it, or where there is no historical relationship between the Site and the receptor. Consequently, those receptors will not be assessed (we refer to those assets below in Table 7.1). The lettering and numbering correlates to the Heritage Asset Plan at Appendix B.

Table 7.1: Heritage Assets scoped out of the assessment

	Heritage Receptor	Heritage Designation
B	St John Street Conservation Area	Conservation Area
C	Deansgate and Peter Street	Conservation Area
E	George Street Conservation Area	Conservation Area
F	Whitworth Street and Princess Street Conservation Area	Conservation Area
G	Albert Square Conservation Area	Conservation Area
H	Upper King Street Conservation Area	Conservation Area
I	St Ann's Square Conservation Area	Conservation Area

Table 7.1: Heritage Assets scoped out of the assessment		
	Heritage Receptor	Heritage Designation
3.	John Rylands Library and attached Railings, Grates and Lamp Standards	Grade I
7.	Deansgate Goods Station and attached Carriage Ramp	Grade II*
9	Free Trade Hall	Grade II*
11	Tootal, Broadhurst and Lee Building	Grade II*
13	Cobden House, 19 Quay Stree	Grade II*
14	Lawrence Buildings	Grade II*
15	Memorial Hall	Grade II*
16	Former Refuge Assurance Company Offices	Grade II*
17	Town Hall Extension	Grade II*
19	India House (including attached Wrought Iron Gateway linked to Lancaster House)	Grade II*
21	Roman Catholic Church of St Mary (The Hidden Gem)	Grade II*
22	Lancaster House	Grade II*
23	Asia House	Grade II*
24	103, Princess Street	Grade II*
26	Manchester Law Library	Grade II*
37	235-291, Deansgate	Grade II
38	Castlefield Information Centre	Grade II
39	K6 Telephone Kiosk Beside South West Corner of No. 330 Deansgate	Grade II
41	Chepstow House	Grade II
42	Former Market Hall	Grade II

Table 7.1: Heritage Assets scoped out of the assessment		
	Heritage Receptor	Heritage Designation
43	Peveril of The Peak Public House	Grade II
46	Former Cotton Mill on West Side of Junction with Cambridge Street	Grade II
48	Lee House	Grade II
50	Chorlton New Mill and attached Chimney	Grade II
51	Mill Chimney Stack on West Side of Junction with Cambridge Street	Grade II
52	K6 Telephone Kiosk in front of St John Street Chambers	Grade II
53	Canada House	Grade II
54	Royale Club	Grade II
55	Museum of Science and Industry, Air and Space Museum	Grade II
57	8 and 8a, 10, 12-16, 18 and 20, 22, 24, 24a and 26, and 28, St John Street	Grade II
59	11-17, 19, and 21-25, St John Street	Grade II
60	Former Entrance to Deansgate Goods Station including Nos 223 to 233	Grade II
61	56-58, Peter Street	Grade II
65	Chorlton Old Mill	Grade II
66	Albert Memorial Hall	Grade II
67	Princes Buildings	Grade II
69	Harvester House	Grade II
70	Lancashire House	Grade II
72	15a, Byrom Street	Grade II

Table 7.1: Heritage Assets scoped out of the assessment		
	Heritage Receptor	Heritage Designation
73	Mill on North East Corner of Junction with Chester Street	Grade II
74	Sculptural Group adrift to South-West of Central Public Library, Peter Street, Manchester	Grade II
75	Middle Warehouse, at former Castle Field Goods Yard	Grade II
76	61, Oxford Street	Grade II
77	Royal London House	Grade II
78	Two Bollards at East End of St Johns Passage	Grade II
79	127-133, Portland Street	Grade II
80	Onward Buildings	Grade II
81	No. 14, Byrom Street	Grade II
82	Manchester Quaker Meeting House, Boundary Walls and Steps	Grade II
83	116 and 118, Portland Street	Grade II
84	Power Hall of Museum of Science and Industry	Grade II
85	St James Buildings	Grade II

6.3.9 The Site does not include any designated or non-designated heritage receptors and is not located within a conservation area.

6.3.10 The Castlefield Conservation Area lies 180m to the west of the Site and is the closest conservation area to the Site. Its character and appearance are defined by the former industrial use. The conservation area contains a number of surviving 19th century warehouses and canals which reflect those historic uses. The uses found within the conservation near today is mixed including residential and commercial uses.

6.3.11 The Built Heritage receptors that are to be considered within the ES are listed in Table 7.2 below. The lettering and numbering correlates to the Heritage Asset Plan at Appendix B.

Table 7.2: Heritage assets scoped into the assessment		
	Heritage Receptor	Heritage Designation
A	Castlefield Conservation Area	Conservation Area
D	Deansgate and Peter Street Conservation Area	Conservation Area
1	Town Hall	Grade I
2	Albert Memorial	Grade I
4	Old Warehouse to North of former Liverpool Road Railway Station	Grade I
5	Manchester Art Gallery	Grade I
6	Former Liverpool Road Railway Station, Station Masters House	Grade I
7	G Mex	Grade II*
12	Central Public Library	Grade II*
18	Manchester War Memorial	Grade II*
20	The Athenaeum	Grade II*
25	Church of St George	Grade II*
27	Rochdale Canal Lock No. 90, Approx. 30 metres West of Albion Bridge	Grade II
28	13-17, Albion Street	Grade II
29	Manchester South Junction and Altrincham Railway Viaduct	Grade II
30	The Britons Protection Public House	Grade II
31	Rochdale Canal Lock Keepers Cottage at Lock No. 91, Next to Gaythorn Tunnel, and Rochdale Canal Lock No. 91 at East End of Gaythorn Tunnel	Grade II
32	Deansgate Station	Grade II
33	Rochdale Canal Lock No. 89 (Tib Lock), on South Side of Havelock Mills	Grade II

Table 7.2: Heritage assets scoped into the assessment		
	Heritage Receptor	Heritage Designation
34	Boundary Stone on Knott Mill Bridge, and Floodgate on East Side of Knott Mill Bridge	Grade II
35	Former Congregational Chapel	Grade II
36	Electricity Junction Box in Castlefield Canal Basin, Manchester	Grade II
40	Electricity Junction Box in Castlefield Canal Basin, Manchester	Grade II
44	Electricity Junction Box on Castle Street, Manchester	Grade II
45	29-41, Liverpool Road	Grade II
47	Castlefield Railway Viaduct from G-Mex to Dawson Street	Grade II
49	The Ritz Dance Hall	Grade II
56	Manchester & Salford Junction Canal Tunnel	Grade II
58	Bridgewater Canal Offices	Grade II
62	Manchester Oxford Road Station (including Platform Structures)	Grade II
63	Nos 25 to 31 and attached former Chapel	Grade II
64	Former St Matthews Sunday School	Grade II
68	Rochdale Canal Lock No. 92 and Castle Street Bridge	Grade II
71	Merchants Warehouse	Grade II

Townscape

6.3.12 The townscape assessment will consider the Proposed Development within its urban context, including the buildings, relationships between them, the different types of urban open spaces and the relationships between buildings and open spaces.

6.3.13 The townscape assessment will be presented through the identification of Townscape Character Areas (TCAs) within an identified study area radius. Using professional judgement, a 500 m study area for townscape receptors is deemed to be appropriate

given the scale of the Proposed Development and the built-up nature of the Site's townscape setting. The purpose of identifying TCAs is to understand the appearance, use and function of the townscape surrounding the Site, and the nature of the differences in the townscape, and the potential effect that the Proposed Development will have upon that townscape area.

6.3.14 A site visit and desk-based review of the Site, its environs and local plan documents have informed the identification of six TCAs, these areas are defined below and in the TCA Plan (shown at Appendix F):

- Townscape Character Area 1: Petersfield ;
- Townscape Character Area 2: First Street;
- Townscape Character Area 3: Castlefield;
- Townscape Character Area 4: Great Jackson Street;
- Townscape Character Area 5: St John's;
- Townscape Character Area 6: Hulme Park.

Visual

6.3.15 The visual impact assessment will consider the impact of the Proposed Development upon visual receptors. The assessment relates to how people are affected by changes to visual amenity from different locations. Visual receptors are always people (although usually visual receptors are defined according to use e.g. residential, business, road, footpath etc.), rather than landscape features.

6.3.16 The baseline study identifies the following visual receptors which are considered as being likely to be the most susceptible to change within GLVIA3:

- Residents and other frequent users of the area;
- People, whether residents or visitors, who are engaged in outdoor recreation, including use of public rights of way, attractions or those whose attention or interest is likely to be focused on the townscape and on particular views; and
- Communities where views contribute to the townscape setting enjoyed by residents in the area.

6.3.17 Taking into account the above criteria, the following sensitive visual receptor groups have been identified:

- Residents;

- Workers/commuters; and
- Users of leisure amenity.

6.3.18 It is noted that due to landform and height of the building proposed, the Proposed Development may be visible over significant separating distances and from locations not identified in the visual assessment. It is considered the Proposed Development would not affect such visual receptors in a significant way and the Proposed Development would form background elements in such views, and from some locations be experienced as part of a wider urban townscape that includes taller buildings.

6.3.19 The previous application for the Site identified 12 view locations. Having carried out a desk-top review of material and a site inspection, using professional judgement we consider the 12 view locations still appropriate and relevant when considering the changed scope of the proposals and additional proposed height. These are listed in Table 7.3 below. These are also identified on the Viewpoint Location Plan included at Appendix G.

Table 7.3 Proposed View Locations

View	Location	Type of Receptor to Experience View	Dynamic / Static View
1	Mosley Street / Art Gallery	Users of leisure amenity	Dynamic
2	St Peter's Square	Users of leisure amenity	Dynamic
3	Lower Mosely Street	Workers/commuters Users of leisure amenity	Dynamic
4	Albion Street / Great Bridgewater Street	Workers/commuters Users of leisure amenity	Dynamic
5	Whitworth Street West - eastern end	Residents Users of leisure amenity	Dynamic
6	Medlock Street	Workers/commuters Residents	Dynamic
7	Whitworth Street West – west end	Residents	Dynamic

Table 7.3 Proposed View Locations			
View	Location	Type of Receptor to Experience View	Dynamic / Static View
8	St George's Church/Chester Road	Residents Workers/commuters	Dynamic
9	Castle Street, Castlefield	Workers/commuters Users of leisure amenity	Static
10	Albert Square	Users of leisure amenity	Static
11	Windmill Street	Users of leisure amenity	Static
12	St Ann's Square	Users of leisure amenity	Static

Future Baseline

6.3.20 The area around the Site is undergoing redevelopment and as such the baseline conditions are evolving. Without the Proposed Development, this would continue; tall and contemporary developments will continue to characterise the immediate surroundings. The consented schemes identified in Table 7.2 will be considered in the context of a future baseline. If any schemes have been implemented or are under construction (are being delivered) these will form part of the future baseline.

6.4 Embedded Mitigation & Design Assumptions

6.4.1 For the purposes of scoping, the following design assumptions have been made:

- Measures proposed to prevent, reduce or where possible offset any adverse likely effects will be identified and developed as part of the design process. Primary mitigation measures, including architectural and urban design, will become embedded into the Proposed Development, commonly referred to as embedded mitigation.
- The likely effects of the Proposed Development will include consideration of embedded mitigation. As a result, there may be no requirement for additional mitigation. If this is the case, likely residual effects would remain the same as the likely effects, unless otherwise stated.

6.5 Likely Significant Effects

6.5.1 Table 7.4 provides a summary of the key issues to be considered in relation to Built Heritage, Townscape and Visual Impact.

Table 7.4 Summary of Likely Significant Effects		
Receptor	**Potential Effects**	**Scoped In**
Construction Phase		
Built Heritage	Alterations to the value of heritage receptors within the study area. There is potential for the visual change to impact the contribution setting makes to the value of the heritage receptor. The impact would not be significant for all heritage receptors because construction impacts are local and temporary.	✓
Townscape	Changes to the townscape character and the settings of TCAs within the study area. The impact would not be significant for all townscape receptors because construction impacts are local and temporary.	✓
Visual	Changes to views (designated borough views, conservation area views, local representative views). The impact would not be significant for all visual receptors because construction impacts are local and temporary.	✓
Operational Phase		
Built Heritage	The Proposed Development would lead to a new single building that will occupy the Site. The development would not lead to any significant environmental effects on built heritage assets. The likely effects would be indirect and to the setting and heritage value of heritage receptors, ranging from None to Negligible, Beneficial to Adverse. The assessment would nevertheless assess the impacts to provide a robust analysis.	✓
Townscape	The Proposed Development would optimise the use of the Site, resulting in increased scale. The effects of the operational phase of the Proposed Development would be greatest on TCA 1, in which the Site is located; these are expected to be beneficial in their nature. TCAs 2 and 3, which comprise mixed use areas, namely residential, commercial and leisure areas to the west and south of the Site, would experience visual changes beyond their boundaries. TCAs which lie further from the Site are unlikely to experience a material change in their townscape character. The likely effects would be expected to range from None to	✓

Table 7.4 Summary of Likely Significant Effects		
Receptor	**Potential Effects**	**Scoped In**
Construction Phase		
	Moderate in scale, and Neutral to Beneficial in nature.	
Visual	The operational phase of the Proposed Development would likely result in a change to the visual amenity of receptors in closest proximity to the Site. Significant changes are likely to be local where the development would be experienced as part of the local street scene. The middle- and long-distance views will illustrate that the development would appear as part of a developed skyline and would not lead a significant effect on visual amenity. The likely effects would be expected to range from None to Moderate, and Neutral to Beneficial in nature.	✓

6.6 Proposed Methodology

6.6.1 The methodology for assessment of heritage effects will be prepared using the principles set out in relevant legislation and policy. The assessment will take into consideration relevant planning guidance and any material considerations, including:

- National Planning Practice Guidance (online);
- National Design Guide (2021);
- Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA) (2013);
- Historic England, Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment (2015);
- Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (2017); and
- Historic England, Advice Note 4: Tall Buildings (2022).

6.6.2 The methodology for assessment of townscape and visual effects will be prepared using the principles set out in GLVIA3. Reference will also be made to national and local guidance and policies.

6.6.3 The three components of the HTVIA are:

- Assessment of heritage effects – assessing effects on the setting of designated and non-designated heritage receptors;

- Assessment of townscape effects – assessing effects on the townscape as a resource in its own right; and
- Assessment of visual effects – assessing effects on specific views and on the general visual amenity experienced by people.

6.6.4 The overarching assessment framework follows a six-step process as outlined below. The assessment framework is applicable to assessments for both the construction and operational phase. A full methodology will be provided within the HTVIA.

- Baseline assessment of value;
- Assessment of susceptibility;
- Assessment of sensitivity;
- Assessment of magnitude of impact;
- Assessment of likely effects, and;
- Assessment of nature of effect.

6.6.5 The assessment will be supported by a set of verified views, where appropriate seasonal variation will be taken into account in the assessment text. These viewpoint locations are shown on the Viewpoint Location Plan (Appendix G).

6.6.6 The objective of a photomontage is to simulate the likely visual changes that would result from a development, and to produce printed images of a size and resolution sufficient to match the perspective in the same view in the field.

6.6.7 The following conditions will be prepared for each viewpoint:

- Existing – baseline condition, i.e. the view as it currently occurs;
- Proposed – baseline + the Proposed Development, i.e. the Proposed Development inserted into the view as either a wireline (AVR type 1) or render (AVR type 3); and
- Cumulative – the Development + other consented or emerging schemes.

6.6.8 Inevitably one must accept that judgement is involved in this specialist area on the basis of the above and the importance of design quality in the operation of policy. In preparing any written assessment, allowances are made for these factors as well as the assessor's knowledge of the Proposed Development.

6.6.9 The assessment will also consider secondary mitigation and residual effects. It is anticipated that mitigation would be embedded for HTVIA, i.e. included as part of the design and considered as part of the main assessment.

6.6.10 The HTVIA would take the additive approach to cumulative assessment, i.e the assessment would consider the cumulative schemes as a baseline and the additional impact of the project, rather than assessing the in-combination impact of the Project and cumulative schemes. Methods of cumulative assessment are set out in GLVIA3.

6.6.11 As mentioned above, the HTVIA will be informed by visual tools, including ZTV and accurate visual representations ('AVRs') prepared by an appointed visualisation consultant. The tools inform the assessment of the impact of the Proposed Development on townscape and visual receptors e.g. they allow an understanding of the geographical extent and magnitude of visibility from representative locations. The tools are not receptors themselves.

6.6.12 Following the above methodology, a likely effect will be reached. A likely effect is judged to be significant for the purposes of the EIA if it is Moderate, Moderate-Major or Major. Effects considered to be Minor-Moderate to Negligible are not considered significant.

6.7 Potential Mitigation Measures

6.7.1 Mitigation measures for townscape and visual receptors during the construction of the Proposed Development could include the following:

- The Site could be enclosed with hoardings during construction to provide a visual buffer at ground level; and
- Mitigation to reduce noise, vibration and dust could be implemented to reduce the construction effects on surrounding receptors.

6.7.2 Inherent mitigation measures for townscape and visual receptors during the operation of the Proposed Development could include the following:

- The high-quality design of the proposed buildings, thus enhancing the existing general townscape of the area. This is especially important in the design of tall buildings with regard to their impact upon the settings of designated heritage receptors; and
- Visually appropriate design materials to mitigate change to the immediate built environment.

6.8 Consultation

6.8.1 The proposals will undergo design development through the pre-application process. Due to the scale of the Proposed Development, this will mean that there will be meetings with the local authority's design officers to discuss the scheme and attendance at a design review panel.

6.9 Questions for Consultees

6.9.1 We wish to ask the council to confirm they are in agreement on the view locations proposed in the Viewpoint Location Plan at Appendix G.

7 DAYLIGHT, SUNLIGHT & OVERSHADOWING

7.1 Introduction

7.1.1 An assessment will be undertaken by GIA of the likely significant effects of the Proposed Development on the environment with respect to daylight, sunlight & overshadowing.

7.2 Study Area

7.2.1 The BRE Guidelines suggest that residential properties have the highest requirement for daylight and sunlight by stating that *"the guidelines are intended for use for rooms in adjoining dwellings where light is required, including living rooms, kitchens and bedrooms."*

7.2.2 The scope of properties that contain an element of residential accommodation (sensitive receptors) that will be assessed has been determined through professional judgement, considering their orientation and proximity to the Site.

7.2.3 The following sensitive receptors will be considered for daylight and sunlight due to their residential use and proximity to the Site. The numbering correlates to the Address Map at Appendix H.

- 1. Hill Quays
- 2. Riverside Mews
- 3. The Rhine
- 4. The Nile
- 5. 30 City Road East
- 6. 14 Albion Wharf
- 7. The Hacienda
- 8. The Ropeworks
- 9. 21 Little Peter Street
- 10. 8-16 Bridgewater St
- 11. 20 Southern St
- 12. 18-12 Southern St
- 13. 8-10 Southern St
- 14. Deansgate Quay
- 15. 357-361 Deansgate
- 16. Lumiere Building
- 17. The Danube
- 18. Axis Tower
- 19. Viadux - Phase 1
- 20. Beetham Tower Residential
- 21. StayCity Aparthotel, Deansgate

7.2.4 The following sensitive receptors will be considered for overshadowing due to their proximity to the Site:

- The canal
- The social terrace along the canal

7.3 Baseline Conditions

Current Baseline

7.3.1 The Current Baseline assessment will technically assess the levels of daylight, sunlight and overshadowing to each of the sensitive receptors based on the Site area's present form i.e. a cleared site.

7.3.2 The assessments will be carried out in accordance with the BRE Guidelines. The analysis will be calculated from a 3D computer model using specialist software based on detailed architectural models, Ordnance Survey (OS) mapping and photogrammetry.

7.3.3 In line with the BRE Guidelines, both the Vertical Sky Component (VSC) and No Sky Line (NSL) assessments will be undertaken in the Proposed Development scenario for the relevant sensitive receptors identified. Where floor plans are not available, NSL assessments will not be undertaken in accordance with the BRE guidelines.

7.3.4 The sunlight amenity to the surrounding relevant receptors will be considered by reference to the BRE recommended Annual Probable Sunlight Hours (APSH) method of assessment. Due to the southerly location of the sun in the sky, this assessment will consider those windows which face the Site and are located within 90 degrees of due south.

Future Baseline

7.3.5 If the Proposed Development was not constructed, the baseline daylight, sunlight and overshadowing levels would remain the same as there are no 'natural' factors that would influence baseline conditions, only human induced changes (i.e., development). The Site is, however, seen as a redevelopment opportunity and so, in reality, it would be unlikely for the baseline to remain as it is indefinitely. With respect to human induced changes, any development of the Site could influence the baseline conditions of varying degrees, as any drivers for change in baseline conditions would be linked to massing and layout of the surrounding context.

7.4 Embedded Mitigation & Design Assumptions

7.4.1 No embedded mitigation or design assumptions have been made.

7.5 Likely Significant Effects

7.5.1 Table 8.1 provides a summary of the key issues to be considered in relation to daylight, sunlight and overshadowing.

Table 8.1 Summary of Likely Significant Effects

Receptor	Potential Effects	Scoped In
Operational Phase		
1. Hill Quays	Reduction in daylight and sunlight levels	✓
2. Riverside Mews	Reduction in daylight and sunlight levels	✓
3. The Rhine	Reduction in daylight and sunlight levels	✓
4. The Nile	Reduction in daylight and sunlight levels	✓
5. 30 City Road East	Reduction in daylight and sunlight levels	✓
6. 14 Albion Wharf	Reduction in daylight and sunlight levels	✓
7. The Hacienda	Reduction in daylight and sunlight levels	✓
8. The Ropeworks	Reduction in daylight and sunlight levels	✓
9. 21 Little Peter Street	Reduction in daylight and sunlight levels	✓
10. 8-16 Bridgewater St	Reduction in daylight and sunlight levels	✓
11. 20 Southern St	Reduction in daylight and sunlight levels	✓
12. 18-12 Southern St	Reduction in daylight and sunlight levels	✓
13. 8-10 Southern St	Reduction in daylight and sunlight levels	✓
14. Deansgate Quay	Reduction in daylight and sunlight levels	✓
15. 357-361 Deansgate	Reduction in daylight and sunlight levels	✓
16. Lumiere Building	Reduction in daylight and sunlight levels	✓
17. The Danube	Reduction in daylight and sunlight levels	✓
18. Axis Tower	Reduction in daylight and sunlight levels	✓
19. Viadux - Phase 1	Reduction in daylight and sunlight levels	✓
20. Beetham Tower Resi	Reduction in daylight and sunlight levels	✓
21. StayCity Aparthotel	Reduction in daylight and sunlight levels	✓
Canal	Increase in overshadowing	✓
Social terrace along the canal	Increase in overshadowing	✓

7.5.2 Further to the above, Table 8.2 below provides details on the matters to be scoped out of further assessment within the ES.

Table 8.2 Matters to be scoped out of the assessment

Matter	Rationale
Reduced daylight and sunlight amenity within surrounding residential receptors during construction	Owing to the evolving and changing nature of construction activities, the assessment of potential effects during construction of the Proposed Development on daylight and sunlight to surrounding properties and areas of amenity space will not be modelled. Since the potential daylight and sunlight effects relating to construction works will vary throughout the construction programme and gradually increase to the potential effects identified for the completed Proposed Development, the interim construction effects will not be assessed

Table 8.2 Matters to be scoped out of the assessment	
Matter	**Rationale**
	quantitatively as it is considered that the completed Proposed Development represents the worst-case assessment in terms of likely daylight and sunlight. Therefore, reduced daylight and sunlight amenity within the surrounding residential receptors and areas of amenity space during the construction phases is not considered to be significant (or if it is, only on parity with the completed Proposed Scheme) and will not be considered further in the EIA or reported in the ES.

7.6 Proposed Methodology

Daylight & Sunlight Assessment Methodologies

7.6.1 The assessments will be carried out in accordance with the BRE Guidelines. The analysis will be calculated from a 3D computer model using specialist software based on detailed architectural models, Ordnance Survey (OS) mapping and photogrammetry.

7.6.2 In line with the BRE Guidelines, both the Vertical Sky Component (VSC) and No Sky Line (NSL) assessments will be undertaken in the Proposed Development scenario for the relevant sensitive receptors identified. Where floor plans are not available, NSL assessments will not be undertaken in accordance with the BRE guidelines.

7.6.3 The sunlight amenity to the surrounding relevant receptors will be considered by reference to the BRE recommended Annual Probable Sunlight Hours (APSH) method of assessment. Due to the southerly location of the sun in the sky, this assessment will consider those windows which face the Site and are located within 90 degrees of due south.

Overshadowing Assessment Methodologies

7.6.4 The assessments will be carried out in accordance with the BRE Guidelines. The analysis will be calculated from a 3D computer model using specialist software based on detailed architectural models, Ordnance Survey (OS) mapping and photogrammetry.

7.6.5 A sun hours on ground (SHOG) assessment will be undertaken to confirm and quantify any effect on 21st March, as recommended by the BRE Guidelines. The SHOG assessment will consider the proportion of a designated amenity space which receives two or more hours of direct sunlight on 21st March.

Scenarios to be Assessed

- Current Baseline
- Current Baseline + Proposed Development; and

- Current Baseline + Proposed Development + Committed Developments.

7.7 Potential Mitigation Measures

7.7.1 No avoidance or mitigation measures are anticipated.

7.8 Consultation

7.8.1 There are no specialists within MCC or other statutory consultees relevant to the area of daylight, sunlight and overshadowing. As such, no consultation has been undertaken.

8 WIND MICROCLIMATE

8.1 Introduction

8.2 An assessment will be undertaken of the likely significant effects of the Proposed Development on the environment with respect to Wind Microclimate.

8.3 Study Area

8.3.1 Winds for the Manchester area are predominantly from the south, with a secondary peak from the west. Winds are typically stronger in the winter season, and lighter throughout the summer. Wind roses per season for the Manchester area will be used over a period of approximately 30 years, which is typically best practice in the UK. These wind roses provide the frequency of occurrence and magnitude of winds from all directions within the 30-year period. To understand and quantify the baseline conditions at the Site, a Computational Fluid Dynamics (CFD) model will be constructed reflecting the existing built form of the Site and the surrounding area (400 meter (m) radius from the centre of the Site, which is best practice for the UK). This model will be tested to allow the baseline wind microclimate conditions to be quantified.

8.3.2 The Wind microclimate will include a summary of all relevant national, regional and local policy guidance on wind microclimate. Any specific local policies (e.g. Supplementary Planning Guidance (SPG)) that may be applicable to wind microclimate will also be included.

8.4 Baseline Conditions

Current Baseline

8.4.1 Wind conditions at the Site will be influenced by existing development, the surrounding buildings and the local weather conditions. Given there are no buildings on site, the wind conditions are expected to be suitable for a mixture of sitting, standing and walking in winter, which would be typical for this type of site.

Future Baseline

8.4.2 There are substantial developments planned within the vicinity of the Proposed Development which will impact the wind conditions. In particular the neighbouring 2-4 Whitworth Street to the east, will provide shelter from the westerly winds, reducing the likely wind impact of proposed development in the future baseline case.

8.5 Embedded Mitigation & Design Assumptions

8.5.1 For the purposes of scoping, the following no design assumptions have been made. The Proposed Development may contain embedded mitigation. If there is embedded mitigation, this will be identified separately to any additional mitigation measures required to obtain safe and comfortable wind conditions.

8.6 Likely Significant Effects

8.6.1 Table 9.1 provides a summary of the key issues to be considered in relation to Wind Microclimate.

Table 9.1 Summary of Likely Significant Effects

Receptor	Potential Effects	Scoped In
Construction Phase		
Existing thoroughfares, roadways, building entrances, railway station platforms, bus stops and amenity spaces	Temporary localised changes in pedestrian level wind speed as a result of the evolution of the massing on site, potentially altering the suitability of wind comfort conditions or the level of safety risks during strong winds.	✓
Operational Phase		
Existing thoroughfares, roadways, building entrances, bus stops and amenity spaces	Long-term localised changes in pedestrian level wind speed as a result of the proposed new massing on Site, potentially altering the suitability of wind comfort conditions or the level of safety risks during strong winds.	✓
Proposed entrances, amenity spaces, seating areas, balconies or roof terraces	Long-term localised levels of pedestrian level wind speeds which either change the level of wind safety risk during strong winds, or comfort conditions which potentially deviate from the target conditions.	✓

8.6.2 There are no wind microclimate related matters scoped out of the ES chapter.

8.7 Proposed Methodology

8.7.1 CFD models of the Proposed Development, existing surroundings and nearby (within 400 m) cumulative schemes, as appropriate, will be tested in CFD, to allow the future wind microclimate conditions to be quantified. Wind speeds will be measured at 1.5 m above ground level and any raised areas which are accessible to pedestrians, for all wind directions.

8.7.2 The CFD models will represent detailed models of the buildings, which will include relevant elements such as balconies, terraces, and façade details etc.

8.7.3 Three configurations will be tested in CFD as set out below.

- Configuration 1: Existing site with the existing surrounding buildings (baseline scenario);
- Configuration 2: Proposed Development with the existing surrounding buildings;
- Configuration 3: Proposed Development with the cumulative surrounding buildings.

8.7.4 Based on the results of the CFD testing assessed against the London Docklands Development Corporation (LDDC) variant of the Lawson Comfort Criteria, shown in Table 1, the suitability of the conditions and the likely effect at particular locations, both within and off-site, will be determined. If the measured wind conditions exceed the threshold wind speed for more than 5% of the time (whether that is seasonally or annually), then they are unacceptable for the stated pedestrian activity and the expectation is that there may be complaints of nuisance or people will not use the area for its intended purpose. Therefore, significant effects are defined as instances when the comfort criteria is exceeded for the various use cases.

Table 9.2 Lawson Comfort Criteria (LDDC Variant)

Key	Comfort Category	Mean Wind Speed (5% exceedance)	Description
	Sitting	0-4m/s	Acceptable for outdoor sitting use (e.g. cafes, benches, balconies)
	Standing	4-6m/s	Acceptable for main building entrances, pick-up / drop-off points and bus stops
	Leisure Walking	6-8m/s	Acceptable for strolling
	Business Walking	8-10m/s	Acceptable for external pavements, walking purposefully without lingering
	Uncomfortable	>10m/s	Not comfortable for regular pedestrian access

8.8 Potential Mitigation Measures

8.8.1 Should mitigation measures be required to provide wind conditions within a particular area / space to be suitable for their intended use, or are required to mitigate against predicted strong winds, the areas identified requiring suitable mitigation measures (such as façade treatments or soft and hard landscaping) will be developed in consultation with the Applicant and the Design Team. Where necessary, mitigation measures will be tested through additional rounds of wind tunnel testing. Following mitigation, the scale of any residual effects will be identified.

9 SOCIO-ECONOMICS

9.1 Introduction

9.1.1 An assessment of the likely significant socio-economic impacts of the Proposed Development will be undertaken by Cushman & Wakefield and will be included as a Chapter within the ES.

9.2 Study Area

9.2.1 The study areas to be considered, for both defining the baseline conditions and the assessment of potential socio-economic impacts, will be as follows:

- The Application Site
- The local impact area – Manchester local authority area
- The wider impact area – Greater Manchester Combined Authority area including the 10 constituent local authorities of Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside, Trafford and Wigan

9.2.2 The selection of study areas has been informed by the availability and reliability of the latest publicly available data at a variety of spatial scales, alongside the strategic planning context and Cushman & Wakefield's professional experience and judgement of operational housing market and economic areas.

9.2.3 Where data is available, each socio-economic criteria will be assessed against each of the three spatial study areas. Where this is not possible, or inappropriate (e.g. a radius approach for healthcare provision is advised), the spatial measure to be assumed is stated within the proposed assessment methodology below.

9.3 Baseline Conditions

Current Baseline

9.3.1 10-12 Whitworth Street currently comprises a long term cleared brownfield site of made ground, concrete and hoarding in Manchester City Centre. The Site is being temporarily used as a surface storage area by Domis construction for plant and materials for the Fusion development on Deansgate South (under Permitted Development Rights). As such, the current baseline conditions provide some minor beneficial economic effects in the form of generating a rental return.

Future Baseline

9.3.2 Domis are anticipating to vacate the Site in June 2025, following which, in accordance with the discharge of planning condition 1 (time frames and restoring of land)

attached to planning permission 135272/JO/2022 the Site will be restored, and measures implemented to secure the Site and prevent unwanted public access.

9.3.3 At this point in time, the Site will be turfed and secured by the erection of perimeter fencing preventing public access, thus providing no socio-economic benefit to the local community without the implementation of the Proposed Development.

9.3.4 The assessment will however consider the current socio-economic baseline conditions within the local and wider impact areas with regard to each of the assessment criteria.

9.4 Embedded Mitigation & Design Assumptions

9.4.1 For the purposes of scoping, the following design assumptions and embedded mitigation measures have been made:

- All legally required Building Regulations, Design Codes and Standards will be met or exceeded to protect the safety, health and welfare of people in and around the proposed buildings.
- Development built to Secured by Design (SBD) standards to reduce crime and improve the security of buildings and their immediate surrounds.

9.5 Likely Significant Effects

9.5.1 The Proposed development seeks to deliver a 40-storey landmark building incorporating purpose built student accommodation (PBSA) and supporting amenity space. The scheme has the ability to play an essential role in the evolution of this area of the city centre, whilst bringing additional socio-economic benefits, all of which furthers the city's status as one of the top five university cities within the UK.

9.5.2 The socio-economic impacts derived from the Proposed Development are anticipated to result in the most significant beneficial effects within the local Manchester area, with some lesser scale impacts across the wider Greater Manchester sub-region and North West region.

9.5.3 The assessment of the likely socio-economic benefits of the Proposed Development within the ES will consider a range of potential impacts throughout the construction and operational phases of the scheme.

9.5.4 Table 9.1 provides a summary of the scope of the socio-economic assessment by development phase.

Table 9.1 Summary of Likely Significant Effects		
Receptor	**Potential Effects**	**Scoped In**
Construction Phase		
Employment	Jobs created	✓
Economy	Productivity and local expenditure	✓
Operational Phase		
Housing Provision	No. of beds	✓
Employment	Jobs created	✓
Education	Qualifications and skills	✓
Economy	Productivity and local expenditure	✓
Healthcare	General Practice (GP) and dental provision	✓
Crime	Crime rates	✓

9.5.5 Further to the above, Table 9.2 below provides details on the matters to be scoped out of further assessment within the ES.

Table 9.2 Matters to be scoped out of the assessment	
Matter	**Rationale**
Housing	Given the temporary nature of the construction phase of the Proposed Development, and the negligible demand construction workers are likely to place on housing, education and healthcare during the works, these factors will be scoped out of the construction phase of the socio-economic assessment.
Education	
Healthcare	
Crime	Appropriate security and mitigation measures can justify the scoping out of the consideration of the impact on crime during the construction phase.

9.6 Proposed Methodology

9.6.1 The method of baseline data collection and assessment will be in accordance with industry best practice and current guidance where available and appropriate, including:

- HM Treasury Green Book (2022).
- Ministry of Housing, Communities and Local Government (MHCLG) Appraisal Guide (2025).
- Homes & Communities Agency (HCA) Employment Density Guide (2015)
- HCA Calculating Cost per Job Best Practice Note (2015)
- HCA Additionality Guide (2014)
- Department for Business Innovation & Skills (BIS) Research to Improve the Assessment of Additionality (2009)

9.6.2 As a desk based assessment, a range of published and publicly available data from reliable sources will be relied upon including:

- Information provided by the applicant.
- Office for National Statistics (ONS).
- Higher Education Statistics Agency (HESA).
- NatWest Student Living Index.

- Visit England.
- National Health Service (NHS) Choices.
- Home Office and Police.UK.

9.6.3 The estimation and assessment of anticipated socio-economic impacts for both the construction and operational phase will be derived from the specification of the Proposed Development, reliable published data sources, and Government and industry guidance. This will be compared to the baseline conditions within the local and wider benchmark areas. The summary approach to assessment and data sources for each impact is set out in Table 9.3 below.

Table 9.3 Approach to Socio-Economic Assessment

Impact	Assessment Methodology
Construction Phase	
Construction Employment	▪ Detailed construction costs or Building Cost Information Service (BCIS) cost data to estimate total construction costs. ▪ Average annual turnover per employee in the construction sector derived from ONS Business Population Estimates. ▪ Anticipated construction period to estimate gross Full Time Employment (FTE) construction jobs. ▪ Additionality considerations applied aligned to Government guidance.
Economic Productivity	▪ Latest ONS Gross Value Added (GVA) per capita estimates at the Manchester local authority level applied to the estimated net FTE construction jobs per annum. ▪ Latest ONS GVA per capita estimates for construction jobs at the North West region level applied to the estimated net FTE construction jobs per annum ▪ GVA per capita data is not available at the local or sub-regional level
Operational Phase	
Student Housing & Population	▪ Schedule of accommodation to establish number of rooms and occupancy. ▪ Population based on appropriate person per bed space assumption.
Employment	▪ Direct operational phase employment estimate by applicant based on previous schemes and their FTE requirement for jobs. ▪ Additionality considerations applied aligned to Government guidance. ▪ Indirect FTE of part-time term time jobs estimate based on NatWest Student Living Index.
Education	▪ Indirect impact to be assessed qualitatively based on professional experience of providing infrastructure required for students to excel, and to attract and retain students.
Economy	▪ Latest ONS GVA per capita estimate at the Manchester local authority level applied to the estimated net FTE direct operational jobs created. GVA per capita data is not available at the local or sub-regional level ▪ Student Income and Expenditure Study (Department for Education) applied to new resident population to estimate annual expenditure at the Greater Manchester level. ▪ Visitor spend estimate based on annual overnight visitor assumption per resident applied to Visit Britain visitor spend data at the Manchester Local Authority level.
Healthcare	▪ NHS Digital statistics from GP Workforce Census and information from existing GP and dental surgeries to determine local capacity within an appropriate radius of the site (rather than spatial boundary level).
Crime	▪ Qualitative assessment based baseline local (ward) crime data. ▪ Consideration of the scope to 'design out' crime through scheme design.

9.6.4 The level of socio-economic effects generated by the Proposed Development at the local and wider scale will be considered as follows:

- **Major Beneficial** – Significant positive socio-economic impact at the local scale and moderate or significant benefits at the wider scale
- **Moderate Beneficial** – Modest socio-economic improvement at the local scale
- **Minor Beneficial** – Small positive impact on local socio-economic indicators
- **Negligible** – No real change in socio-economic indicators as a result of development
- **Minor Adverse** – Small negative impact on local socio-economic indicators
- **Moderate Adverse** – Modest socio-economic disincentive at the local scale
- **Major Adverse** – Significant adverse socio-economic impact at the local scale and moderate or significant disbenefits at the wider scale

9.6.5 Major effects will considered to be significant for the purposes of the ES.

9.6.6 The significance criteria are qualitative in approach but will be informed by data derived from the baseline assessment and quantitative assessment of construction and operational phase impacts of the Proposed Development. Based on professional experience and judgement, consideration will be given to the scale and duration of the socio-economic effect at each spatial scale relative to the baseline; the value of the impact; and the ability to adapt to and/or mitigate the potential benefit or adverse effect.

9.6.7 A qualitative assessment of inter-cumulative and intra-cumulative effects during both the construction and operational phase of the Proposed Development will be undertaken.

9.7 Potential Mitigation Measures

9.7.1 No significant adverse effects of development are anticipated in socio-economic terms. Therefore, it is assumed at this stage that no mitigation measures will be required in respect of either the construction or operational phase of the Proposed Development. However, the need for mitigation will be considered throughout the socio-economic assessment and potential mitigation measures proposed if required.

9.8 Consultation

9.8.1 The assessment of the socio-economic impacts of the Proposed Development will not require the undertaking of any consultations.

10 SUMMARY

10.1.1 This Scoping Report has been produced to inform MCC and other relevant stakeholders of the proposed scope of the ES. In summary it is proposed that the ES will be structured as follows:

Chapter 1: Introduction

Chapter 2: Site Description

Chapter 3: The Proposed Development

Chapter 4: Approach and Scope

Chapter 5: Consideration of Alternatives

Chapter 6: Air Quality

Chapter 7: Noise and Vibration

Chapter 8: Built Heritage, Townscape and Visual Impact Assessment

Chapter 9: Daylight, Sunlight & Overshadowing

Chapter 10: Wind Microclimate

Chapter 11: Socio-Economic

Chapter 12: Summary of Residual and Cumulative Effects

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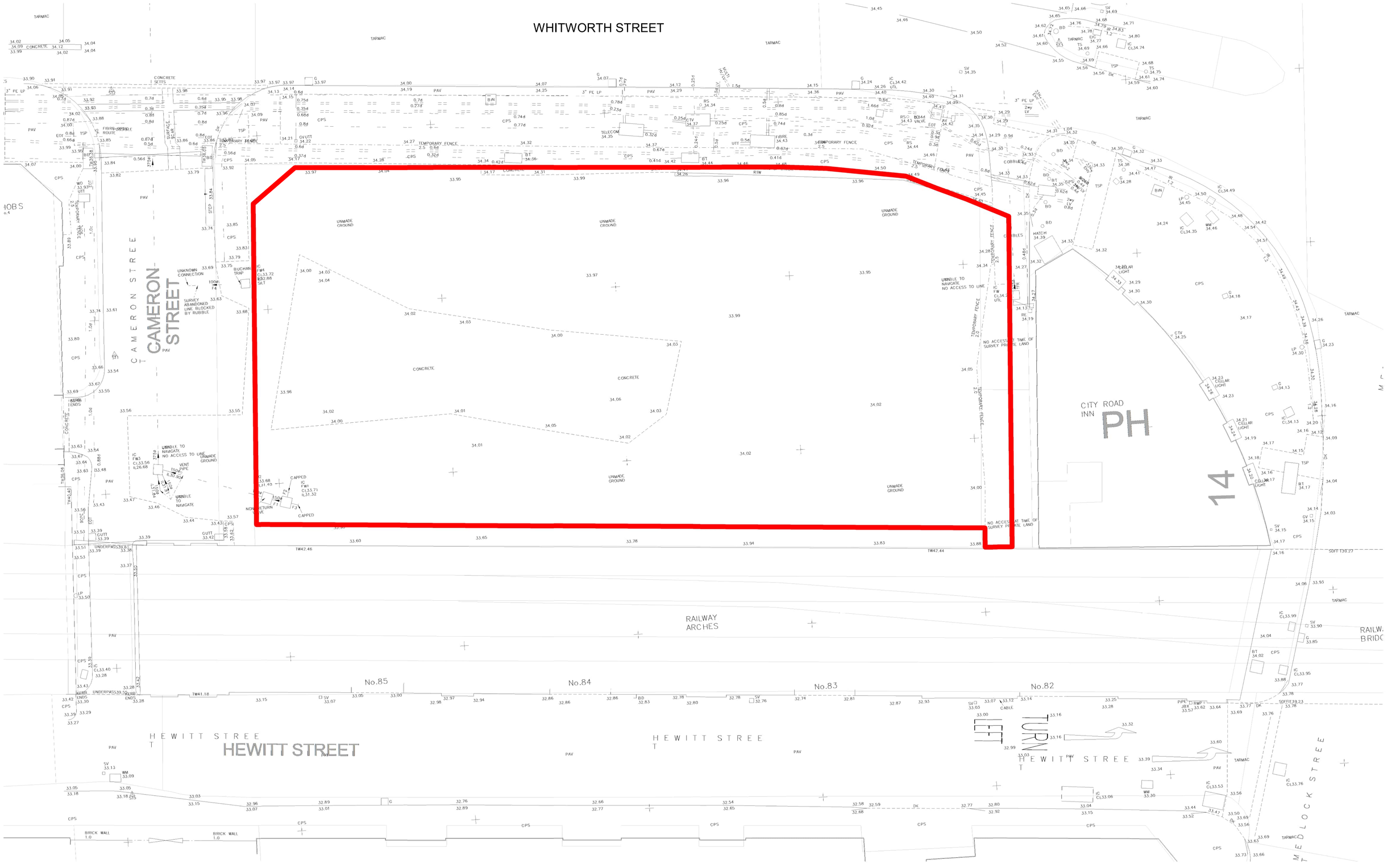
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PART OF SLR

APPENDICES

Appendix A

Existing Site Plan



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Rev.	Description	Date	Drw.	Chk.
P02	Drawing reissued for comment	04/06/2025	AR	AR
P01	FIRST ISSUE	26/11/2024	AR	AR

Client:
Tri 7

Project:
Whitworth Street, Manchester

Drawing Title:
Existing Site Plan

Drawing Status:
WIP

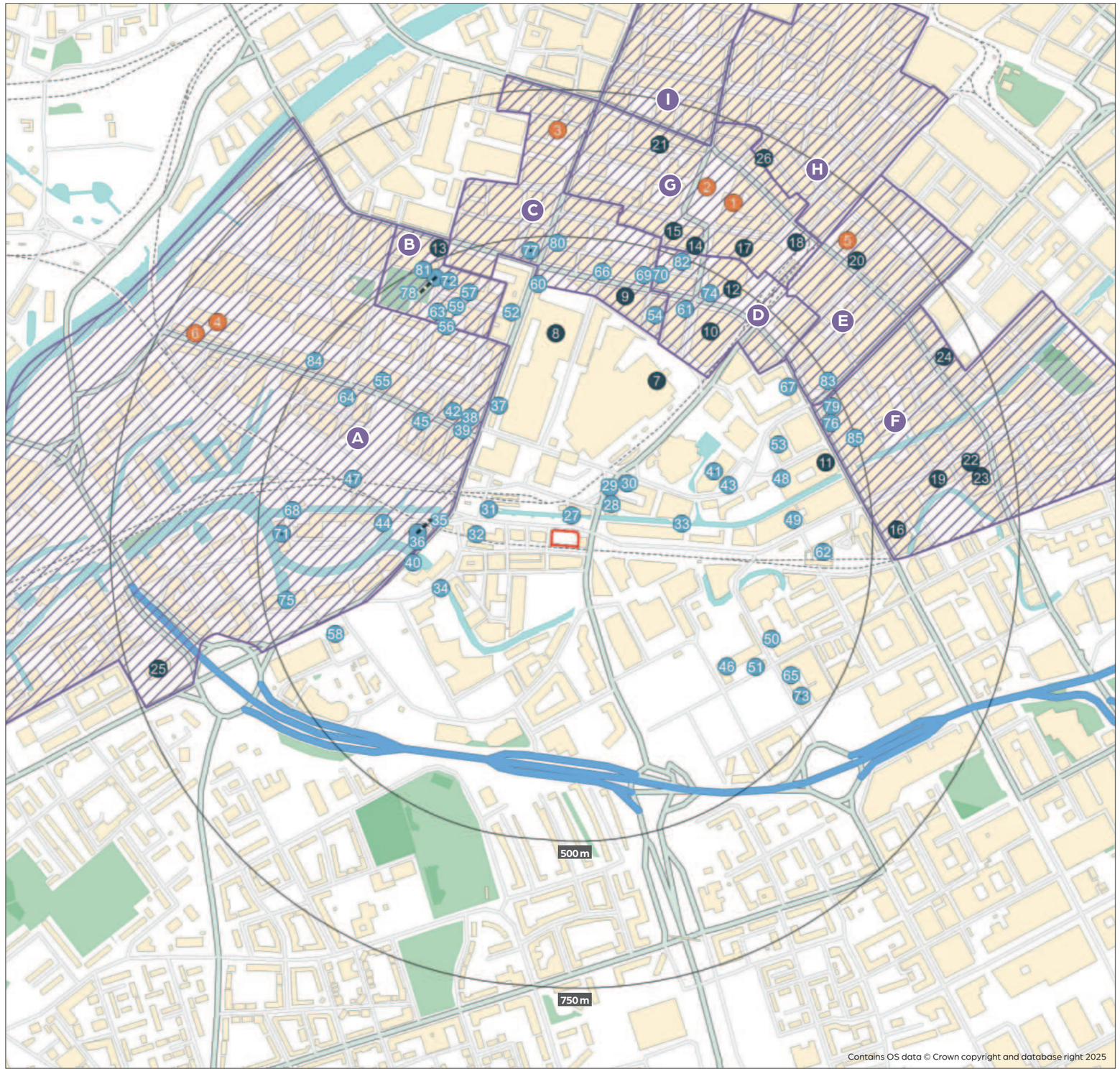
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Revision P02

Project No.	Drawn	Checked	Size	Scale	Date
22987	AR	AR	A1	1 : 100	11/16/20

Appendix B

Heritage Asset Plan



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HERITAGE ASSET PLAN

Application Site

Conservation Areas

A. Castlefield
B. St John Street
C. Deansgate and Peter Street
D. St Peter's Square
E. George Street
F. Whitworth Street and Princess Street
G. Albert Square
H. Upper King Street
I. St Ann's Square

Listed Buildings

Grade I

1. Town Hall
2. Albert Memorial
3. John Rylands Library and attached Railings, Gates and Lamp Standards
4. Old Warehouse to North of former Liverpool Road Railway Station
5. Manchester Art Gallery
6. Former Liverpool Road Railway Station, Station Masters House

Grade II*

7. G Mex
8. Deansgate Goods Station and attached Carriage Ramp
9. Free Trade Hall
10. Midland Hotel
11. Tootal, Broadhurst and Lee Building
12. Central Public Library
13. Cobden House, 19 Quay Street
14. Lawrence Buildings
15. Memorial Hall
16. Former Refuge Assurance Company Offices
17. Town Hall Extension
18. Manchester War Memorial
19. India House (including attached Wrought Iron Gateway linked to Lancaster House)
20. The Athenaeum
21. Roman Catholic Church of St Mary (The Hidden Gem)
22. Lancaster House
23. Asia House
24. 103, Princess Street
25. Church of St George
26. Manchester Law Library

Grade II (within 500m)

27. Rochdale Canal Lock No. 90, Approx. 30 metres West of Albion Bridge
28. 13–17, Albion Street
29. Manchester South Junction and Altrincham Railway Viaduct
30. The Britons Protection Public House
31. Rochdale Canal Lock Keepers Cottage at Lock No. 91, Next to Gaythorn Tunnel, and Rochdale Canal Lock No. 91 at East End of Gaythorn Tunnel
32. Deansgate Station
33. Rochdale Canal Lock No. 89 (Tib Lock), on South Side of Havelock Mills
34. Boundary Stone on Knott Mill Bridge, and Floodgate on East Side of Knott Mill Bridge
35. Former Congregational Chapel
36. Electricity Junction Box in Castlefield Canal Basin, Manchester
37. 235–291, Deansgate
38. Castlefield Information Centre
39. K6 Telephone Kiosk Beside South West Corner of No. 330 Deansgate
40. Electricity Junction Box in Castlefield Canal Basin, Manchester
41. Chepstow House
42. Former Market Hall
43. Peveril of The Peak Public House
44. Electricity Junction Box on Castle Street, Manchester
45. 29–41, Liverpool Road
46. Former Cotton Mill on West Side of Junction with Cambridge Street
47. Castlefield Railway Viaduct from G-Mex to Dawson Street
48. Lee House
49. The Ritz Dance Hall
50. Chorlton New Mill and attached Chimney
51. Mill Chimney Stack on West Side of Junction with Cambridge Street
52. K6 Telephone Kiosk in front of St John Street Chambers
53. Canada House
54. Royale Club
55. Museum of Science and Industry, Air and Space Museum
56. Manchester & Salford Junction Canal Tunnel
57. 8 and 8a, 10, 12–16, 18 and 20, 22, 24, 24a and 26, and 28, St John Street
58. Bridgewater Canal Offices
59. 11–17, 19, and 21–25, St John Street
60. Former Entrance to Deansgate Goods Station including Nos 223 to 233
61. 56–58, Peter Street
62. Manchester Oxford Road Station (including Platform Structures)
63. Nos 25 to 31 and attached former Chapel
64. Former St Matthews Sunday School
65. Chorlton Old Mill
66. Albert Memorial Hall
67. Princes Buildings
68. Rochdale Canal Lock No. 92 and Castle Street Bridge
69. Harvester House
70. Lancashire House
71. Merchants Warehouse
72. 15a, Byrom Street
73. Mill on North East Corner of Junction with Chester Street
74. Sculptural Group adrift to South-West of Central Public Library, Peter Street, Manchester
75. Middle Warehouse, at former Castle Field Goods Yard
76. 61, Oxford Street
77. Royal London House
78. Two Bollards at East End of St Johns Passage
79. 127–133, Portland Street
80. Onward Buildings
81. No. 14, Byrom Street
82. Manchester Quaker Meeting House, Boundary Walls and Steps
83. 116 and 118, Portland Street
84. Power Hall of Museum of Science and Industry
85. St James Buildings

Scheduled Monuments

86. Remains of eastern wall of the Roman fort

LOCATION:
10–12 Whitworth Street West, Manchester

DATE:
April 2025

SCALE:
1:7,500 @ A3

FIGURE:

▲ **NORTH**

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Appendix C

Preliminary Ecological Appraisal

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ENERGY AND CLIMATE CHANGE
ENVIRONMENT AND SUSTAINABILITY
INFRASTRUCTURE AND UTILITIES
LAND AND PROPERTY
MINING AND MINERAL PROCESSING
MINERAL ESTATES
WASTE RESOURCE MANAGEMENT



ATRI7 6 LIMITED

WHITWORTH STREET WEST

PRELIMINARY ECOLOGICAL APPRAISAL

JUNE 2025

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DATE ISSUED:	**June 2025**
JOB NUMBER:	**ST21315**
REPORT NUMBER:	**0001**
VERSION:	**V0.1**
STATUS:	**FINAL**

ATRI7 6 LIMITED

WHITWORTH STREET WEST

PRELIMINARY ECOLOGICAL APPRAISAL

JUNE 2025

PREPARED BY:		
Tess McAlister	Ecologist	
REVIEWED BY:		
Jake Smith	Principal Ecologist	
APPROVED BY:		
Tosha Allen	Technical Director (Ecology)	

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CONTENTS

EXECUTIVE SUMMARY 1
1 INTRODUCTION 1
1.1 Terms of Reference 1
1.2 Scope of Report 1
1.3 Background Information 2
1.4 Site Context 2
1.5 National Planning Policy Framework (NPPF) 3
1.6 Local Planning Policy 3
2 METHODOLOGY 6
2.1 Desk Study 6
2.2 Extended UKHab Classification Survey 6
2.3 Bats: Preliminary Roost Assessment of Buildings/Structures 7
2.4 Evaluation and Assessment of Features 8
2.5 Nomenclature 9
2.6 Limitations / Deviations 9
2.7 Quality Assurance & Environmental Management 9
3 RESULTS AND EVALUATION 10
3.1 Statutory and Non-Statutory Designated Sites 10
3.2 Habitats 13
3.3 Species 17
4 DISCUSSION AND RECOMMENDATIONS 23
4.1 Sensitive Receptors 23
4.2 Non-Statutory Conservation Sites 23
4.3 Protected Species 23
4.4 General Recommendations 24
5 BIODIVERSITY ENHANCEMENTS 25
5.1 Biodiversity Enhancements 25
6 CONCLUSION 26
6.1 Conclusion 26
6.2 Report Validity 26
7 REFERENCES 27

APPENDICES

Appendix 1 Legislation Summary

Appendix 2 Preliminary Roost Assessment of Structures

DRAWINGS	TITLE	SCALE
ST21315-001	UKHab Baseline Survey Plan	1:500@A3
ST21315-002	Site Location Plan	1:1,000@A3

EXECUTIVE SUMMARY

Wardell Armstrong LLP (WA) was commissioned by Atri7 6 Limited to undertake a Preliminary Ecological Appraisal (PEA) in support of a proposed change of use and design modifications for an existing 35-storey apartment scheme.

The following conservation sites, habitats, and species (receptors) have been evaluated as being subject to potential adverse effects in the absence of mitigation and/or further survey or assessment:[1]:

- Roosting bats
- Birds

Additional assessments, surveys and pre-construction checks have been recommended as necessary to fully inform the planning application:

- Should the railway bridge wall be impacted, one dusk emergence survey is recommended to establish the status of roosting bats.

Mitigation[2] and compensation[3] are discussed in Section 4 of the report but include the following:

- Construction works undertaken outside of the bird nesting season or an inspection carried out by an appropriately qualified ecologist.
- Provision of a Construction Environmental Management Plan to ensure protective mitigation.

Opportunities for ecological enhancements are set out in Section 5 of this report. This includes a green roof, suitable native planting to be included in the landscape scheme and provision of bat boxes and bird nest boxes.

In conclusion, given the identified evidence of presence and/or likely presence of ecological constraints, further surveys and assessments are required to inform a full evaluation of adverse effects. The results of further protected species surveys and evaluations should be

[1] Note: the Preliminary Ecological Appraisal Report provides an overview of likely effects and therefore may not be sufficient to support a planning application on its own. Specialist surveys may be required to fully investigate effects and/or to support an Ecological Impact Assessment (EcIA).

[2] Mitigation are measures required in order to reduce the severity and magnitude of identified effects to an acceptable level.

[3] Compensation is required where effects cannot be fully mitigated.

considered within an Ecological Impact Assessment (EcIA) report, in line with standard industry practice (CIEEM 2018, updated 2022). This report should include a formal assessment of impacts and will be suitable to fully inform the planning application.

This report is valid for 18 months from the date the habitat survey was undertaken.

1 INTRODUCTION

1.1 Terms of Reference

1.1.1 Wardell Armstrong LLP (WA) was commissioned by Atri7 6 Limited in January 2025 to undertake a Preliminary Ecological Appraisal (PEA) in support of a planning application for the proposed change of use and design modifications for an existing 35-storey apartment scheme. The project is located at 10-12 Whitworth Street West, Manchester centred on approximate National Grid Reference (NGR) SJ 83579 97521.

1.1.2 This report has been produced with reference to current guidelines for UK Habitat (UKHAB) Classification V2.0 (UKHAB, 2023), Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017) and Biodiversity – Code of Practice for Planning and Development (BSI, 2013).

1.2 Scope of Report

1.2.1 The purpose of the PEAR is in broad terms to undertake the following:

- Identify and report to the project team the likely ecological constraints associated with a project, such that the site design can adequately take account of ecological features;
- identify any mitigation measures likely to be required, following the 'Mitigation Hierarchy' (BSI, 2013);
- identify any additional surveys that may be required to inform an Ecological Impact Assessment (EcIA); and
- Identify the opportunities offered by a project to deliver ecological enhancement.

1.2.2 Certain species, habitats and nature conservation sites receive legislative protection which is detailed fully within Appendix 1. Other species/groups and habitats are notable due to their identification in national and/or local planning policy or via local records. An indicative assessment of potential adverse effects to such receptors is provided, although this is not a substitute for full EcIA (CIEEM 2018) which may be required to fully inform any subsequent planning application along with additional surveys and assessments.

1.2.3 Provisional mitigation and enhancement opportunities are also discussed, where appropriate.

1.3 Background Information

1.3.1 Based on the size of the site and scale of the proposals the development is likely to fall under Schedule 2 of the Town and Country Planning EIA Regulations 2017. Considering the planning history an EIA will likely be required.

1.4 Site Context

1.4.1 The Site is situated in the centre of Manchester as shown on Drawing Number ST21315-002 (Site Location Plan).

1.4.2 The planning application area comprises an empty plot of land, currently used for storage, covering approximately 0.12 hectares (ha) (henceforth known as the Application Site). The study site (the Site) includes all land within the Application Site plus additional land 50m from the site boundary, where feasible. The Site is bounded by hoarding, with Whitworth St and the Rochdale Canal just beyond the northern extent and a railway line to the south. There are buildings to the east and west of the Site. The Site is situated in the centre of Manchester and is surrounded by commercial and residential land uses.

1.5 National Planning Policy Framework (NPPF)

1.5.1 The NPPF (2024) requires the Planning Authority to have a responsibility to promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan. In addition, the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological that are more resilient to current and future pressures.

1.6 Local Planning Policy

1.6.1 Relevant current and emerging policies are summarised in Box 1, below and are discussed with regard to compliance in the final Discussion section of the report.

Policy Reference	**Policy Summary**
Policy EN 9: Green Infrastructure	New development will be expected to maintain existing green infrastructure in terms of its quantity, quality and multiple function. Where the opportunity arises and in accordance with current Green Infrastructure Strategies the Council will encourage developers to enhance the quality and quantity of green infrastructure, improve the performance of its functions and create and improve linkages to and between areas of green infrastructure. Where the benefits of a proposed development are considered to outweigh the loss of an existing element of green infrastructure, the developer will be required to demonstrate how this loss will be mitigated in terms of quantity, quality, function and future management. Key features of Manchester's green infrastructure will include: • The continued development of a network of green spaces, water bodies, canals, paths and cycleways, with priority given to those parts of the City where there is an identified existing lack of open space. The Council will seek to protect existing street trees and promote new planting, particularly where this can enhance green links in the urban area. • The continued maintenance and management of the Rivers Mersey and Irwell and their tributaries, for example the River Irk, River Medlock, Chorlton Platt Gore, Gatley Brook, Moston Brook and adjoining land, with regard to their multiple functions including recreation, flood management, and biodiversity. • The provision of new, and improvements to the quality and accessibility of existing green infrastructure assets, to mitigate for any loss of green infrastructure as a result of development such as the Metrolink extension programme.

	• The encouragement of green roofs, green walls, tree planting and other forms of green infrastructure to allow for the adaption to climate change in heavily urbanised areas. New green infrastructure provision should be an exemplar of best practice and innovation in terms of both its design and management
Policy EN 10: Safeguarding Open Space, Sport and Recreation Facilities	The Council will seek to retain and improve existing open spaces, sport and recreation facilities to the standards set out above and provide a network of diverse, multi-functional open spaces. Proposals will be supported that: • improve the quality and quantity of accessible open space, sport and recreation in the local area • provide innovative solutions to improving the network of existing open spaces, increase accessibility to green corridors, and enhance biodiversity • improve access to open space for disabled people Proposals on existing open spaces and sport and recreation facilities will only be permitted where: • Equivalent or better replacement open space, sport or recreation facilities will be provided in the local area; or • The site has been demonstrated to be surplus for its current open space, sport or recreation function and the City wide standards set out above are maintained, and it could not fulfil other unsatisfied open space, sport or recreation needs, and • a proposed replacement will remedy a deficiency in another type of open space, sport or recreation facility in the local area; or • The development will be ancillary to the open space, sport or recreation facility and complement the use or character.
Policy EN 13: Green Belt	The extent of Green Belt in Manchester will be amended in the vicinity of Manchester Airport, in accordance with policy MA1. Otherwise, there are no amendments to the Green Belt boundary to be effected through the Core Strategy. This does not preclude further consideration of sites currently within the Green Belt through subsequent Development Plan Documents.
Policy EN 15: Biodiversity and Geological Conservation	The Council will seek to maintain or enhance sites of biodiversity and geological value throughout the City. Particular consideration will be given to: • sites with international or national designations for their biodiversity value. Manchester contains one Site of Special Scientific Interest (SSSI) (Cotteril Clough); there is a Special Area of Conservation (SAC) and an SSSI just over the border in Oldham (both on the Rochdale Canal within Oldham); • other sites of biodiversity value, including Sites of Biological Importance (SBIs) and Local Nature Reserves (LNRs); Manchester currently has 35 SBIs (including the Rochdale and Ashton Canals) and 7 LNRs; priority habitats found within Manchester, as listed in the Manchester Biodiversity Strategy and included in the Greater Manchester Biodiversity Action Plan (GM BAP);

	• protected and priority species, as listed in the Manchester Biodiversity Strategy and included in the Greater Manchester Biodiversity Action Plan (GM BAP); • sites that are recognised for their geological importance; • the Council's objective to protect and conserve the City's existing trees and woodlands and the aim for a net increase in trees across the City. Developers will be expected to identify and implement reasonable opportunities to enhance, restore or create new biodiversity, either on-site or adjacent to the site, contributing to linkages between valuable or potentially valuable habitat areas where appropriate, with reference to: • the Manchester Biodiversity Strategy, which provides further details of priority habitats within Manchester and opportunities for biodiversity enhancement including corridors such as the Mersey, Medlock and Irk river valleys, the canals and disused railway lines and areas of managed greenspace particularly in parks; • the Green Infrastructure Framework for Greater Manchester, which encompasses an ecological framework that seeks to guide and inform habitat creation and repair, including identifying large 'biodiversity opportunity areas' including the Moston Brook Corridor and Nutsford Vale; • the Open Space, Sport & Recreation Study, which identifies areas where there is a deficit of natural and semi-natural greenspace, opportunities for green corridors and other linkages; • Manchester's Climate Change Action Plan; • the Strategic Flood Risk Assessment (SFRA) for Manchester; • the Habitats Regulations Assessment (HRA) for Manchester, which gives detailed consideration to Special Areas of Conservation (SACs), including the Rochdale Canal SAC just outside the district boundary; • the River Basin Management Plan for the North West; • the Manchester Tree Strategy. Any adverse impacts on biodiversity will need to be justified against the wider benefits of the proposal, assessed against other LDF policies. Where adverse impacts are unavoidable, developers will be required to provide appropriate mitigation and/or compensation. Development should wherever possible seek to maintain, enhance or restore existing geology.

2 METHODOLOGY

2.1 Desk Study

2.1.1 The desk study was informed by review of existing available information provided by Greater Manchester Ecology Unit (GMEU) and from available internet-based resources, such as MAGIC Map (Natural England, 2025) for a 2km search radius from the Site boundary. The search area was extended to 10km for statutory sites designated for bats. Ordnance Survey (OS) and satellite mapping was also used to gain contextual habitat information.

2.1.2 Specific information was sought for:

- Statutory designated sites;
- Locally designated sites;
- Ancient woodland (Natural England, 2025);
- Protected and priority species;
- Priority (s.41) Habitats and Species (NERC, 2006);
- Local Biodiversity Action Plan (LBAP) priority habitats and species.

2.2 Extended UKHab Classification Survey

2.2.1 WA carried out a UK Habitat (UKHab) Classification Survey of the Site on 22nd January 2025. The survey was carried out by a member of CIEEM who is competent at carrying out ecological habitat surveys.

2.2.2 The survey followed the 'UK Habitat Classification' (UKHab, 2023) methodology with each of the main habitats classified according to the relevant criteria including vegetation composition expressed according to the DAFOR[4] system.

2.2.3 In addition to the mapping and description of habitats, the survey was 'extended' to include the incidental observations of protected and/or notable species and the potential for such species to occur on Site (and in the surrounding landscape where relevant) were also recorded onto secure digital media for mapping and data collection. The extended element of the survey was based on professional judgement.

[4] D = dominant, A = abundant, F = frequent, O = occasional, R = Rare

2.2.4 Specific habitat features are mapped on Drawing Number ST21315-001 (UKHab Baseline Survey Plan) with appropriate reference numbers identifying features of particular note.

2.3 Bats: Preliminary Roost Assessment of Buildings/Structures

2.3.1 An external Preliminary Roost Assessment (PRA) of the railway bridge wall bordering the Site to the south was undertaken by an experienced ecologist from WA. The location of this structure is shown in Drawing Number ST21315-001 (UKHab Baseline Survey Plan) and Appendix 2 provides the full PRA results.

2.3.2 The aim of the PRA survey was to assess the suitability of the buildings to support roosting bats, identify any evidence of roosting bats and determine whether there is a requirement for further surveys.

2.3.3 Any features determined to be suitable for roosting bats and the overall condition of the buildings were noted. Field signs such as droppings, feeding remains and dead or living bats were also recorded.

2.3.4 Equipment used for the PRA included binoculars.

2.3.5 The buildings were categorised using the assessment criteria the 4th ed. of the Bat Conservation Trust (BCT) Guidelines (Collins, 2023) as set out below:

High: Structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions, and surrounding habitats. These structures have the potential to support high conservation status roosts e.g. maternity or class cool/stable hibernation site;

Moderate: Structure with one or more potential roost sites that could be used by of bats due to their size, shelter, protection, conditions, and surrounding habitats, but unlikely to support a roost of high conservation concern;

Low: Structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on

a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation);

Negligible: No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion;

None: No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).

2.4 Evaluation and Assessment of Features

2.4.1 Evaluation of the importance / likely importance of ecological features and the likelihood of impacts affecting important features was made, where possible, using professional judgement in accordance with published guidance (CIEEM 2017).

2.4.2 Protected and s.41 species were evaluated in order to identify potential adverse effects in Table 2, based on the following criteria:

- Desk study records;
- Evidence found during the survey;
- Presence, extent, quality and viability of suitable on-site habitat;
- Ecological connectivity to viable off-site habitats; and
- Perceived impacts of habitat loss/impact to individuals in relation to proposals.

2.4.3 A 'traffic light' system is used in Tables 1, 2 and 3 to highlight potential constraints and opportunities whereby:

- Green: No constraint or limited constraint unlikely to be of planning and/or legal significance.
- Amber: Potential constraints which require further survey and/or mitigation and may be of planning and/or legal significance depending on the outcome of further survey/assessment.
- Red: Constraints which have already been identified by the PEA survey/desk-based assessment and are likely to be of planning and/or legal significance.

2.5 Nomenclature

2.5.1 Vascular plant names follow '*New Flora of the British Isles'* (Stace 2019) with vernacular names as provided in the Botanical Society of the British Isles website (BSBI, 2013). All other flora and fauna names following the National Biodiversity Network (NBN) Atlas (NBN Atlas Partnership, 2021). The common and scientific name of species/taxa is provided (if available) when first mentioned in the text, with only the vernacular name referred to thereafter.

2.6 Limitations / Deviations

2.6.1 Ecological surveys are limited by factors that affect the presence of plants and animals such as time of year, weather, migration patterns and behaviour. The survey was undertaken in January. Although this is outside of the optimum recommended survey period for habitat surveys (April to August)) this still represents a valid sample of ecological evidence present on that date/season as the habitats within the Site are not anticipated to support notable species. The report is not designed, nor is it required to present a complete inventory of flora/fauna.

2.6.2 The absence of desk study records is not relied upon to determine absence of a particular species/habitat. Often, the absence of records is a result of under-recording within the given search area and as such the experience of the ecologist concerned together with a range of additional factors, in particular the presence/absence of potentially supporting habitat; is used to infer likely presence/absence of ecological receptors.

2.7 Quality Assurance & Environmental Management

2.7.1 The surveys and assessments have been overseen by and the report checked and verified by an associate member of CIEEM, who is bound by its code of professional conduct. All surveys and assessments have been undertaken with reference to the recommendations given in British Standard BS 42020, and as stated within specialist guidance, as appropriate and referenced separately.

3 RESULTS AND EVALUATION

3.1 Statutory and Non-Statutory Designated Sites

3.1.1 Desk study results for designated sites are evaluated in Table 1, below.

3.1.2 Designated sites which are considered potentially sensitive to the development proposals by virtue of their supported species or habitat assemblages, the distance/ecological connectivity to the Site and the nature of the perceived impacts are discussed in detail in the final sections of the report.

3.1.3 Designations for which potential adverse effects are not anticipated are excluded from further assessment.

Table 1: Designated Sites Evaluation			
Site Name and Status[5]	**Distance and direction from Site**	**Reason for Designation/identification**	**Potential Constraints**
Rochdale Canal (SAC)	6.45km northeast of the Site.	This SAC is designated for supporting a significant population of floating water-plantain *Luronium natans*, an Annex II species. The SAC has a botanically diverse waterplant community which also holds a wide range of pondweeds *Potamogeton* spp. The canal has predominantly mesotrophic water. This population of *Luronium* is representative of the formerly more widespread canal populations of north-west England.	The Site is 40m south of the Rochdale Canal; however, this section of the canal is approximately 6.7km downstream of the section that is a designated SAC. Due to the significant distance between the SAC and the Site, there are no impacts anticipated from the Proposed Development. Any dust pollution that may arise from the development is anticipated to be very minor and would not travel the distance to the SAC. And any run-off would flow downstream away from the SAC.
Ashton Canal West (SBI)	1.40km northeast of the Site	This SBI is designated for its submerged aquatic flora.	The Site is in close proximity to the Rochdale Canal; however, this section is downstream of the SAC so there is no hydrological connectivity. There are no direct impacts anticipated from the Proposed Development. There is limited potential for dust pollution that may arise from the development, though this is anticipated to be very minor and have very minor impacts upon SBI if it travels. And any run-off would flow downstream away from the SBI.
Rochdale Canal: Stott's Lane to Ducie St Basin (SBI)	1.40km northeast of the Site	This SBI is a continuation of the Rochdale Canal SAC and is designated for its regionally important aquatic habitats and flora.	The Site is in close proximity to the Rochdale Canal; however, this section is downstream of the SBI so there is no hydrological connectivity. There are no direct impacts anticipated from the Proposed Development. There is limited potential for dust pollution that may arise from the development, though this is anticipated to be very minor and have very

[5] **SAC** – Special Area for Conservation, **SBI –** Site of Biological Interest.

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Table 1: Designated Sites Evaluation			
Site Name and Status[5]	**Distance and direction from Site**	**Reason for Designation/identification**	**Potential Constraints**
			minor impacts upon SBI if it travels. And any run-off would flow downstream away from the SBI.
River Irwell (SBI)	1.55km northwest of the Site	This SBI is designated for its regionally significant numbers of wintering birds, such as tufted duck *Aythya fuligula* and goldeneye *Bucephala clangula*	The Site does not support habitats suitable for these wintering bird species. The Rochdale Canal is in close proximity to the Site; however, it joins the River Irwell downstream of the SBI. Therefore, indirect impacts are unlikely, due to a lack of hydrological connectivity between the two sites.

3.1.4 The search area is extended to allow for the inclusion of Impact Risk Zones (IRZs) for SSSIs (Natural England, 2023). IRZs define areas around SSSIs which could be impacted by development schemes. The zones vary depending on the particular sensitivities of the features for which the SSSI is notified and indicate the types of development proposal which could potentially have adverse impacts.

3.1.5 The desk study shows that the application site falls within an IRZ for several designations, with the following development proposals considered likely to adversely affect the SSSI: air pollution (livestock and poultry units with a floorspace > 500m², slurry lagoons > 4000m²) and combustion (general combustion processes >50MW energy input. Including: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/combustion).

3.1.6 As the proposed development does not meet any of the IRZ's criteria, this potential ecological receptor has been discounted from needing further assessment.

3.2 Habitats

3.2.1 All habitats within the Site are described in Table 2, below, together with an indication of their s.41 status and status and reference within the Greater Manchester Local BAP (Greater Manchester Biodiversity Project, 2009).

3.2.2 Habitats which could be subject to adverse effects (amber or red) are discussed in the latter sections of the report. Habitats for which potential adverse effects are not anticipated are excluded from further assessment. The location and extent of habitats are shown on Drawing Number ST21315-001 (UKHab Baseline Survey Plan).

3.2.3 A review of OS data has identified no waterbodies within 500m of the Site.

Table 2: Habitat Descriptions and Evaluation				
Habitat Description	**UK Hab Classification**	**Photograph**	**Local BAP/s.41**	**Potential Constraints**
<u>Artificial unvegetated – unsealed surface</u> This is the dominant habitat within the Site. At the time of survey, the Site was being used for storage of construction materials and plant, which has led to disturbance of the ground. The ground is primarily comprised of bare earth/mud, with rubble and brick fragments. There are piles of earth/rubble within the Site. In less disturbed areas, ruderal plant species have begun to colonise. Vegetation cover is less than 10%. Within these areas, buddleia *Buddleja davidii*, herb Robert *Geranium robertianum* and Canadian fleabane *Conyza canadensis* are abundant, with frequent willowherb *Epilobium* sp., black medick *Medicago lupulina* and annual meadow grass *Poa annua*. Yorkshire fog *Holcus lanatus* and	<u>Primary Code</u> Artificial unvegetated – unsealed surface (u1c) <u>Secondary Code</u> Ruderal or ephemeral (81) Development site (805)		N/A	This habitat may be lost within the development proposals but is of negligible intrinsic value.

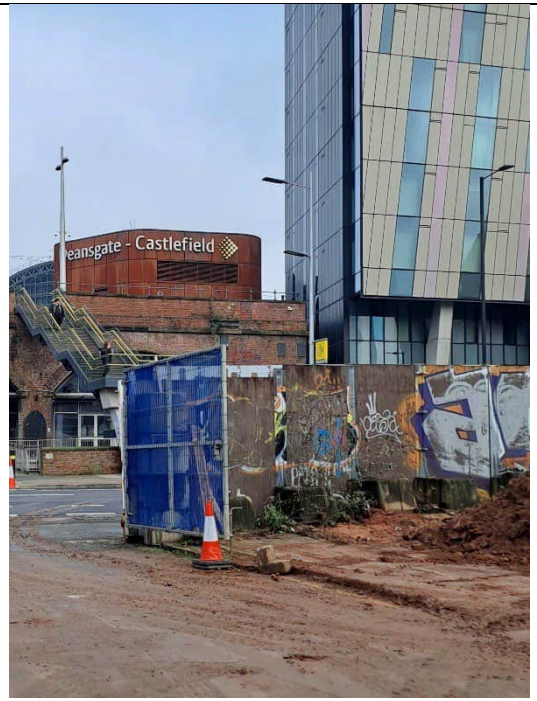
Table 2: Habitat Descriptions and Evaluation				
Habitat Description	**UK Hab Classification**	**Photograph**	**Local BAP/s.41**	**Potential Constraints**
mugwort *Artemisia vulgaris* are occasionally present.				
Other developed land A small area of ground in the northwest corner of the Site is paved. The ruderal species mentioned above are present at the edges of this habitat.	Primary Code Other developed land (u1b6) Secondary Code Ruderal or ephemeral (81) Development site (805)		N/A	This habitat may be modified by the development proposals but is of negligible intrinsic value.

Table 2: Habitat Descriptions and Evaluation				
Habitat Description	**UK Hab Classification**	**Photograph**	**Local BAP/s.41**	**Potential Constraints**
Built linear feature A railway bridge wall borders the Site to the south. This bridge is comprised of bricks and mortar.	Primary Code Built linear feature (u1e) Secondary Code Railway (802) Mortared wall (853)			This habitat may be modified by the development proposals but is of negligible intrinsic value.

3.3 Species

3.3.1 Protected and s.41 species are evaluated in order to identify potential adverse effects in Table 3 below, based on the following criteria:

- Desk study records;
- Evidence found during the survey;
- Presence, extent, quality, and viability of supporting on-site habitat;
- Ecological connectivity to viable off-site habitats; and
- Perceived impacts of habitat loss/impact to individuals in relation to proposals.

3.3.2 Species for which adverse effects are predicted (amber or red) are discussed in more detail in the Discussion and Recommendations section. Species/taxa for which potential adverse effects are not anticipated (green) are excluded from further assessment.

Receptor (species/taxa)	Desk Study records	Status[6]	Supporting Habitat(s)Present	Potential Constraints
Badger *Meles meles*	No records were returned within 2km from the last 10 years.	BA	Due to the urban nature of the Site, there is no suitable habitat for foraging or sett creation.	This species is unlikely to be present within the Site, therefore no impacts are anticipated.
Bats *Chiroptera*	There are 15 records of granted European Protected Species Licenses for bats within 2km of the Site. The closest of these is located 170m southeast of the Site and was for common pipistrelle *Pipistrellus pipistrellus*. There were 48 records of bats within 2km, featuring the following species: • Common Pipistrelle • Soprano Pipistrelle *Pipistrellus pygmaeus* • *Pipistrellus* sp. • Noctule *Nyctalus noctula* • *Myotis* spp.	EPS, WCA, s.41, LBAP	The Site was assessed as having 'Negligible' suitability for foraging or commuting bats, due to the lack of trees or shrubs. There is some suitable habitat adjacent to the site, in the form of scattered trees and the Rochdale canal. The railway bridge wall to the south of the Site provides suitable roosting opportunities for individual bats. This structure has been assessed as having 'Low' potential for roosting bats as it would not be suitable for larger numbers of bats. See Appendix 2 for further descriptions of roosting features.	No foraging/commuting habitat will be impacted. There may be adverse impacts to roosting bats should the railway bridge wall be modified as a result of the proposals.

[6] **EPS** – European Protected Species, **WCA** – Wildlife and Countryside Act, **WCA (9)** – species listed under Schedule 9, **A1** – Annex 1 (Birds Directive), **BA** – Protection of Badgers Act, **s.41** – species listed under section 41 of the NERC Act as species of principal importance, **BoCC** – Birds of Conservation Concern.

Receptor (species/taxa)	Desk Study records	Status[6]	Supporting Habitat(s)Present	Potential Constraints
	The closest record of a roost was located 780m northwest of the Site. The closest record of a bat was approximately 150m southwest of the Site.			
Birds	A wide range of BoCC and Red List species and WCA Schedule listed species including: **Schedule 1:** • Black redstart *Phoenicurus ochruros* – there are records of this species within 300m of the Site. • Peregrine *Falco peregrinus* • Little ringed plover *Charadrius dubius* • Kingfisher *Alcedo atthis* **BoCC/s.41:** • Herring gull *Larus argentatus* • House sparrow *Passer domesticus* • Starling *Sturnus vulgaris*	s.41, WCA BoCC, LBAP	During the survey, feral pigeon *Columba livia* and magpie *Pica pica* were observed within the Site. Suitable nesting habitat is limited to the railway bridge wall, which features a ledge that may be suitable for common urban bird species to nest, e.g. pigeon. The railway bridge wall may provide suitable nesting habitat for black redstart, which is a WCA Schedule 1 and LBAP species. However, the current disturbance levels on the Site may reduce the likelihood of this species being present.	Nesting birds may be impacted as a result of works to the railway bridge wall, should these be included in the proposals.

Receptor (species/taxa)	Desk Study records	Status[6]	Supporting Habitat(s)Present	Potential Constraints
Brown hare *Lepus europaeus*	No records were returned within 2km from the last 10 years.	s.41, LBAP	This species favours open expanses of pastoral farmland and therefore are unlikely to utilise the urban habitats within the Site.	This species is unlikely to be present within the Site, so no adverse impacts are anticipated.
European hedgehog *Erinaceus europaeus*	There were 21 records of hedgehog returned within 2km, from the last 10 years. The closest record was located 450m south of the Site.	s.41	There is no suitable foraging or sheltering habitat due to the lack of vegetation within the Site.	This species is unlikely to be present within the Site, so no adverse impacts are anticipated.
Great crested newt (GCN) *Triturus cristatus*	Two records of GCN were returned within 2km, the closest of which was located 1.70km northwest of the Site.	EPS, WCA, s.41, LBAP	There are no waterbodies within 500m and no suitable terrestrial habitat e.g. tall/ tussocky grassland, within the Site.	This species is unlikely to be present within the Site, so no adverse impacts are anticipated.
Common toad *Bufo bufo*	Two records of common toad were returned within 2km, the closest of which was located 1.70km northwest of the Site.	s.41	There are no waterbodies within 500m and no suitable terrestrial habitat e.g. tall/ tussocky grassland, within the Site.	This species is unlikely to be present within the Site, so no adverse impacts are anticipated.
Common Reptiles	No records were returned within 2km from the last 10 years.	WCA, s.41	There is no suitable habitat for reptiles due to the lack of vegetation, e.g. grassland/scrub, within the Site.	This species is unlikely to be present within the Site, so no adverse impacts are anticipated.
Hazel dormouse *Muscardinus avellanarius*	No records were returned within 2km from the last 10 years.	EPS, WCA, s.41	There is no suitable habitat for this species within the Site e.g. hedgerows and scrub.	This species is unlikely to be present within the Site, so no adverse impacts are anticipated.
Invertebrates (Protected and notable species)	There were records of white-letter hairstreak *Satyrium w-album* and cinnabar moth *Tyria jacobaeae*	WCA, s.41	The Site supports limited vegetation and is therefore unlikely to provide	Protected or notable invertebrate species are unlikely to be present within the Site, so no adverse impacts are anticipated.

Receptor (species/taxa)	Desk Study records	Status[6]	Supporting Habitat(s)Present	Potential Constraints
	returned within 2km from the last 10 years.		habitat for protected or notable invertebrate species.	
Otter *Lutra lutra*	There were five records of otter within 2km from the last 10 years, the closest of which was located 500m west of the Site, close to the Rochdale Canal.	EPS, WCA, s.41	There are no suitable watercourses for otter within the Site. The Rochdale Canal is 40m north of the Site and may provide some commuting habitat for otter. This species is unlikely to utilise the habitats within the Site due to the high levels of disturbance.	This species is unlikely to be present within the Site, so no adverse impacts are anticipated.
Water vole *Arvicola amphibia*	No records were returned within 2km from the last 10 years.	WCA, s.41, LBAP	There are no suitable watercourses for water vole within the Site. The Rochdale Canal may provide some suboptimal habitat for water vole, however there is no suitable terrestrial habitat within the Site.	This species is unlikely to be present within the Site, so no adverse impacts are anticipated.
White-clawed crayfish *Austropotamobius pallipes*	No records were returned within 2km from the last 10 years.	EPS, WCA, s.41	There are no suitable watercourses for white clawed crayfish within, or adjacent to, the Site.	This species is unlikely to be present within the Site, so no adverse impacts are anticipated.
Protected and notable plant species	Yes – vascular plant species recorded within 2km of the Site in the last 10 years, including:	WCA, s.41	No protected or notable plant species were observed during the survey. The Site has limited vegetation and has been subject to high levels of	Protected or notable plant species are unlikely to be present within the Site, so no adverse impacts are anticipated.

Receptor (species/taxa)	Desk Study records	Status[6]	Supporting Habitat(s)Present	Potential Constraints
	• Bee orchid *Ophrys apifera* – closest record located 870m northwest of the Site.		disturbance so is unlikely to support these plant species.	
Non-native invasive species (INNS)	No records were returned within 2km from the last 10 years.	WCA (9)	No INNS were observed within the Site during the survey.	INNS are likely to be absent from the Site.

4 DISCUSSION AND RECOMMENDATIONS

4.1 Sensitive Receptors

4.1.1 The following conservation sites, habitats, and species (receptors) have been evaluated as being subject to potential adverse effects and hence can be constraints to the proposals:

- Non-statutory Conservation Sites; Ashton Canal West SBI and Rochdale Canal: Stott's Lane to Ducie St Basin SBI
- Roosting bats
- Birds

4.1.2 The nature of potential effects, requirements for further surveys and proposed mitigation/compensation are discussed below for each of the identified receptors.

4.2 Non-Statutory Conservation Sites

4.2.1 Ashton Canal West SBI and Rochdale Canal: Stott's Lane to Ducie St Basin SBI are both located 1.40km northeast of the Site. These sites are designated for their aquatic flora and habitats.

4.2.2 Although limited, there may be indirect impacts to the habitats within these designations via dust produced during construction works. It is recommended that a Construction Environmental Management Plan (CEMP) is produced detailing pollution prevention measures to remove or minimise the impacts of air and dust pollution upon the SBIs.

4.3 Protected Species

Roosting bats

4.3.1 The railway bridge wall to the south of the Site has been assessed as having 'Low' potential for roosting bats. There may be adverse impacts to roosting bats should the railway bridge wall be modified as a result of the proposals.

4.3.2 If this structure will be impacted through the development proposals, it is recommended that further surveys are carried out to establish the status of roosting bats. Following current Bat Survey Guidelines (BCT, 2023) for structures with 'Low' roost suitability, it is recommended that one dusk emergence survey is carried out. This survey should be undertaken between May and August.

Birds

4.3.3 Black redstart, a WCA Schedule 1 and Greater Manchester BAP species, have been recorded within 300m of the Site in the last 10 years. Any works to the railway bridge wall could impact this species, as this species may utilise this habitat for nesting, although the Site does not provide suitable foraging habitat due to the current levels of disturbance. Therefore, further survey has not been deemed necessary.

4.3.4 In order to avoid works affecting breeding birds, it is recommended that any construction works should be avoided during breeding bird season (generally March-August inclusive). If such timescales cannot be accommodated, it is recommended that a check for the presence of active nests and nesting birds should be undertaken by a suitably qualified ecologist no more than 48hrs prior to the commencement of works. Any active nests should be identified and protected subject to the relevant legal provisions until the nesting attempt is complete.

4.4 General Recommendations

4.4.1 If the Site boundary alters and any other habitats are identified to be lost or affected by the development, then further surveys for habitats and protected species may be required.

4.4.2 Night-time work should be avoided whenever possible to limit the potential for disturbance to nocturnal animals.

5 BIODIVERSITY ENHANCEMENTS

5.1 Biodiversity Enhancements

5.1.1 In accordance with the requirements of the NPPF and BSI 42020:2013 ecological enhancements should be proposed that are over and above measures required to mitigate effects on biodiversity. Such enhancements could include the provision of the following, in addition to any measures required as mitigation (with exact specifications to be determined at the detailed design stage):

- A green roof featuring low nutrient substrate or aggregates could be incorporated into the design, to provide the sparsely vegetated habitat favoured by black redstart.
- Planting of native trees and shrubs of local provenance which naturally occur within the local area. To include berry, pollen and nectar producing species.
- Bird boxes, including a variety of designs, such as 45mm entrance boxes, 32mm entrance boxes, black redstart boxes at roof level, sparrow terraces, and swift boxes/house martin cups and the installation of integrated bird bricks directly into the brickwork of new buildings/structures;
- Bat boxes including for a variety of species and for a variety of seasons, to be integrated directly into the brickwork of new buildings and structures.

6 CONCLUSION

6.1 Conclusion

6.1.1 Given the identified likely presence of ecological receptors which may be adversely impacted by the development scheme, further surveys and mitigation have been recommended in order to inform a full evaluation of adverse effects. Consequently, additional protected species survey (dusk emergence survey for bats and pre-works check for nesting birds) and mitigation reports (CEMP) will be required to compliment the planning application. This report should include formal assessment of impacts and will be suitable to fully inform the planning application.

6.2 Report Validity

6.2.1 In general, this report remains valid for a period of 18 months following the date of the habitat survey.

6.2.2 If the Site boundary or layout is subsequently modified and any other habitats are identified to be lost or affected by the development, then further surveys for habitats and protected species may be required.

7 REFERENCES

Botanical Society of the British Isles (2013) *Online atlas of the British and Irish Flora*. https://plantatlas.brc.ac.uk/

British Standards Institute (2013) *Biodiversity – Code of Practice for Planning and Development*. BS 42020:2013.

CIEEM (2017) *Guidelines for Preliminary Ecological Appraisal, 2nd edition.* Chartered Institute of Ecology and Environmental Management, Winchester.

Collins, J (ed.) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition),* The Bat Conservation Trust, London.

Department for Levelling Up, Housing and Communities (2023) *National Planning Policy Framework* at https://www.gov.uk/government/publications/national-planning-policy-framework--2

Institute of Environmental Assessment (1995) *Guidelines for Baseline Ecological Assessment*.

Natural England (2025) *Ancient Woodland Inventory* at https://naturalengland-defra.opendata.arcgis.com/datasets/ancient-woodland-england

Natural England (2025) *MAGIC Map* at https://magic.defra.gov.uk/MagicMap.aspx

Natural England (2025) *SSSI Impact Risk Zones England* at https://www.data.gov.uk/dataset/5ae2af0c-1363-4d40-9d1a-e5a1381449f8/sssi-impact-risk-zones-england

Stace. C. A. (2021) *New Flora of the British Isles*. Cambridge University Press.

UKHab Ltd (2023) UK Habitat Classification Version 2.0 at https://www.ukhab.org

APPENDICES

Appendix 1
Legislation and Policy Summary

Appendix 1 – Legislation and Policy Summary

Legislation for Habitats/Sites

Designated Site/Habitat	Status
Ramsar Sites	Ramsar Sites are wetlands of international importance designated following the Ramsar Convention. RAMSAR sites have the same level of protection as SACs and SPAs under the Wildlife and Countryside Act 1981 (as amended).
SPA (Special Protection Areas)	SPAs seek to protect the habitats of rare and vulnerable European and UK birds. The Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended) protect such sites in the UK.
SAC (Special Areas for Conservation)	SACs are strictly protected areas which represent important and threatened habitats in Europe and the UK. The Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended) protect such sites in the UK.
SSSI (Sites of Special Scientific Interest)	SSSIs protect the best examples of the UK's flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were renotified under the Wildlife and Countryside Act 1981 (as amended). Modified provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000.
NNR (National Nature Reserves)	NNRs are examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. NNRs are declared by the statutory country conservation agencies under the National Parks and Access to the Countryside Act 1949 or the Wildlife and Countryside Act 1981 (as amended). Legal protection of NNRs is provided under the Wildlife and Countryside Act 1981 (as amended).
Hedgerows	All hedgerows are protected by the Hedgerows Regulations 1997, under which it is an offence to remove or destroy certain hedgerows without planning consent or permission from the Local Planning Authority. These regulations do not apply to any hedgerow within the curtilage of, or marking the boundary of the curtilage of, a dwelling house.
LNR (Local Nature Reserves)	Designated by the National Parks and Access to the Countryside Act 1949, LNRs may be declared for nature conservation by local authorities after consultation with the relevant statutory nature conservation agency. Legal protection of LNRs is provided under the Wildlife and Countryside Act 1981 (as amended).

Legislation for Species

Species	Legal Status
Creeping Marshwort, Early Gentian, Fen Orchid, Floating-leaved Water Plantain, Killarney Fern, Lady's Slipper, Shore Dock, Slender Naiad, Yellow Marsh Saxifrage	Under the Conservation of Habitats and Species Regulations 2017 (as amended), it is illegal to deliberately pick, collect, uproot or destroy any such species.
Bats, Dormouse, Otter, Wild Cat, Great Crested Newt, Natterjack Toad, Sand Lizard, Smooth Snake, Large Blue Butterfly	These animals and their breeding sites or resting places are protected under Regulation 41 of the Conservation of Habitats and Species Regulations 2017 (as amended), which makes it illegal to: • Deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs; • Deliberately disturb[7] such an animal; and • Damage or destroy a breeding site or resting place of such an animal. European Protected Species (EPS) licenses can be granted by Natural England in respect of development to permit activities that would otherwise be unlawful under the Conservation Regulations, providing that the following 3 tests (set out in the EC Habitats Directive) are passed, namely: • The development is for reasons of overriding public interest; • There is no satisfactory alternative; and • The favourable conservation status of the species concerned will be maintained and/or enhanced. LPAs must consider the above 3 'tests' when determining whether Planning Permission should be granted for developments likely to cause an offence under the Conservation Regulations.
Bats, Dormouse, Great Crested Newt, Heath Fritillary, High Brown Fritillary, Large Blue, Marsh Fritillary, Natterjack Toad, Pine Martin, Otter, Red Squirrel, Sand Lizard, Smooth Snake, Swallowtail, Water Vole, Wildcat	These animals receive full protection under the Wildlife and Countryside Act 1981 (as amended), which makes it illegal (subject to certain exceptions) to: • Intentionally kill, injure or take any such animal; • Intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection; and

Locations of badger activity are confidential due to the sensitivity of this species

ticular any disturbance which is likely to: (i) impair their ability to survive, breed or reproduce, or to rear or nurture their young or to hibernate or migrate; (ii) significantly affect the local distribution or abundance of the species in question.

Species	Legal Status
	• Intentionally or recklessly disturb such animals while they occupy a place used for shelter or protection.
Adder, Common Lizard, Grass Snake, Slow Worm, White-clawed Crayfish	These animals receive partial protection under the Wildlife and Countryside Act 1981 (as amended), which provide protection against intentional killing or injury of any such animal.
Nesting Birds	All wild birds (as defined by the act) are protected under the Wildlife and Countryside Act 1981 (as amended), which makes it illegal (subject to exceptions) to: • Intentionally kill, injure or take any wild bird; • Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.
Wildlife and Countryside Act 1981 (as amended) Schedule 1 listed Birds	Additional protection is provided to birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). In addition to the offences detailed above relating to all wild birds, it is illegal to intentionally or recklessly disturb any bird listed on Schedule 1, or their dependent young while nesting.
Badgers	The Protection of Badgers Act 1992 makes it illegal to wilfully kill or injure a Badger, or attempt to do so and to intentionally or recklessly interfere with a Badger sett. This includes: • damaging or destroying an active sett; • obstructing access to a sett; and • disturbing a Badger while it is occupying a sett. Licences can be granted to permit sett closure and/or disturbance between July and November inclusive (i.e. outside the sow pregnancy/birth period).
Wild Mammals	The Wild Mammals (Protection) Act 1996 provides legal protection to all wild mammals (as defined by the act) against the following actions: mutilate, kick, beat, nail, or otherwise impale, stab, burn, stone, drown, crush, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.
Wildlife and Countryside Act 1981 (as amended) Schedule 9 listed invasive animals (Part 1) and plants (part 2)	Certain species of plants and animals that do not naturally occur in Great Britain have become established in the wild and represent a threat to the natural fauna and flora. Section 14 of the Wildlife and Countryside Act 1981 (as amended) prohibits the release or allowed escape of animals listed in Schedule 9 to the Act and planting, or allowed growth, of any plant listed in Schedule 9 to the Act.

Policy Summary

Section 40 of the Natural Environment and Rural Communities (NERC) Act imposes a legal duty on Planning Authorities to 'have regard' to the conservation of biodiversity when considering planning applications.

Section 41 of the NERC Act requires the Secretary of State to publish a list of species and habitats of principal importance for conserving biodiversity in the UK. Such Biodiversity Action Plan (BAP) Habitats and Species (2007) do not offer the species any specific protection but help to highlight the species importance at a national level. This list is used by Local Planning Authorities to identify the species and habitats that should be afforded priority when applying the requirements of the National Planning Policy Framework (NPPF).

The NPPF underpins the Government's planning policies for England and how these are to be applied. The central theme of the NPPF is a presumption in favour of sustainable development. This presumption does not apply where development requiring Appropriate Assessment because of its potential impact on a habitats site is being planned or determined.

The NPPF states:

> *When determining planning applications, local planning authorities should apply the following principles:*
>
> - *If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
> - *Development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
> - *Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons[63] and a suitable compensation strategy exists; and*

- *Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.*
- *The following should be given the same protection as habitats sites:*

  a) potential Special Protection Areas and possible Special Areas of Conservation;

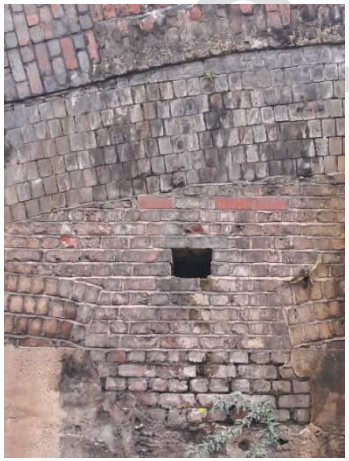
  b) listed or proposed Ramsar sites; and

  c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

The NPPF requires the Planning Authority to have a responsibility to promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan. In addition, the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

Appendix 2
Preliminary Roost Assessment of Structures

Building Name	Description	Photographs	Bat Features Present	Bat Signs	Bat Roost Potential
Railway bridge wall	The Site is bordered by a raised railway bridge to the south. This bridge is brick-built and features railway arches which have been bricked up. The mortar is in poor condition in some areas, forming several crevices and gaps.	   	Crevices where mortar is absent. Large holes in brickwork (missing bricks). The hole in the bottom-left photo extends approximately 20cm deep and may provide access to an inner cavity.	None	Low

DRAWINGS



KEY

Site Boundary

Notes:

Boundaries are indicative. Aerial imagery shown for context purposes only.

REVISION	DETAILS	DATE	DRAWN	CHKD	APP'D
A	FIRST ISSUE	10/04/25	CP	JS	TA

CLIENT

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PROJECT

WHITWORTH STREET WEST

DRAWING TITLE

SITE LOCATION PLAN

DRG No.	REV	SUIT. CODE
ST21315/002	A	--

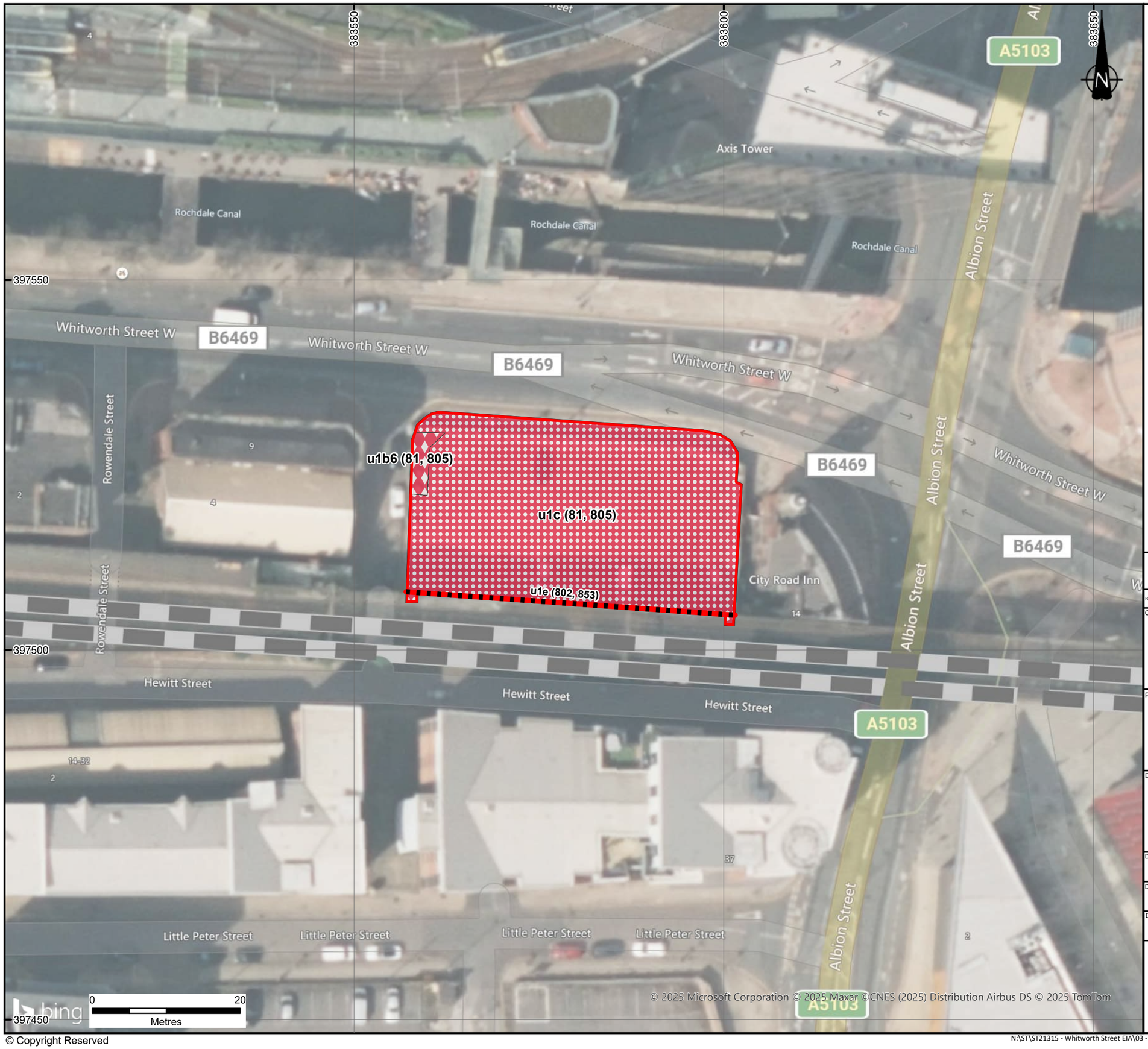
DRG SIZE	SCALE	DATE
A3	1:1,000	10/04/2025

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KEY

- Site Boundary
- u1b6 - Other developed land
- u1c - Artificial unvegetated, unsealed surface
- u1e - Built linear feature

Secondary Codes:

81 - Ruderal or ephemeral
802 - Railway
805 - Development site
853- Mortared Wall

Notes:

Boundaries are indicative. Aerial imagery shown for context purposes only.

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REVISION	DETAILS	DATE	DRAWN	CHKD	APPD
A	FIRST ISSUE	10/04/25	CP	JS	TA

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WHITWORTH STREET WEST

DRAWING TITLE

UKHAB BASELINE SURVEY PLAN

DRG No.	REV	SUIT. CODE
ST21315-001	A	--

DRG SIZE	SCALE	DATE
A3	1:500	10/04/2025

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Appendix D

Phase I Geo-Environmental Assessment Report

BROWNFIELD SOLUTIONS LTD

GEO-ENVIRONMENTAL ENGINEERING EXCELLENCE

DOMIS CONSTRUCTION LTD

Vision, Whitworth Street West, Manchester

Phase I Geo-Environmental Assessment Report

OH/C5504/13646

December 2024

PROJECT QUALITY CONTROL DATA SHEET

Site Name:	Vision, Whitworth Street West, Manchester		
Document Name:	Phase I Geo-Environmental Assessment Report		
Reference:	OH/C5504/13646		
Status:	-	19/12/2024	Final.

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CONTENTS

1.0 INTRODUCTION 1

1.1 Context 1
1.2 Proposed Development 1
1.3 Objectives and Scope 1
1.4 Limitations 1

2.0 THE SITE 3

2.1 Location 3
2.2 Site Description 3

3.0 GEO-ENVIRONMENTAL SETTING 4

3.1 Historical Setting 4
3.2 Published Geology 5
3.3 BGS Exploratory Hole Records 6
3.4 Mining and Mineral Extraction 6
3.5 Hydrogeology 7
3.6 Hydrology 7
3.7 Landfill and Waste Management Sites 8
3.8 Environmental Regulatory Data 8
3.9 Radon 8
3.10 UXO Risk 8

4.0 PHASE 1 SUMMARY AND RISK ASSESSMENT 9

4.1 Introduction 9
4.2 Potential Contaminative Sources 9
4.3 Pathways 10
4.4 Receptors 11
4.5 Preliminary Conceptual Site Model (CSM) 11

5.0 PRELIMINARY GEOTECHNICAL ASSESSMENT 16

5.1 Hazard Identification 16
5.2 Foundation and Geotechnical Design 16
5.3 Drainage 16
5.4 Recommendations 16

6.0 CONCLUSIONS AND RECOMMENDATIONS 17

6.1 Geo-Environmental Summary 17
6.2 Geotechnical Summary 17
6.3 Further Work 17

7.0 ABBREVIATIONS AND DEFINITIONS 18

8.0 REFERENCES 21

DRAWINGS

Drawing Number	Rev	Title
22987-2095-00	P01	Proposed Development Layout Plan
C5504/01	-	Site Location Plan
C5504/04	-	Site Features Plan

APPENDICES	
Appendix	**Title**
Appendix A	BSL Methodology and Guidance
Appendix B	Historical Maps
Appendix C	Geo-Environmental Data Report
Appendix D	BGS Exploratory Hole Records
Appendix E	Mining Search Report
Appendix F	UXO Screening Map

1.0 INTRODUCTION

1.1 Context

This report describes a desk-based Phase I Geo-Environmental Assessment Report carried out by Brownfield Solutions Limited (BSL) for Atri7 6 Ltd on a site off Whitworth Street West, Manchester and has been completed in general accordance with the following guidance:

- Environment Agency guidance - Land Contamination: Risk Management (LCRM).
- BS 10175:2011+A2:2017 Investigation of Potentially Contaminated Sites.
- BS5930: 2015+A1:2020 Code of Practice for Ground Investigations.
- BS EN 1997-1:2004+A1:2013 Eurocode 7. Geotechnical design. General rules plus UK National Annex.
- BS EN 1997-2:2007 Eurocode 7 Geotechnical design. Ground investigation and testing plus UK National Annex.
- NHBC Standards. Chapter 4.1: Land Quality - Managing Ground Conditions.

Definitions of terms and acronyms used within this report are presented in Section 7.0.

1.2 Proposed Development

The proposed development is for a residential end use of a 38-storey residential apartment block with associated soft landscaping, drawing No. 22987-2095-00 P01 provided to BSL by the client.

1.3 Objectives and Scope

The objectives of this assessment were to determine the environmental setting and ground conditions of the site, highlighting potential areas of concern that may govern the redevelopment.

The scope of works comprises a Phase I Assessment and site walk-over, with a review of the site, surroundings, historical uses and environmental setting in order to develop a preliminary Conceptual Site Model (CSM).

This report is intended to meet the requirements of a Preliminary Investigation as defined in BS10175:2011+A2:2017 and has been produced in general accordance with the recommendations for a Tier 1 Preliminary Risk Assessment as described in LCRM guidance.

1.4 Limitations

This Phase I Geo-Environmental Assessment Report has been prepared in accordance with the relevant legislative framework, guidance and risk assessment methodology as outlined in Appendix A.

The findings and opinions conveyed via this assessment are based on information obtained from a number of sources as detailed within this report, BSL have assumed this information is correct and reliable. Nevertheless, BSL cannot and does not guarantee the authenticity or reliability of the information it has relied upon.

BSL have used reasonable skill, care and diligence in the production of this report. There may be other conditions prevailing on the site which are outside the scope of work and have not been highlighted by this assessment and therefore have not been taken into account by this report. Responsibility cannot be accepted for such site conditions not revealed by the assessment.

This report has been prepared for the sole use and reliance of the Client, Atri7 6 Ltd. No other third party may rely upon or reproduce the contents of this report without the written permission of Brownfield Solutions Ltd (BSL); a charge may be levied against such approval. If any unauthorised third party comes into possession of this report, then they rely on it at their own risk and BSL do not owe them any Duty of Care. This report may not be relied upon by the client or submitted to a third party for their reliance for the purposes of valuation, mortgage, insurance and regulatory approval, until all invoices have been settled in full.

Any recommendations made in this report should be confirmed with the Regulatory Authorities prior to implementation to ensure compliance.

This assessment has been based on the proposed planning layouts provided. Any subsequent change to the planning layout may have an impact on the validity of recommendations made within this report. Furthermore, new information, changed practices or new legislation may necessitate revised interpretation of the report after the date of its submission.

The site plans enclosed in this report should not be scaled off. Any site boundary line depicted on plans does not imply legal ownership of land.

Notwithstanding site observations concerning the presence or otherwise of archaeological issues, asbestos-containing materials (ACM) or invasive weeds (e.g. Japanese knotweed), this report does not constitute a formal survey of these potential issues and specialist advice should be sought.

2.0 THE SITE

2.1 Location

The site is located off Whitworth Street West, Manchester, M1 5NZ, centred on National Grid Reference 383579, 397518 as shown on the Site Location Plan, Drawing No. C5504/01.

2.2 Site Description

A site reconnaissance survey was carried out at the site on 4th November 2024. The main site features and potential issues identified during this survey are detailed below and are shown on the Site Features Plan, Drawing No. C5504/02

Feature	Description
Site Area	Approximately 0.11 hectares.
Site Access	Access to the site is gained off Whitworth Street West to the north.
Site Overview Imagery	 Orientated South
	Update from Google: All images: Imagery Google©2024, Imagery ©2024 Airbus, CNES / Airbus, Getmapping plc, Infoterra Ltd & Bluesky, Maxar Technologies, The Geoinformation Group, Map data ©2024.
Current Land Use and Site Features	The site comprises a parcel of land currently used for storage and parking surfaced in made ground across the majority of the site with concrete across the centre and an access road along the western part of the site.
Potential Sources of Gross Contamination	No significant sources of contamination were noted onsite.
Vegetation / Ecology	Sparse vegetation comprising grasses and small bushes along the north, east and south border of the site.
Topography	The site is generally flat with a slight slope to the west onto the access road.
Site Boundaries	The site is bordered by wooden fencing to the north, commercial buildings to the east and west, and a railway viaduct bridge to the south.
Surrounding Area	The site is set within a commercial area with a tram station to the north of the site alongside a number of bars and bordered by a railway bridge to the south.
Anecdotal Evidence	All services have been grubbed out and the made ground underlying the site is compacted due to previous use as a piling mat.

3.0 GEO-ENVIRONMENTAL SETTING

3.1 Historical Setting

A review of the available historical Ordnance Survey Maps and satellite imagery has been conducted, with the pertinent issues that may have affected the site, or its environs, summarised below. The Historical Maps are presented in Appendix B. A review of the historical industrial data within the geo-environmental data report has also been undertaken below, the report is presented in Appendix C.

Notable features on site, and potentially contaminative or geotechnically relevant features within 100m of the site boundary have been presented. Any features that have potentially been infilled will be considered up to 250m from the site boundary.

Feature	Distance (m) & Direction	Years Present	Description
Previous development / warehouse	On site	1848 - 1905 1932 - 2015	On the earliest mapping of the site, it was indicated to be occupied by residential housing until 1905 mapping where a single building is seen to occupy the entire site. This is later denoted as a warehouse until 2015 mapping and is no longer present by 2022 mapping.
Railway Lines	Abutting the site from S	1848 – Present	Deansgate Station Railway Lines are present on the viaduct abutting the site along the southern border of the site on 1851 mapping and are indicated to remain present.
	Circa 60m NW	1891 - 1965	Former railway lines, associated with the Central Station and the Cheshire Lines Railway Good Station, are indicated to be present circa 60m north of the site on 1891 mapping and remain present until 1980 mapping. these as seen to alter slightly during this time, reducing in their extent and indicated to no longer be present on 1972 mapping.
Tramway	Circa 5m N	1908 - 1949	A tramway is indicated to be present circa 10m north of the site on 1908 mapping and remains present until 1932 mapping, following this, they are no longer present.
Works / Warehouses	From circa 15m	1851 – present	Multiple works and warehouses are indicated to surround the site from the earliest mapping. Early mapping only indicates a few works to be present circa 40m such as a small ware manufactory and a brass and copper works. Various additional works and warehouses are indicated on mapping after this from circa 15m surrounding the site, such as an iron & steel warehouse, printing works, gum and starch works, Upholstery works and engineering works. By 2003 mapping only one works is present 85m west of the site.
Mills	From circa 25m	1851 - 1973	Multiple Mills are seen surrounding the site from as early as 1851 mapping from circa 25m to 90m from the site. Some of the mills are indicated to have associated tanks, chimneys and pumps from 1891 mapping. Several of these are indicated to be finishing works on 1891 mapping, all but one (Gaythorn Mill ~60m S) is no longer present by 1908 mapping, this is referred to as a wire and cable mill from 1932 until 1957 but remains on mapping until 1973.
Yards	From circa 40m N-NW	1851	Three yards a present on 1851 mapping from circa 40m north of the site, referred to as a coal yard and a stone yard. These are not present on subsequent mapping.
Tanks	Circa 70m N	1949 - 1965	Tanks are indicated to be present circa 70m north associated with the large railway and remain present until 1965 mapping. These are not present on subsequent mapping.
Gas Works	Circa 60m SE	1893 - 1985	Gaythorn Gas Works and the associated gas holders are present circa 110m south-east on 1893 mapping. The works extended north-west to be circa 60m south-east of the site on 1908 mapping and remains present until 1980 mapping when it is indicated to be smaller and is referred to as a gas holding station, that is later indicated to be disused on 1985 mapping. The feature is not present after 1985 mapping.

Feature	Distance (m) & Direction	Years Present	Description
Garage	Circa 75m SE Circa 85m W	1953 – 1965 1955 – 1992	Two garages are present circa 75m south-east and circa 85m west of the site. the closer garage is present from 1953 mapping until 1965 mapping and the other was present from 1955 mapping until 1992 mapping. These are not present on subsequent mapping.
Foundry	Circa 85m NW	1851	The Union (iron) Foundry is present circa 85m north-west of the site on 1851 mapping and is not indicated to be present on subsequent mapping.
Factories	Circa 85m SW	1994 - 1995	An unspecified factory is indicated to be present 85m south-west of the site on 1994 mapping until 1995 mapping and isn't seen on subsequent mapping.
	Circa 90m SW	1968 - 1995	A textile factory is indicated to be present circa 90m south-west of the site on 1968 mapping and remains present until 1995 mapping, but is not indicated to be present of subsequent mapping.

In summary, the map evidence indicates that the site originally was used for residential end use of terrace dwellings, however from 1932 up till around 2015 it was used as a warehouse, but since has remained undeveloped.

Historical land use in the surrounding area has been predominantly industrial with numerous mills, works, yards, garages and factories. A large gas works was present in the area until 1985 mapping but is now developed as commercial land with shops, bars, restaurants and offices.

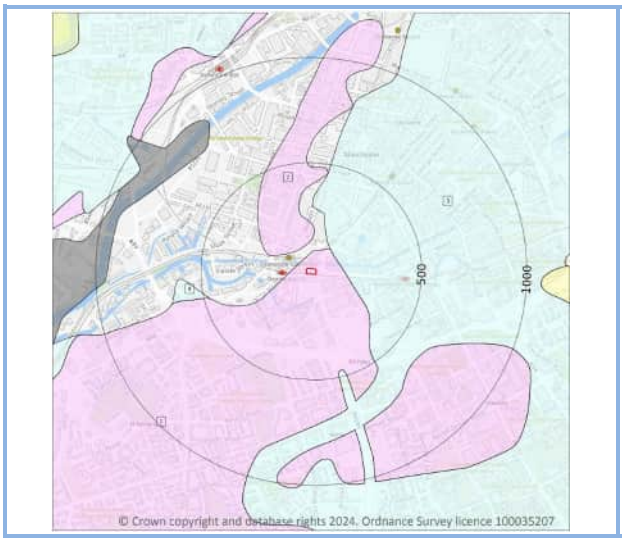
3.2 Published Geology

The following publications of the British Geological Survey (BGS) were examined in respect of the geology underlying the site:

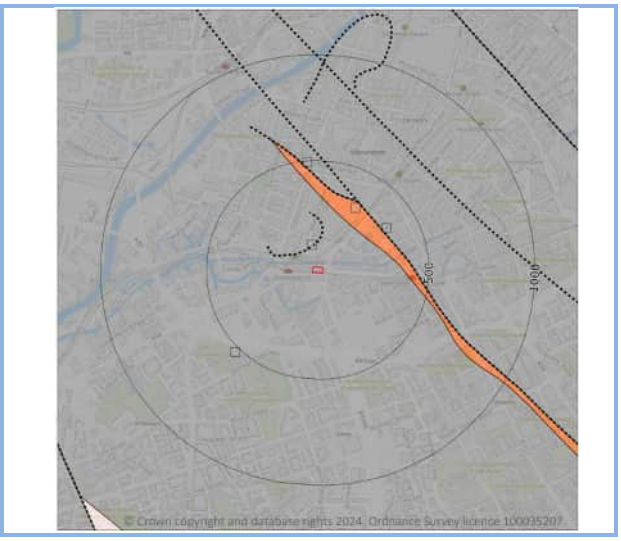
- British Geological Survey (BGS) 1:50,000 Scale Geological Map Sheet 85 Manchester. Solid and Drift Edition.
- BGS Geology of Britain Map Viewer.
- BGS GeoIndex Onshore.
- Coal Authority Interactive Map.
- Geo-Environmental Data Report.

Extracts of the 1:10,000 geological mapping from the Geo-Environmental Data Report are presented below for reference:

BGS 1:10 000 Superficial Geology



BGS 1:10 000 Solid Geology



Made Ground
BGS mapping displays made ground deposits on site.

Superficial Deposits
The site is indicated to be underlain by Glaciofluvial Sheet Deposits. This stratum typically comprises sand and gravel.

Solid Geology
The deeper solid geology is indicated to be part of the Chester Pebble Beds Formation which typically comprises Sandstone.

3.3 BGS Exploratory Hole Records

There are 3No. BGS exploratory hole records within a relevant distance of the site (assumed as an approximate 50m radius), 2 of these are confidential, however, the available boreholes comprises 5 separate boreholes within close proximity of each other.

A summary of the ground conditions is presented in the table below.

Reference		Distance from Site (m) and Direction	Depth Made Ground (m)	Depth Superficial Deposits (m)	Depth Solid Geology (m)
SJ89NW 116-120	116	42m NE	GL-3.66 – Stone, clay and sand	3.66 – 6.71 – Sand & Gravel	6.71 – 11.28 - Sandstone
	117		GL-3.66 – Sand, clay and stones	3.66 – 7.01 – Sand & Gravel	7.01 – 11.28 - Sandstone
	118		GL-3.66 – Sand, clay and stones	3.66 – 7.01 – Sand & Gravel	7.01 – 11.28 - Sandstone
	119		GL-4.57 –Clay, sand and stones	4.57 – 9.45 – Sand & Gravel	9.45 – 14.02 - Sandstone
	120		GL-4.57 – sand, clay and stones	4.57 – 9.14 – Sand & Gravel	9.14 – 12.50 - Sandstone

The BGS Borehole Logs are presented in Appendix D.

3.4 Mining and Mineral Extraction

Coal Mining

As the site lies within the Coal Authority Reporting Area, a mining search has been undertaken as the site could be affected by past or current coal mining. The mining searches are presented in Appendix E. No significant issues are identified therefore coal mining risks are not any considered further in this report.

3.5 Hydrogeology

Based on the inferred geology, a summary of the Environment Agency aquifer designations is presented in the table below:

Stratum	Coverage	Aquifer Designation
Glaciofluvial sheet deposit	Full Site	Secondary (A) Aquifer. These are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.
Chester Pebble Beds Formation	Full Site	Principal Aquifer. This is Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale.

A summary of the pertinent hydrogeological features within the Geo-Environmental Data Report are provided below:

Feature	Distance (m) & Direction	Details
Nearest Active Groundwater Abstraction	468m NW	Licence No: NW/069/0004/021/R01 Details: Heat pump Direct Source: Ground water – North West Region Point: CHESTER FORMATION AT SCIENCE MUSEUM (A) Annual Volume (m3): 346000 Original Start Date: 04/04/2024
Nearest Active Potable Groundwater Abstraction	-	None within 2000m.
Source Protection Zones	132m E	Type 3, total catchment.

3.6 Hydrology

A summary of the pertinent hydrological aspects within the Geo-Environmental Data Report are provided below:

Feature	Distance (m) & Direction	Details
Nearest Watercourse	25m N	Rochdale Canal.
Nearest Surface Water Abstraction	-	None within 2000m.
Closest Active Licenced Discharge Consent	206m W	Effluent type: Sewage Discharges – Sewer Storm Overflow – Water Company Receiving water: River Medlock Effective date: 29/03/2021

Information obtained from the Environment Agency (EA) Risk of Flooding from Rivers and the Sea (RoFRaS) database indicates that the risk of flooding across the site is very low (less than 1 in 1000 in any given year).

The British Geological Survey indicate there is a potential for groundwater flooding at the subject site, with a moderate risk rating.

No further consideration of flood risk is undertaken in this report. Specialist flood risk advice should be sought with regards to drainage and flooding.

3.7 Landfill and Waste Management Sites

There are no active or historical landfill sites recorded within 500m.

There are no current waste management sites recorded within 250m of the site.

There are seven historical waste management site recorded as a scrap yard, located 149m to the south of the site and 174m south-west.

3.8 Environmental Regulatory Data

A summary of the relevant environmental aspects, both on site and within 250m of the site contained in the Geo-Environmental Data Report, are presented in the table below:

Entry	On-site	0 – 50m	50 – 250m	Details
Recent Industrial Land Uses	0	2	22	The closest is 6m south-west of the site indicated to be for food and beverage industry machinery.
Current or Recent Fuel Stations	0	0	0	
Licensed Industrial Activities (Part A(1))	0	0	2	The closest of these is Manchester Heat Network Tradeco Limited located 179m north-east of the site, that was effective from 20/08/2020.
Licensed Pollutant Release (Part A(2)/B)	0	0	0	
Radioactive Substances	0	0	0	
Pollution Incidents (EA/NRW)	0	0	0	

3.9 Radon

Information from the environmental database report indicates the property is in an area where <1% of properties are above the Action Level for radon, and therefore radon protective measures are not required in accordance with BRE Report 211 'Radon – Guidance on protective measures for new dwellings'.

3.10 UXO Risk

In accordance with CIRIA Report C681, BSL have reviewed non-specialist UXO data for the site using the online Zetica Bomb Risk Mapping data.

There is no indication of former military use from the Phase I Assessment. The map indicates the site to be in an area where the bomb risk is moderate. A copy of the map is presented in Appendix F.

A Detailed UXO Desk Study has historically been produced for the site by EOD which reveals there to be a low risk.

4.0 PHASE 1 SUMMARY AND RISK ASSESSMENT

4.1 Introduction

The risk posed by any contaminants in soil or groundwater will depend on the nature and level of the source, the probability of exposure occurring, the potential pollution pathway and the likely effects on the receptors.

A contaminant is defined as a substance that has the potential to cause harm, a risk is considered to exist if such a substance is present at sufficient concentrations to cause harm and if a pathway is present through which a receptor could be exposed to the contaminant.

The following sections discuss the identified potential on-site and off-site sources, and any pollution that could impact receptors via the pathways associated with the proposed development. Pollution linkages are assessed which may represent a risk to human health and/or controlled water receptors from the information gained from the Phase I Assessment searches. The assessment has been carried out on a qualitative basis and aims to produce a complete and comprehensive Preliminary Conceptual Site Model.

Three potential impacts exist for any given site and all three need to be considered in the qualitative risk assessment, these are:

- On-site impacts.
- The site impacting its surroundings.
- Off-site sources impacting the subject site.

4.2 Potential Contaminative Sources

On-Site
From the information obtained, the following sources have been identified which may affect the redevelopment of the site for residential end use:

- Made ground associated with the former warehouse.
- Warehouse.

Off-Site
The following off-site sources have been identified which may affect the redevelopment of the site:

- Railway (closest abutting the site from the south).
- Tramway (closest circa 5m N).
- Works / Warehouses (closest circa 15m).
- Mills (closest circa 25m).
- Tanks (70m N).
- Gas Works (closest 60m SE).
- Garages (closest circa 75m SE).
- Foundry (85m NW).
- Factories (closest circa 85m SW).

The yards from circa 40m north to north-west and the foundry circa 80m north-west of the site are not considered to pose a significant risk to the site due to them not being present since 1851 mapping, it is assumed that any contamination associated with these features will have attenuated over time and

therefore a negligible risk is assumed and they are not considered further. Similarly, the tramway is not considered to pose sufficient risk given the age and nature of the historical feature.

Associated Contaminants
The contaminants commonly associated with the potential sources of contamination identified are tabulated below:

Contaminative Sources	Department of the Environment Industry Profile or Other Source	Commonly Associated Contaminants
On Site		
Made Ground	AGS Guides BS8485 and BS8576	Heavy metals, polycyclic aromatic hydrocarbons (PAHs), asbestos, ground gases (carbon dioxide and methane).
Warehouse	-	Heavy metals, PAHs, petroleum hydrocarbons, asbestos
Off Site		
Railway	Railway land	Heavy metals, PAHs, petroleum hydrocarbons, PCBs, asbestos
Factories, Works, Mills, warehouses	Textile and Dye Manufacturing, Metal Manufacturing, refining, and finishing works	Heavy metals, hydrocarbons, PAHs, asbestos, VOC, detergents, degreasers, inorganic compounds, organic solvents
Tanks and chimneys	Road vehicle fuelling, service and repair	Heavy metals, PCBs, oils, petroleum hydrocarbons, BTEX, MTBE, VOCs, SVOCs
Gas works	Gas works	Heavy metals, PAHs, petroleum hydrocarbons, BTEX, SVOCs, cyanides
Garages (including possible PFS, MOT testing station and body-shop)	Road vehicle fuelling, service and repair	Petroleum hydrocarbons, PAHs, heavy metals, oils, asbestos, VOCs and SVOC

4.3 Pathways

A pathway is defined as a medium by which a contaminant comes into contact with, or otherwise impacts a receptor.

At this stage the potential contaminants identified above are considered to present potential risks to site end users and controlled waters through the following pathways:

Potential Pathways	
Pathways in respect to Human Health	• Dermal contact with contamination. • Inhalation of dusts. • Inhalation of gases or vapours in both indoor and outdoor air.
Pathways in respect to Controlled Waters – Surface water	• Surface run-off /over land flow. • Drainage discharge. • Base flow from groundwater.
Pathways in respect to Controlled Waters – Groundwater	• Leaching of mobile contamination into groundwater via the unsaturated zone. • Migration of perched groundwater in any permeable soils or along existing or proposed service runs. • Migration into the saturated zone and flow through the aquifers underlying the site.

Potential Pathways	
Pathways in respect to Property/structures/water pipes	• Direct contact with substances deleterious to building materials and potable water supply pipelines. • Migration of ground gases (methane) into confined spaces (explosion and damage to property).

4.4 Receptors

The identified receptors are listed below:

- Residential end users (human health).
- Structures/Property/Potable water supply pipes.
- Nearest watercourse. Rochdale Canal 25m N (Controlled waters).
- Superficial Aquifer. Sand and gravel /Glaciofluvial deposits (Controlled waters).
- Bedrock Aquifer. Sandstone/Chester Pebble Beds Formation (Controlled waters).

Under current UK health and safety legislation, employers are required to carry out their own appropriate site-specific risk assessments and mitigation to protect employees. It has been assumed that any future construction works onsite will be undertaken in compliance with these requirements. Therefore, construction workers have not been specifically considered as part of this assessment.

4.5 Preliminary Conceptual Site Model (CSM)

The information obtained in the previous sections has been used to compile a Preliminary CSM. The identified potential contaminants and receptors have been assessed in the table below as to whether a plausible source-pathway-receptor pollutant linkage for the proposed end use of the site exists. The risk classification has been estimated in accordance with information in the BSL Guidance and Methodology in Appendix A.

The Preliminary CSM's are presented in the tables overleaf, any assessed risk above moderate will possibly require further action:

Human Health						
Potential Source	Potential Pathway	Potential Receptor	Likelihood	Severity	Level of Risk	Justification
On site **Made ground associated with previous development and former warehouse** Heavy metals, PAHs, asbestos, hydrocarbons, PCBs, ground gases (carbon dioxide and methane).	Root uptake, ingestion, direct contact, inhalation of dusts	End-users/ Structure	Low likelihood	Medium	Moderate/ low	Given the industrial heritage of the site, it is possible contaminants associated with the previous industrial development of the site are present across the site. However, no areas of gardens or POS are indicated on the proposed development plan and therefore end users have a low likelihood of being in contact with potential associated contaminants and a moderate to low risk is considered. Further investigation and assessment will be required to confirm the risk.
On site **Made Ground** Metals and organic contamination	Migration into/chemical attack of water supply pipelines	Water Pipelines / End users	Low likelihood	Medium	Moderate/ low	Contaminants within the soil/groundwater could potentially attack the clean potable water supply pipe, contaminants should be assessed to determine the correct pipe material and level of precautions required.
On site **Natural Geology** Radon	Migration into confined spaces, inhalation	End-users	Negligible	Medium	No linkage	BR 211 radon advice indicates no protection measures are required.
Off site **Railway** Heavy metals, PAHs, petroleum hydrocarbons, PCBs, asbestos	Root uptake, ingestion, direct contact, inhalation of dusts	End-users	Unlikely	Medium	Low	It is considered unlikely that contaminants associated with the railway could be present across the site due to the low mobility of the associated contaminants. Additionally, despite the proximity of the railways to the site both of these closest features are at a significantly higher elevation along the viaducts. The proposed development also indicates no areas of soft landscaping or POS. Therefore, it is considered unlikely that these contaminants will be in contact with the end users and a low risk is considered. Further investigation and assessment will be required to confirm the risk.
Off site **Factories, works, mills, warehouses** Heavy metals, hydrocarbons,	Root uptake, ingestion, direct contact, inhalation of dusts	End users	Low likelihood	Medium	Moderate/ Low	Various industrial buildings are present surrounding the site from varying distances from circa 15m from the site. The majority of these are considered not to impact the site due to the length of time since they were present and the distance from site which allow the potential contaminants to attenuate over time and distance before migration onto and impacting the site. The proposed

Human Health						
Potential Source	Potential Pathway	Potential Receptor	Likelihood	Severity	Level of Risk	Justification
PAHs, asbestos, VOC, detergents, degreasers, inorganic compounds, organic solvents						development also indicates no areas of soft landscaping or POS limiting the risk to end users. Therefore, a moderate to low risk is considered to end users. Further investigation and assessment will be required to confirm the risk.
Off site Tanks and chimneys Heavy metals, PCBs, oils, petroleum hydrocarbons, BTEX, MTBE, VOCs, SVOCs	Root uptake, ingestion, direct contact, inhalation of dusts	End users	Unlikely	Mild	Very low	It is considered unlikely that contaminants associated with the tanks and chimneys could be present across the site due to the low mobility of the associated contaminants and the distances of the associated features from the site. Additionally, the proposed development also indicates no areas of soft landscaping or POS. Therefore, it is considered unlikely that these contaminants will be in contact with the end users and a low risk is considered. Further investigation and assessment will be required to confirm the risk.
Off site Gas works Heavy metals, PAHs, petroleum hydrocarbons, BTEX, SVOCs, cyanides	Root uptake, ingestion, direct contact, inhalation of dusts	End users	Low likelihood	Medium	Moderate/ low	A low likelihood is considered for contaminants associated with the gasworks to be present across the site due to the distance of the features from the site. Additionally, the majority of the main gas works exceeds 100m from the site. Therefore, the majority of the associated contaminants are likely to attenuate before migrating onto the site. The proposed development also indicates no areas of soft landscaping or POS. Areas of the gas works within 100m of the site is now wholly redeveloped into a commercial area with offices, shops and restaurants and underwent widespread remediation. However, contamination may have migrated prior to this. However, there is considered to be a low likelihood of these contaminants being in contact with the end users and a moderate to low risk is considered. Further investigation and assessment will be required to confirm the risk.
Offsite Garages Petroleum hydrocarbons, PAHs, heavy metals, oils, asbestos, VOCs and SVOC	Root uptake, ingestion, direct contact, inhalation of dusts	End users	Unlikely	Medium	Low	It is considered unlikely that contaminants associated with the garages could be present across the site due to the low mobility of the associated contaminants and the distances of these features from the site. The proposed development also indicates no areas of soft landscaping or POS. Therefore, it is considered unlikely that these contaminants will be in contact with the end users and a low risk is considered. Further investigation and assessment will be required to confirm the risk.

Controlled Waters						
Potential Source	Potential Pathway	Potential Receptor	Likelihood	Severity	Level of Risk	Justification
Made Ground PAHs, Metals	Overland flow, / migration through saturated zone	Rochdale Canal 25m away (Surface waters)	Unlikely	Medium	Low	The Rochdale Canal is indicated to be located 25m from the site, it is considered contaminants associated with the made ground and other past industrial uses are unlikely to impact the Rochdale Canal due to the distance of the canal from the site and the associated contaminants are not considered to have significant mobility. Furthermore, canals are considered to be man made structures which are typically clay-lined and not in hydraulic continuity with the underlying aquifers. Therefore a low risk is posed to the canal from the made ground.
	Leaching through unsaturated zone / Migration through saturated zone	Secondary A Aquifer (Groundwater)	Unlikely	Medium	Low	The proposed development comprises building footprint in the majority with a new surface water drainage system installed which will further reduce the risk to controlled waters. The risk is considered to be low.
	Migration through saturated zone	Principal Aquifer (Groundwater)	Unlikely	Medium	Low	There is a groundwater abstraction 468m north-west and a Source Protection Zone 132m east. The site is currently partially surfaced in hardstanding and will have building footprint or hard surfacing across almost the entirety of the site, with a new surface water drainage system installed which will reduce the risk to controlled waters. Therefore, a low risk is considered.

Human Health Risk – Soils Contamination Summary
Based on the preliminary CSM and the current use of the site, the overall risk from land contamination at the site is considered to be **low to moderate** for a redeveloped site. This would need to be confirmed by appropriate intrusive investigation, testing and assessment.

Human Health Risk – Ground Gas Summary
A potential on-site gas source has been identified associated with the made ground associated with previous uses. Off-site potential sources include the former gas works. Potentially viable linkages are considered to exist and the preliminary CSM considers these sources to be of low to moderate risk.

In accordance with BS8576 and CIRIA C665 as set out in Appendix A of this report, the gas generation potential is considered to be very low. The sensitivity of the development is moderate on account of the proposed high rise apartments use.

In line with current guidance, it is recommended that ground gas monitoring should comprise 6 visits over a 3 month period.

Controlled Waters Risk - Summary
Based on the preliminary CSM, BSL believes the overall risk to controlled waters at the site is **low**.

The above assessed level of risk will need to be confirmed by intrusive investigation and quantitative risk assessment.

5.0 PRELIMINARY GEOTECHNICAL ASSESSMENT

5.1 Hazard Identification

A preliminary geotechnical hazard identification exercise has been undertaken in general accordance with the Highways England document CD 622, 'Managing geotechnical risk'. Potential geotechnical hazards based on the expected ground conditions are listed below:

- Made ground of unknown nature; if placed in a non-engineered manner may cause excessive settlement of foundations, highways and infrastructure.
- Attack of buried concrete by aggressive ground conditions; the site may contain unknown made ground and potentially sulphate bearing soils. The coal measures are known to be high in naturally occurring sulphates.
- Shallow groundwater/groundwater rise causing resulting in difficulties with excavations due to trench collapse.

The above identified geotechnical hazards will need to be considered as part of further investigations and assessments.

5.2 Foundation and Geotechnical Design

The proposed development will comprise a 38-storey apartment block. In light of the likely imposed loads, a deep foundation solution, such as piles will likely be required. However, the exact type of foundation solution should be informed by an onsite intrusive investigation to the confirm ground conditions.

5.3 Drainage

Drainage to SuDS is a potentially viable option for the site, given the indicated presence of permeable Glaciofluvial Sheet deposits, subject to the depth of the groundwater and test results.

This would need to be confirmed by an onsite intrusive investigation to confirm ground conditions and infiltration rates. Testing should be carried out in general accordance with BRE Digest 365 “Soakaway design” and CIRIA C753 “The SuDS Manual”.

5.4 Recommendations

To confirm the ground conditions in respect to the identified potential geotechnical hazards and risks, an appropriate intrusive investigation will need to be undertaken.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Geo-Environmental Summary

The site has had previous uses of residential dwellings and more recently a warehouse, based on the proposed residential development, the overall risk to human health from on site soils contamination is considered to be moderate to low.

The risk from off-site sources of contamination is considered to be moderate to low.

The risk from permanent ground gases is considered to be moderate to low.

Radon is not considered to pose a risk.

The overall risk to controlled waters is considered to be low.

Intrusive investigations will be required to confirm the above assessed levels of risks and determine remedial requirements, if any.

6.2 Geotechnical Summary

Intrusive investigations will be required to confirm the most suitable foundation solution and to obtain parameters for concrete classification, floor slab and highways design.

Drainage to SuDS is potentially viable, subject to intrusive investigation and testing.

6.3 Further Work

To confirm the risks to the identified receptors and confirm the ground conditions in respect to the identified geotechnical and geo-environmental risks, an appropriate intrusive investigation will need to be undertaken. The following further works are recommended, although this list is not exhaustive and should be read in conjunction with any planning conditions that are applicable to the site:

- Topographical survey / utility mapping.
- Intrusive ground investigation comprising:
  - Trial pitting, windowless sampling and rotary cored drilling.
  - Installation of standpipes in boreholes to allow gas concentrations and groundwater levels to be monitored.
  - The undertaking of soil infiltration rate testing.
  - Geotechnical testing of soils and rock.
  - Contamination analyses of soil.
- Assessment and recommendations based on the above, including requirements for further work, if necessary.

7.0 ABBREVIATIONS AND DEFINITIONS

GLOSSARY	
Term / Abbreviation	**Definition**
AST	Above Ground Storage Tank.
B(a)P	Benzo (a) Pyrene.
BGS	British Geological Survey.
BRE	Building Research Establishment.
BS	British Standard.
BSL	Brownfield Solutions Ltd.
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes.
CBR	California Bearing Ratio (used in pavement/highways design).
CAR 2012	Control of Asbestos Regulations (2012).
CBCB	Cheshire Brine Compensation Board.
CBCD	Cheshire Brine Compensation District.
CBR	California Bearing Ratio.
CIEH	Chartered Institute of Environmental Health.
CIRIA	Construction Industry Research Association.
CL:AIRE	Contaminated Land: Applications in Real Environments.
CLEA	Contaminated Land Exposure Assessment.
CLO	Contaminated Land Officer.
COMAH	Control of Major Accident Hazards.
Contamination	Presence of a substance which is in, on or under land, and which has the potential to cause significant harm or to cause significant pollution of controlled water. There is no assumption in this definition that harm results from the presence of the contamination. Naturally enhanced concentrations of harmful substances can fall within this definition of contamination. Contamination may relate to soils, surface water, groundwater or ground gas.
Controlled Waters	Inland freshwater (any lake, pond or watercourse above the freshwater limit), water contained in underground strata and any coastal water between the limit of highest tide or the freshwater line to the three-mile limit of territorial waters.
CPT	Cone Penetration Test.
CSM	Conceptual Site Model. A schematic hypothesis of the nature and sources of contamination, potential migration pathways (including description of the ground and groundwater) and potential receptors, developed on the basis of the information from the preliminary investigation and refined during subsequent phases of investigation and which is an essential part of the risk assessment process. The conceptual site model is initially derived from the information obtained by the preliminary investigation (i.e. the Phase I Phase I Assessment). This conceptual model is used to focus subsequent investigations, where these are considered to be necessary, in order to meet the objectives of the investigations and the risk assessment. The results of intrusive investigations can provide additional data that can be used to further refine the conceptual site model.
DCP	Dynamic Cone Penetrometer.
DNAPL	Dense Non-Aqueous Phase Liquid.
DoWCoP	Definition of Waste Code of Practice.
DWS	Drinking Water Standard.
EA	Environment Agency.
EHO	Environmental health Officer.
EQS	Environmental Quality Standard.
GAC	Generic Assessment Criteria.

GLOSSARY	
Term / Abbreviation	**Definition**
GDR	Geotechnical Design Report.
GFR	Geotechnical Feedback Report.
GIR	Ground Investigation Report.
GSV	Gas Screening Value.
Harm	Adverse effect on the health of living organisms, or other interference with ecological systems of which they form part, and, in the case of human health, including property/structures and water supply pipelines.
Hazard	Inherently dangerous quality of a substance, procedure or event.
HDPE	High Density Polyethylene.
HSV	Hand Shear Vane.
K	Modulus of Subgrade Reaction.
LCRM	Land Contamination: Risk Management (EA guidance).
LNAPL	Light Non-Aqueous Phase Liquid (petrol, diesel, kerosene).
LOD	Limit of Detection (for particular method adopted).
MMP	Materials Management Plan.
Mv	Modulus of Volume of Compressibility.
ND	Not Detected.
NHBC	National House Building Council.
NR	Not Recorded.
OS	Ordnance Survey.
PAH	Polycyclic Aromatic Hydrocarbon.
Pathway	Mechanism or route by which a contaminant comes into contact with, or otherwise affects, a receptor.
PCB	Poly-Chlorinated Biphenyl.
PCSM	Preliminary Conceptual Site Model.
pH	Scale used to specify how acidic or basic a water-based solution is.
PHC	Petroleum Hydrocarbons.
PID	Photo Ionisation Detector.
PNEC	Predicted No-Effect Concentration.
Precision	Level of agreement within a series of measurements of a parameter.
PSD	Particle Size Distribution.
PVC	Polyvinyl Chloride.
Receptor	Human health, living organisms, ecological systems, controlled waters (surface waters and groundwater within aquifers), atmosphere, structures and utilities that could potentially be adversely affected by contaminant(s).
Risk	Probability of the occurrence, magnitude and consequences of an unwanted adverse effect on a receptor.
Risk Assessment	Process of establishing, to the extent possible, the existence, nature and significance of risk.
Sampling	Methods and techniques used to obtain a representative sample of the material under investigation.
SOM	Soil Organic Matter.
Source	Location from which contamination is, or was, derived. This could possibly be the location of the highest soil, groundwater or gas concentration of the contaminant(s).
SPT	Standard Penetration Test.
SVOCs	Semi Volatile Organic Compounds.
TOC	Total Organic Carbon.
TPH CWG	Total Petroleum Hydrocarbon (Criteria Working Group).

GLOSSARY	
Term / Abbreviation	**Definition**
TVOCs	Total volatile organic compounds.
UCS	Unconfined Compressive Strength.
Uncertainty	Parameter, associated with the result of a measurement that characterises the dispersion of the values that could reasonably be attributed to the measurement.
UST	Underground Storage Tank.
UXO	Unexploded Ordnance.
VCCs	Vibro Concrete Columns.
VSCs	Vibro Stone Columns
VOCs	Volatile Organic Compounds.
WAC	Waste Assessment Criteria.
WFD (in waste context)	Waste Framework Directive.
WFD (in water context)	Water Framework Directive.
Units	**Definition**
°	Degrees
Φ	Phi angle (in degrees)
g/l	Grams per Litre
Km	Kilometres
kPa	Kilo Pascal (Equivalent to kN/m^2)
$KN/m^2/mm$	Kilo Newton per metered squared per millimeter
kN/m^2	Kilo Newtons per metre squared
kPa	Kilo Pascal (Equivalent to kN/m^2)
l/hr	Litres per hour
MJ/kg	Mega joule per kilogram
MN	Mega Newton
M^2/MN	Mega Newton per metre squared
M	Metres
m bgl	Metres Below Ground Level
m OD	Metres Ordnance Datum (sea level)
µg/l	Micrograms per Litre (parts per billion)
µm	Micrometre
mb	Millibars (atmospheric pressure)
mg/kg	Milligrams per kilogram (parts per million)
mg/m^3	Milligram per metre cubed
mm	Millimetre
ppb	Parts Per Billion
Ppm	Parts Per Million

8.0 REFERENCES

References used in the production of this report are listed below; note not all of the below are relevant to the subject site and may not have been utilised.

Association of Ground Investigation Specialists. 'Description Of Anthropogenic Materials– A Practitioners' Guide'. 2018.

BS 8576 'Guidance on investigations for ground gas – Permanent gases and Volatile Organic Compounds (VOCs)'. 2013.

BS 5930+A1:2020: 'Code of Practice for Site Investigations'. 2020.

BS 10175:2011+A2:2017 'Investigation of Potentially Contaminated sites - code of practice'. 2017.

BRE Report BR211, Scivyer, C. 'Radon – Guidance on protective measures for new buildings' 2023 Edition.

CIRIA Special Publication SP32, PSA Civil Engineering Technical Guide 34, 'Construction over abandoned mine workings'. 1984.

CIRIA C574 'Engineering in Chalk'. 2002.

CIRIA C665 'Assessing Risks Posed by Hazardous Ground Gases to Buildings'. 2007.

CIRIA C681 'Unexploded Ordnance (UXO) A guide for the construction industry'. 2009.

CIRIA C753 'The SuDS Manual'. 2015.

CIRIA C758 'Abandoned Mine Workings Manual'. 2019.

CL:AIRE RB17 'A Pragmatic Approach to Ground Gas Risk Assessment'. 2012.

CL:AIRE TB19 'Managing Risks and Liabilities associated with Per and Polyfluoroalkyl Substances (PFASs)'. 2019.

CL:AIRE TB22 'An overview of the uses of PFAS to assist with identification of sites of concern'. 2023.

Department of the Environment. 'Industry Profiles' - 48 separate publications available from The Stationery Office, London. 1995.

DEFRA and the Environment Agency, CLR Report No 11 'Model Procedures for the Management of Contaminated Land'. 2004. [Withdrawn 2019.]

Environment Agency (EA) - Land Contamination Risk Management (LCRM). 2019.

Health and Safety Executive (HSE). Control of Asbestos Regulations (CAR). 2012.

Highways England. CD 622, 'Managing geotechnical risk'. 2020.

National Planning Policy Framework (NPPF). 2023.

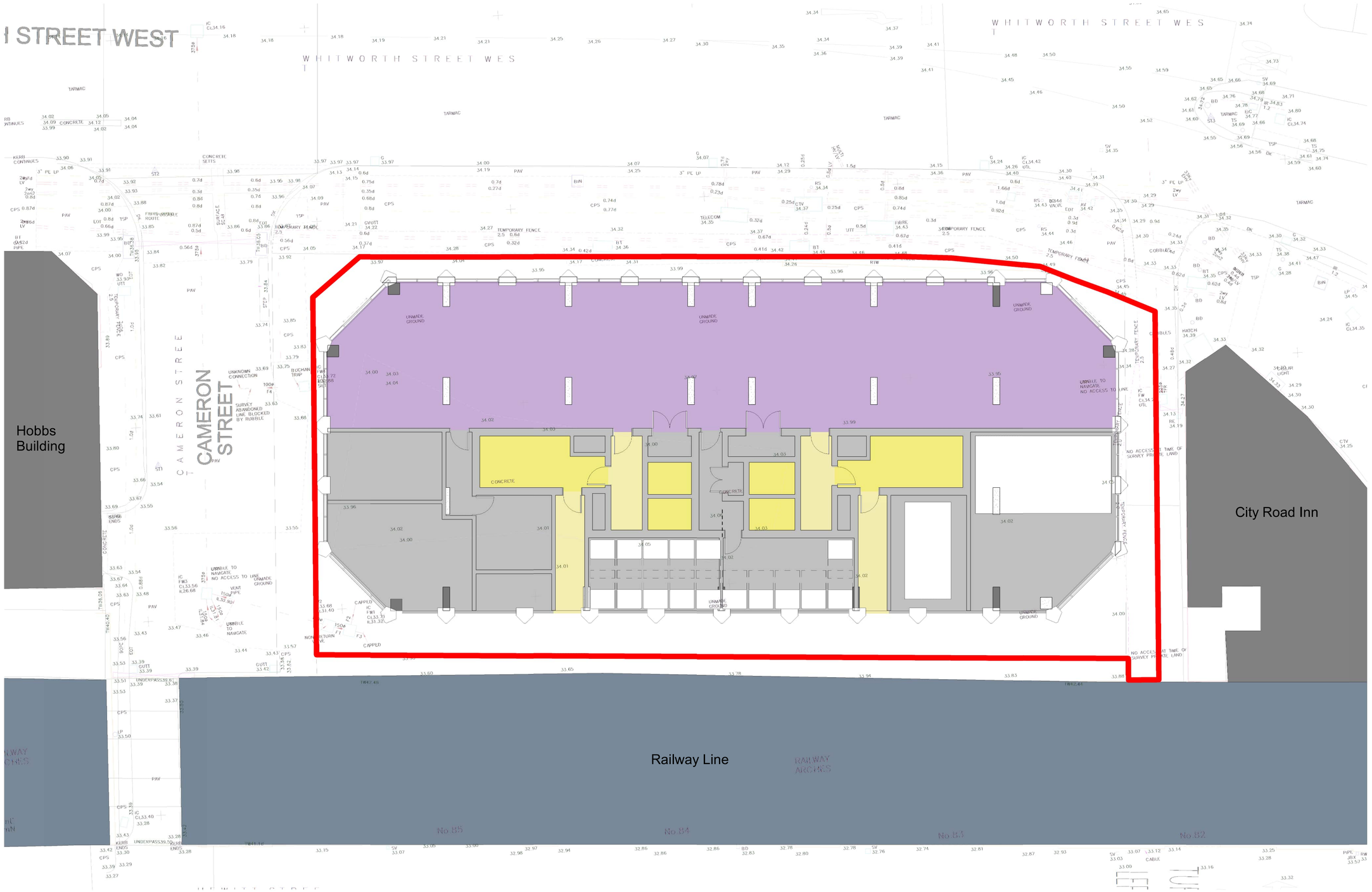
National Planning Policy Framework - Technical Guidance. March 2012.

NHBC Standards. Chapter 4.1: Land Quality - Managing Ground Conditions.

NHBC. 'Hazardous Ground Gas - An essential guide for housebuilders'. May 2023.

Water Framework Directive, 2000.

DRAWINGS



1 Level 0 - Site Plan Proposed
1 : 100

NORTH

0 1.0 2.0 3.0 4.0 5.0 10.0m

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Rev.	Description	Date	Drw.	Chk.
P01	FIRST ISSUE	10/12/2024	AR	AR

Client: Tri 7

Project: Whitworth Street, Manchester

Drawing Title: General Arrangement - Site Plan

Drawing Status: S1 - COORDINATION

Corstorphine & Wright
Birmingham Studio
Alpha Building, Suffolk Street Queensway, Birmingham, B1 1TT
0121 737 8350
corstorphine-wright.com

Drawing No. 2095 | Revision P01

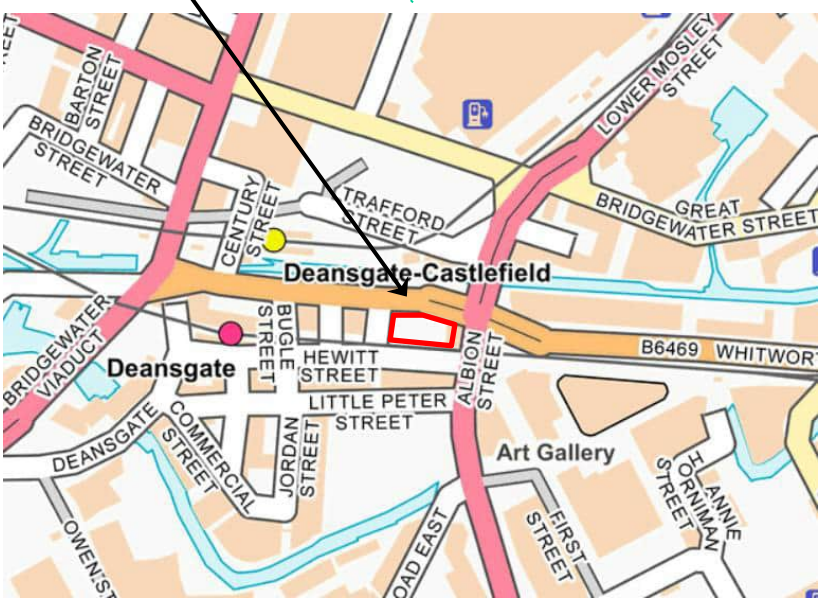
Project No.	Drawn	Checked	Size	Scale	Date
22987	AR	AR	A1	1 : 100	11/23/20



SITE LOCATION

NEAREST POSTCODE: M1 5NZ

SITE ENTRANCE WHAT3WORDS: ///PROOF.BUTTER.POETIC



REV	DATE	DESCRIPTION	BY	CKD

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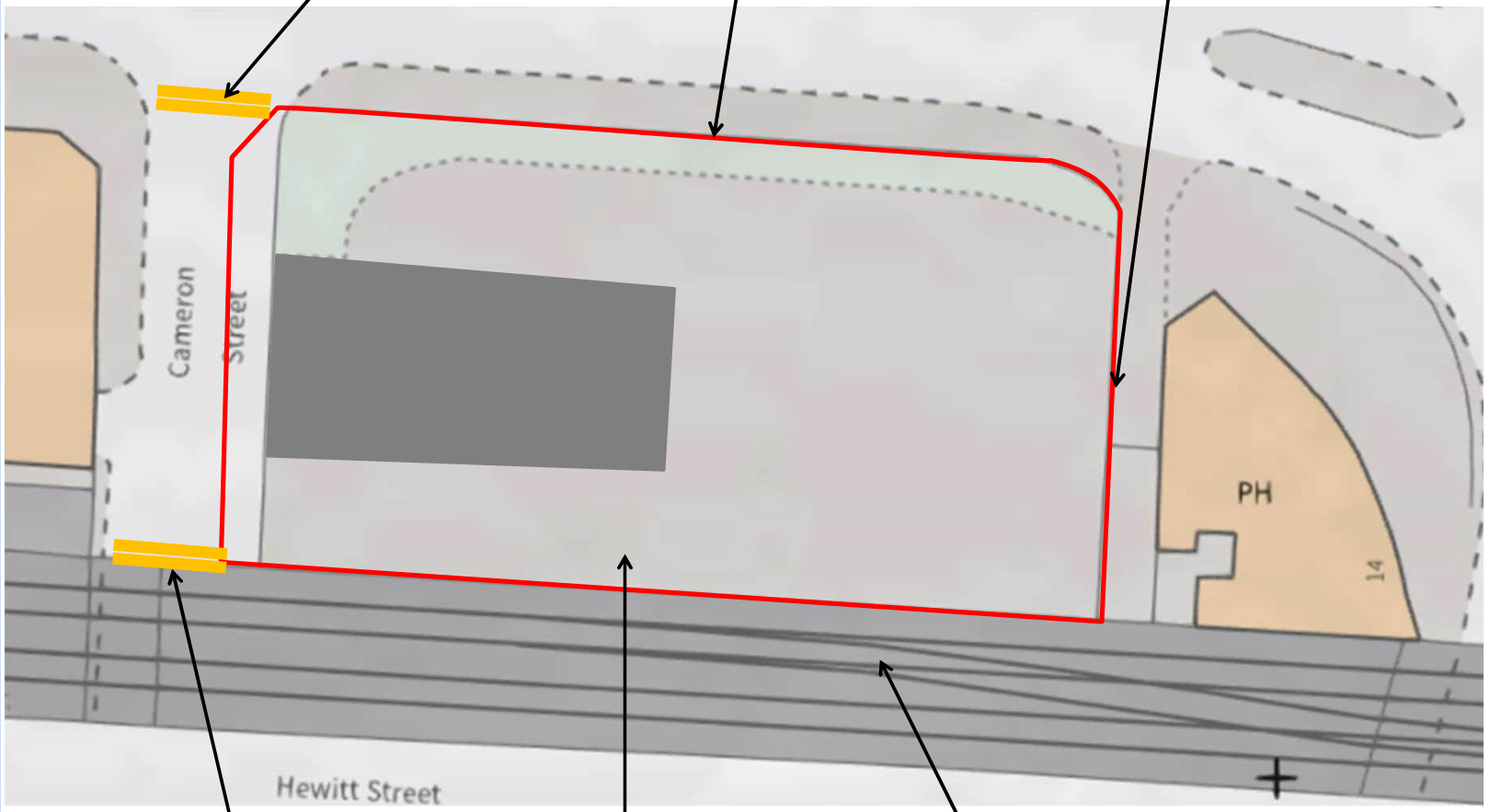
CLIENT: ATRI7 6 LTD

PROJECT TITLE: VISION, MANCHESTER

DRAWING TITLE: SITE LOCATION PLAN

DRAWING No.	REVISION	SCALE	DATE
C5504/01	-	NTS	17/12/24

DRAWN BY	CHECKED BY
SD	NS



KEY

- APPROXIMATE SITE BOUNDARY
- VEHICULAR SITE ACCESS
- CONCRETE HARDSTANDING

NOTES

1. ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCING WORKS. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ARCHITECT & ENGINEER FOR VERIFICATION. FIGURED DIMENSIONS ONLY ARE TO BE TAKEN FROM THIS DRAWING.
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PROJECT TITLE
VISION, MANCHESTER

DRAWING TITLE
SITE FEATURES PLAN

DRAWING No.	REVISION	SCALE	DATE
C5504/04	-	NTS	18/12/2024

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AH	NS

APPENDIX A

BSL Methodology and Guidance

BSL Phase I Geo-Environmental Assessment Reports - Methodology and Guidance

Background

This Appendix provides information on the approaches, methods and guidance used by Brownfield Solutions Ltd in the preparation of this report.

The term 'geo-environmental' is used to describe aspects relating to ground-related environmental issues (such as potential soils and groundwater contamination). The term 'geotechnical' is used to describe aspects relating to the physical nature of the site (such as foundation requirements). It should be noted that this is an integrated investigation and these two main aspects are related, unless otherwise specified within the report.

Phase I reports are written in general accordance with the description of a Preliminary Investigation as defined in BS10175:2011+A2:2017 and are also produced in general accordance with the recommendations for a Tier 1 Preliminary Risk Assessment as described in LCRM guidance.

The first stage of the investigation and assessment of a site is the Preliminary Investigation/Tier 1 Preliminary Risk Assessment, often referred to as a Phase 1 Desk Study, comprising a desk study and walk-over survey and collation of desk-based searches, which culminates in the Preliminary Risk Assessment and the development of a preliminary/initial **Conceptual Site Model (CSM)**. From this are identified any potential geotechnical and geo-environmental hazards and the qualitative degree of risk associated with them. In the case of the geotechnical hazard identification, this is referred to as the **Ground Model.**

From the geo-environmental perspective, the hazard Identification process uses professional judgement to evaluate all the hazards in terms of possible contaminant linkages (of source-pathway-receptor). Possible contaminant linkages are potentially unacceptable risks in terms of the current contaminated land regime legal framework and require either remediation or further assessment. These are normally addressed via intrusive ground investigation and generic risk assessment as part of Phase II investigations and reports.

The second stage is the Ground Investigation, Generic Risk Assessment and Geotechnical Interpretation. This represents the further assessment mentioned above. The Ground Investigation comprises field work and laboratory testing based on the findings of the Preliminary Risk Assessment, to reduce uncertainty in the geotechnical and geo-environmental hazard identification. This may include an exploratory, a detailed or/and supplementary Investigations as described in BS 10175:2011+A2:2017. Phase II Assessments are produced in general accordance with the recommendations for a Tier 2 Generic Quantitative Risk Assessment as described in LCRM guidance and are also intended to fulfil the requirements of a Ground Investigation Report (GIR) as detailed in BS EN 1997-2:2007.

Contaminated Land - Legislative Background

Land contamination can be addressed in several ways, e.g. during planning, under Part 2A, following an incident, during an investigation into environmental damages, or during the application of an environmental permit, or its surrender.

For the planning process the key test is **as a minimum the site cannot be determined as contaminated land**, e.g. there is not significant harm, significant possibility of significant harm to human health or that there is not significant harm to, or the significant possibility that the pollution of controlled waters will occur.

Environmental liabilities and risks have been evaluated in terms of a source -pathway - target relationship in accordance with the approach set out in:

- The 1995 Environment Act.
- The Contaminated Land Statutory Guidance, DEFRA – April 2012.
- The Contaminated Land (England) Regulations 2006.
- The Contaminated Land (England) Amendment Regulations 2012.
- Water Resources Act.
- Water Framework Directive.
- Environmental Damage Regulations.
- Environment Agency (EA) - Land Contamination Risk Management (LCRM) 2019.

Contaminated land is defined within the legislative framework as land which is in such condition by reason of substances in, on or under the land that:

1) Significant harm is being caused or there is a significant possibility of such harm being caused.
2) Significant pollution of controlled waters is being or is likely to be caused.

The potential for harm is based on the presence of three factors:

Source - substances that are potential contaminants or pollutants that may cause harm.
Pathway - a potential route by which contaminants can move from the source to the receptor, and the impact of that migration on the source e.g., attenuation.
Receptor - a receptor that may be harmed, for example the water environment, humans and water, considering the sensitivity of the receptor.

Where a source, pathway and target are all present a pollutant linkage exists and there is potential for harm to be caused.



Where any one of the “pollution linkages” between the above is absent there is deemed to be no risk.

The presence of a source does not automatically imply that a contamination problem exists, since contamination must be defined in terms of pollutant linkages and unacceptable risk of harm. The nature and importance of both pathways and receptors are site specific and will vary according to the intended end use of the site, its characteristics and its surroundings.

The key principle which supports the S-P-R approach is ‘suitable for use’ criteria. This requires remedial action only where contamination is considered to pose unacceptable actual or potential risks to health or the environment and, taking into account the proposed use of the site.

Relevant Guidance Documents
This report has been prepared in accordance with the list of guidance below, however the list is not exhaustive:

- DETR: Circular 02/2000: Environmental Protection Act 1990: Part IIA: Contaminated land. 2012.
- Environment Agency technical advice to third parties on Pollution of Controlled Waters for Part IIA of the EPA1990, May 2002.
- BS 10175:2011+A2:2017.
- Environment Agency (EA) - Land Contamination Risk Management (LCRM). 2019.
- Groundwater Protection https://www.gov.uk/government/collections/groundwater-protection
- UK Technical Advisory Group (UKTAG) - - Water Framework Directive
- Incidents and their classification: the Common Incident Classification Scheme (CICS) – Used by the Environment Agency to classify pollution incidents.

Relevant Legislative Documents
The following is a non-exhaustive list of legislative framework documents that has been considered in the production of this report:

- The Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance (2012).
- The Environment Protection Act (1990).
- The Water Resources Act (1991).
- The Environment Act (1995).
- The Contaminated Land (England) Act (2000).
- The Pollution Prevention and Control (England and Wales) Regulations (2000).
- The Landfill Regulations (England and Wales) Regulations (2002).
- The Landfill (England and Wales) (Amendment) Regulations (2004).
- Contaminated Land (England) Regulations (2012).
- The Environmental Damage (Prevention and Remediation) Regulations (2009).
- Environmental Permitting Regulations (England and Wales) Regulations (2010).
- The Water Environment (Water Framework Directive) (England and Wales) Regulations (2017).
- Health and Safety at Work Act.
- National Planning Policy Framework (NPPF) – latest version.

Contaminated Land Risk Assessment Approach

Contaminated Land Risk Assessment is a technique that identifies and considers the associated risk, determines whether the risks are significant and whether action needs to be taken. The four main stages of risk assessment are:



LCRM outlines the framework to be followed for risk assessment in the UK. The framework is designed to be consistent with UK legislation and policies including planning. The starting point of the risk assessment is to identify the context of the problem and the objectives of the process. Under LCRM, three tiers of risk assessment exist – Stage/Tier Preliminary Risk Assessment, Stage 2 Generic Quantitative Assessment and Stage 3 Detailed Quantitative Assessment.

Further information can be found at the below site:
https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm

Formulating and developing a conceptual model for the site is an important requirement of risk assessment, this supports the identification and assessment of pollutant linkages. Development of the conceptual model forms the main part of preliminary risk assessment, and the model is subsequently refined or revised as more information and understanding is obtained through the risk assessment process.

Risk is a combination of the likelihood of an event occurring and the magnitude of its consequences. Therefore, both the likelihood and the consequences of an event must be taken into account when assessing risk.

The risk assessment process needs to take into account the degree of confidence required in decisions. Identification of uncertainties is an essential step in risk assessment.

The likelihood of an event is classified on a four-point system using the following terms and definitions from CIRIA C552, with reference to Incidents and their classification: the Common Incident Classification Scheme (CICS), Environmental Protection Act 1990: Part 2A – Contaminated Land Statutory Guidance 2012 and other guidance as appropriate which will be detailed within the main body of the report if applied.

The likelihood of a given receptor being impacted is related to a number of factors, e.g. the geology which could inhibit contaminant migration. For example, a site with a significant thickness of clay between it and a receptor may reduce migration of contamination via the subsurface, which will reduce the likelihood of a given receptor being impacted. The geology or drainage for example could offer a preferential pathway e.g. mines shafts/faults increasing the likelihood and potential magnitude of an impact. The depth of contamination will also affect the exposure pathway, for example petroleum hydrocarbons at depth are unlikely to reach a receptor via dermal contact but could via vapour pathways which will influence the likelihood of an impact being felt e.g. if there are no buildings on site.

The terms and definitions used for the assessment of the likelihood are provided below:

High likelihood: There is a pollution linkage and an event appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
Examples - Extensive areas with concentrations above saturation limits for mobile contamination e.g. petroleum hydrocarbons within the water table.

Likely: There is a pollution linkage and all the elements are present and in the right place, which means it is probable that an event will occur. Circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term.
Examples – Localised areas of contaminants with concentrations above saturation limits for mobile contamination e.g. localised petroleum hydrocarbons within the water table; shallow contamination above relevant human health generic assessment criteria is present with little or no hardstanding,

Low likelihood: There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain even over a longer period such event would take place, and is less likely in the short term.
Examples - A thickness/distance of low permeability deposits preventing contaminant migration to a receptor is present; a site is mostly covered hard standing preventing exposure to soil contamination.

Unlikely: There is a pollution linkage but circumstances are such that it is improbable the event would occur even in the long term.
Examples – A site is underlain by a substantial thickness of low permeability clays, between the source and potential receptors which will inhibit significantly, but not completely rule out migration to sensitive receptors.

The severity is also classified using a system based on CIRIA C552, with reference to Incidents and their classification: the Common Incident Classification Scheme (CICS), Environmental Protection Act 1990: Part 2A – Contaminated Land Statutory Guidance 2012 and other guidance as appropriate which will be detailed within the main body of the report, if applied. The terms and definitions are:

Severe: Short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resources. Catastrophic damage to buildings or property. A short-term risk to a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
Examples – High concentrations of contaminant on surface of recreation area, major spillage of contaminants from site into controlled waters, explosion causing building to collapse.

Medium: Chronic damage to human health ('significant harm' as defined in DETR 2000). Pollution of sensitive water resources. A significant change in a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
Examples - Concentrations of contaminants exceed the generic assessment criteria, leaching of contaminants from a site to a Principal or Secondary Aquifer, death of species within a designated nature reserve.

Mild: Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000). Damage to sensitive buildings, structures, services or the environment.
Examples – Pollution of non-classified groundwater or damage to buildings rendering it unsafe to occupy.

Minor: harm, not necessarily significant harm, which may result in financial loss or expenditure to resolve. Non-permanent health effects to human health (easily prevented by use of personal protective clothing etc). Easily repairable effects of damage to buildings, structures and services.
Examples – Presence of contaminants at such concentrations PPE is required during site work, loss of plants in landscaping scheme or discolouration of concrete.

Once the likelihood and severity have been determined, a risk category can be assigned using the table below.

		Consequences			
		Severe	Medium	Mild	Minor
Probability	Highly likely	Very high	High	Moderate	Moderate/low
	Likely	High	Moderate	Moderate/low	Low
	Low likelihood	Moderate	Moderate/low	Low	Very low
	Unlikely	Moderate/low	Low	Very Low	Very low
	Negligible	Negligible Risk / No Linkage			

Definitions of the risk categories obtained from the above table are as follows together with an assessment of the further work that might be required:

Very high: There is a high probability that severe harm could arise to a designated receptor from an identified hazard or there is evidence that severe harm is currently happening. This risk, if realised, could result in substantial liability. Urgent investigation and remediation are likely to be required.

High: Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation is required and remedial works may be necessary in the short term and are likely over the longer term.

Moderate: It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it would be more likely to be relatively mild. Investigation is normally required to clarify the risk and determine the liability. Some remedial works may be required in the longer term.

Low: It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.

Very Low: There is a low possibility that harm could arise to a receptor. In the event of such harm being realised, it is not likely to be severe.

Some linkages may be identified which constitutes a theoretical connection between a source and a receptor, but professional judgement shows them not to be possible for some reason. These are labelled 'negligible risk' and 'no linkage' in the summary table, which give rise to an overall **negligible** risk category and no further action is required.

Ground Gas Risk Assessment

BS8485:2015+A1:2019, BS 8576:2013, CL:AIRE RB17, and NHBC 'Hazardous Ground Gas - An essential guide for housebuilders' 2023, are the current guidance which gives up-to-date advice on all aspects of permanent ground gas risk. BS8576 alongside CIRIA C682 also provides guidance on assessment of hydrocarbon vapour intrusion.

The CL:AIRE publication 'Good Practice for Coal Mine Gas Emissions" 2021 provides guidance on the assessment of risks from mine gas sources.

The above all outline good practice in investigation, the collection of relevant data and monitoring programmes in a risk-based approach to ground gas contamination. The aim of the guidance is for a consistent approach to decision making, particularly relating to the scope of protective design measures on a site-specific basis.

Legislative Framework
BS8485:2015+A1:2019, BS 8576:2013 and CIRIA C665 provides technical guidance, however they also recognise the context into which the guidance has to be employed. Government policy is based upon a "suitable for use approach", which is relevant to both the current and proposed future use of land. When considering the current use of land, Part IIA of the Environment Protection Act 1990 provides the regulatory regime. The presence of hazardous ground gases could provide the "source" in a "pollutant linkage" which could lead the regulator to determine that considerable harm or there is a significant possibility of such harm being caused. Under such circumstances, the regulator would determine the land to be "contaminated land" under the provisions of the Act, setting out the process of remediation as described in the DETR Circular 02/2000 *Statutory guidance on contaminated land*.

Generation Potential of Sources
BS 8576:2013 Figure 6 provides a basis for assessing the generation potential from sources identified as part of the Phase I Assessment. These are summarised below:

Generation Potential	Typical Sources
Very Low	• Natural carbonate soil and strata, e.g. chalk and limestone. • Natural soil strata with a low degradable organic content, e.g. alluvium, peat. • In-filled pond less than 15 m diameter, in-filled before 1930s to 1940s. • Made ground with low degradable organic content (e.g. up to 5% organic material such as pieces of wood, pieces of paper, rags, etc. with a high proportion of ash and no food or other easily degradable waste). • Mine workings shallow or shaft (where there is clear evidence that they are flooded). • Inert landfill sites.
Low	• Natural soil strata with a high degradable organic content (DOC). • Made ground with total organic carbon (TOC) up to 6% (e.g. dock silt, no food or other easily degradable waste). • Foundry sand (includes phenolic binders, rags and wood that decay, albeit at low rates). • Landfill 1945 to mid 1960s (see also Moderate below).
Moderate	• Sewage sludge. • Mine workings – unflooded, more than 50 years since last worked (gas is liberated from coal when mine workings are excavated; this continues for up to about 50 years). • Landfill 1945 to mid 1960s (this could also be "low" or, if disturbed, "high").
High	• Landfill mid 1960s to early 1990s. • Mine workings – unflooded – less than 50 years since last worked.
Very High	• Municipal landfill sites. • Landfill early 1990s onward.

Frequency and Duration of Monitoring

BS8576 notes to determine where and how to monitor ground gases requires consideration of credible pathways of possible exposure of the receptors, taking into account what is known about the geology and hydrogeology, building construction and services layout, foreseeable events such as flooding, changes in groundwater level, climate change, extreme weather conditions, the closure of mines, and possible changes to the gas regime caused by future development.

The monitoring period for a specific site should cover the "worst case" scenario. A "worst case" scenario will typically occur during falling atmospheric pressure and, in particular, weather conditions such as rainfall, frost and dry weather.

The benefits of additional information and whether it is likely to change the scope of gas protection should be considered, as are the consequences of failing to characterise adequately pollutant linkages. Investigations concerned with ground gas are required to provide monitoring data sufficient to allow prediction of worst case conditions enabling the confident assessment of risk and subsequent design of appropriate gas protection schemes. Monitoring programmes should not be an academic exercise in data collection. CL:AIRE publication TB17 "Ground Gas Monitoring and 'Worst-Case' Conditions" provides further guidance.

Below are matrices that will aid in determining an appropriate number of gas monitoring visits and the length of monitoring period.

Typical/idealised periods of monitoring

		Generation of Potential Source				
		Very Low	Low	Moderate	High	Very High
Sensitivity of Development	Low (Commercial)	1 month	2 months	3 months	6 months	12 months
	Moderate (Apartments)	2 months	3 months	6 months	12 months	24 months
	High (Low rise Residential)	3 months	6 months	6 months	12 months	24 months

Typical/idealised frequency of monitoring/Number of Visits Required

		Gas Generation of Potential Source				
		Very Low	Low	Moderate	High	Very High
Sensitivity of Development	Low (Commercial)	4	6	6	12	12
	Moderate (Apartments)	6	6	9	12	24
	High (Low rise Residential)	6	9	12	24	24

Notes

1 Generation potential of sources based on descriptions within BS 8576:2013.

2 At least two sets of readings should be at low and falling atmospheric pressure (but not restricted to periods below <1000 mb) known as worst case conditions. Historical data can be used as part of the data set (Table 5.5b).

RB17 Approach

CL:AIRE RB17 (Card et al 2012) is a pragmatic approach to ground gas risk assessment and was developed because gas concentration, pressure and flow rate measured in a well headspace may not be representative of the conditions in the surrounding formation.

In these low-risk situations, the approach is to use the conceptual site model and the estimation of the likely gas generation from a source to identify where or if gas monitoring is required to better define the risks.

Under this approach, for sites with natural soils only with no credible methane source, then no action is required (no monitoring or gas protection measures) as this represents Characteristic Situation 1 (CS1).

Radon
Advice on radon protection in England is provided by the UK Health Security Agency, https://www.ukradon.org/information/ukmaps and by the BRE (BR 211 (Scivyer 2023)).

Areas of the country can be categorised according to the percentage of existing homes where radon is present above the Action Level:

- 0-1% lower probability.
- 1-3% and 3-10% intermediate probability.
- >10% higher probability.

Basic radon protection measures are required in new buildings and extensions in areas of England and Wales where 3-10% of properties exceed the Action Level and full radon protection measures where >10% exceed the Action Level.

Unexploded Ordnance (UXO) Guidance

Clients have a legal duty under the CDM 2015 Regulations to provide designers and contractors with project-specific health and safety information needed to identify hazards and risks. This includes the possibility of unexploded ordnance (UXO) being encountered on the site. Further details are given in CIRIA report C681.

BSL carry out non-specialist UXO screening exercises by considering any evidence of UK defence activities on or near the site evident from gathered desk study information and the unexploded aerial delivered bomb (UXB) online risk maps produced by Zetica. Other data sources are available, but as a first stage screening exercise the freely available online Zetica maps have been used. The level of risk stated is that determined by Zetica, a company experienced and considered competent in the assessment of UXO.

Geotechnical Guidance

A preliminary risk assessment of geotechnical hazards is carried out at the desk study stage and confirmed (or amended) at the ground investigation stage. The desk-based stage my include the requirements for a Coal Mining Risk Assessment (CMRA) which specifically assesses the risks from mining induced instability and related issues in high risk development areas: https://www.gov.uk/guidance/planning-applications-coal-mining-risk-assessments

APPENDIX B

Historical Maps



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GEO-ENVIRONMENTAL ENGINEERING EXCELLENCE

Site Details:

Whitworth Street West,
Manchester, M1 5NZ

Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: 1056 Scale Town Plan

Map date: **1851**

Scale: 1:1,056

Printed at: 1:1,056

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Surveyed 1849
Revised N/A
Edition 1851
Copyright N/A
Levelled N/A

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GEO-ENVIRONMENTAL ENGINEERING EXCELLENCE

Site Details:

Whitworth Street West,
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Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

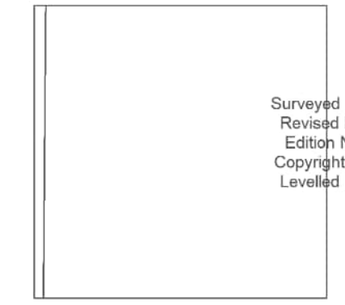
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Groundsure INSIGHTS

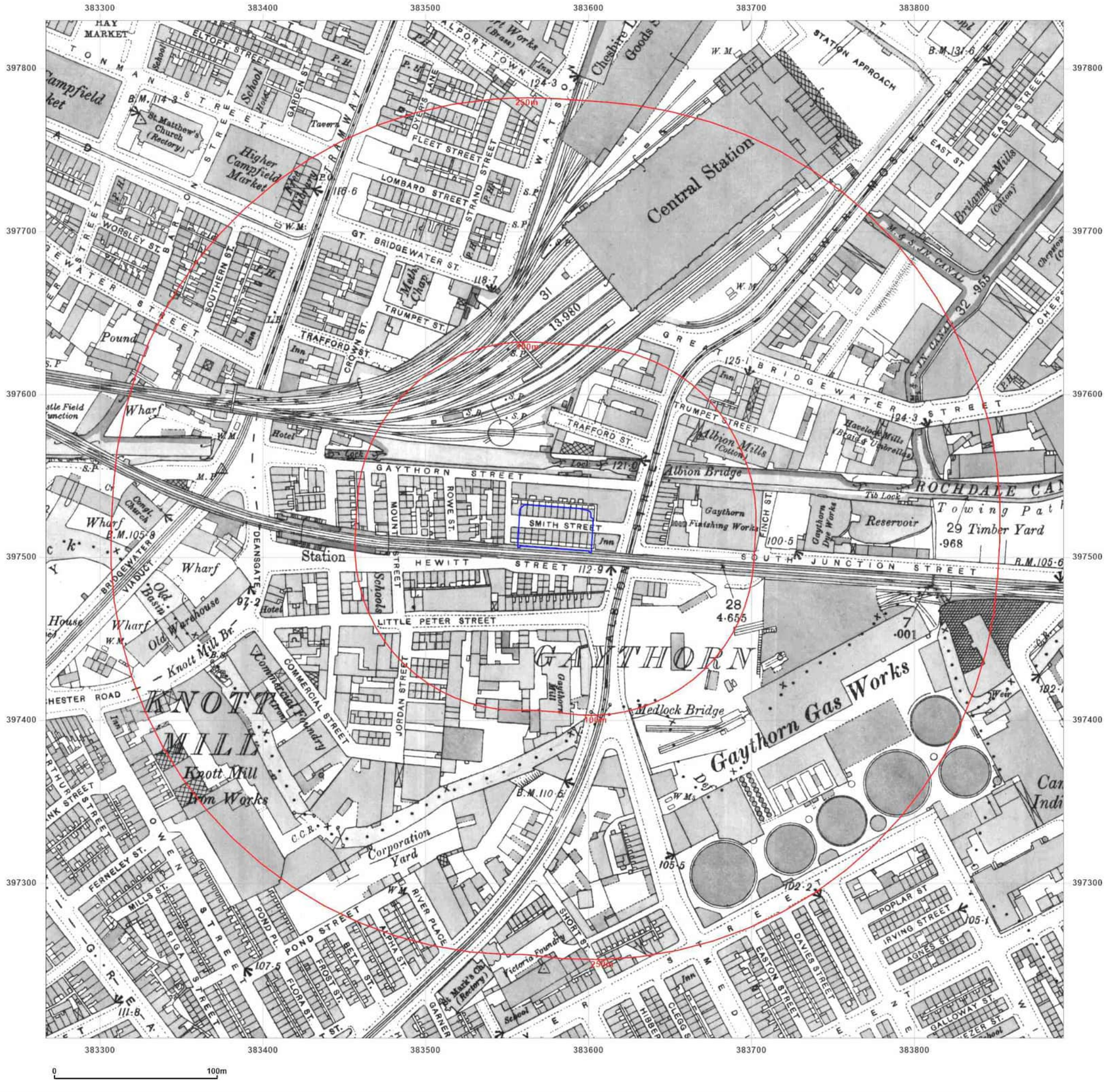
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Site Details:

Whitworth Street West,
Manchester, M1 5NZ

Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: County Series

Map date: **1893**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

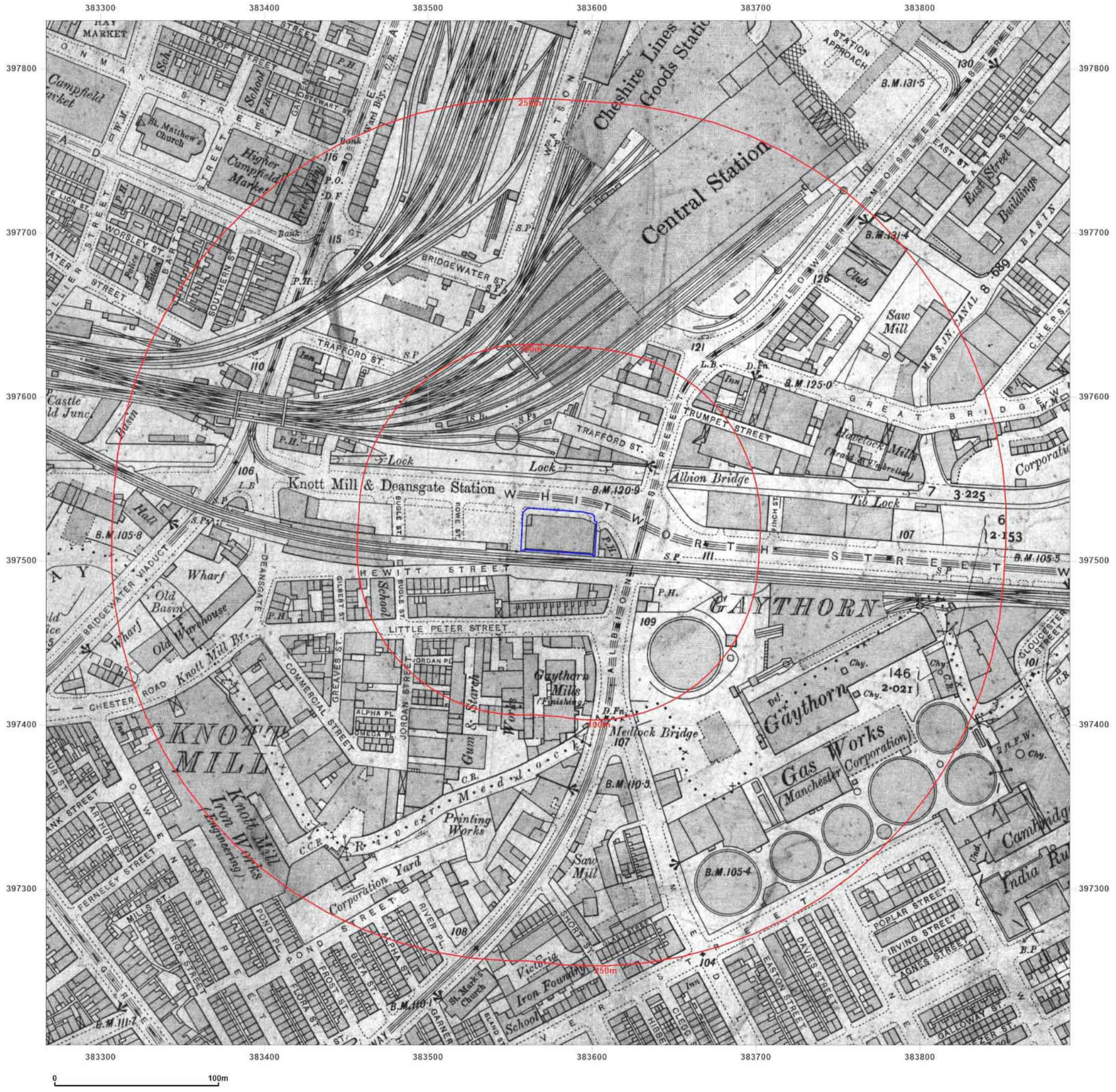
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Site Details:

Whitworth Street West,
Manchester, M1 5NZ

Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
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Map Name: County Series

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Printed at: 1:2,500

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Surveyed 1908
Revised 1908
Edition N/A
Copyright N/A
Levelled N/A

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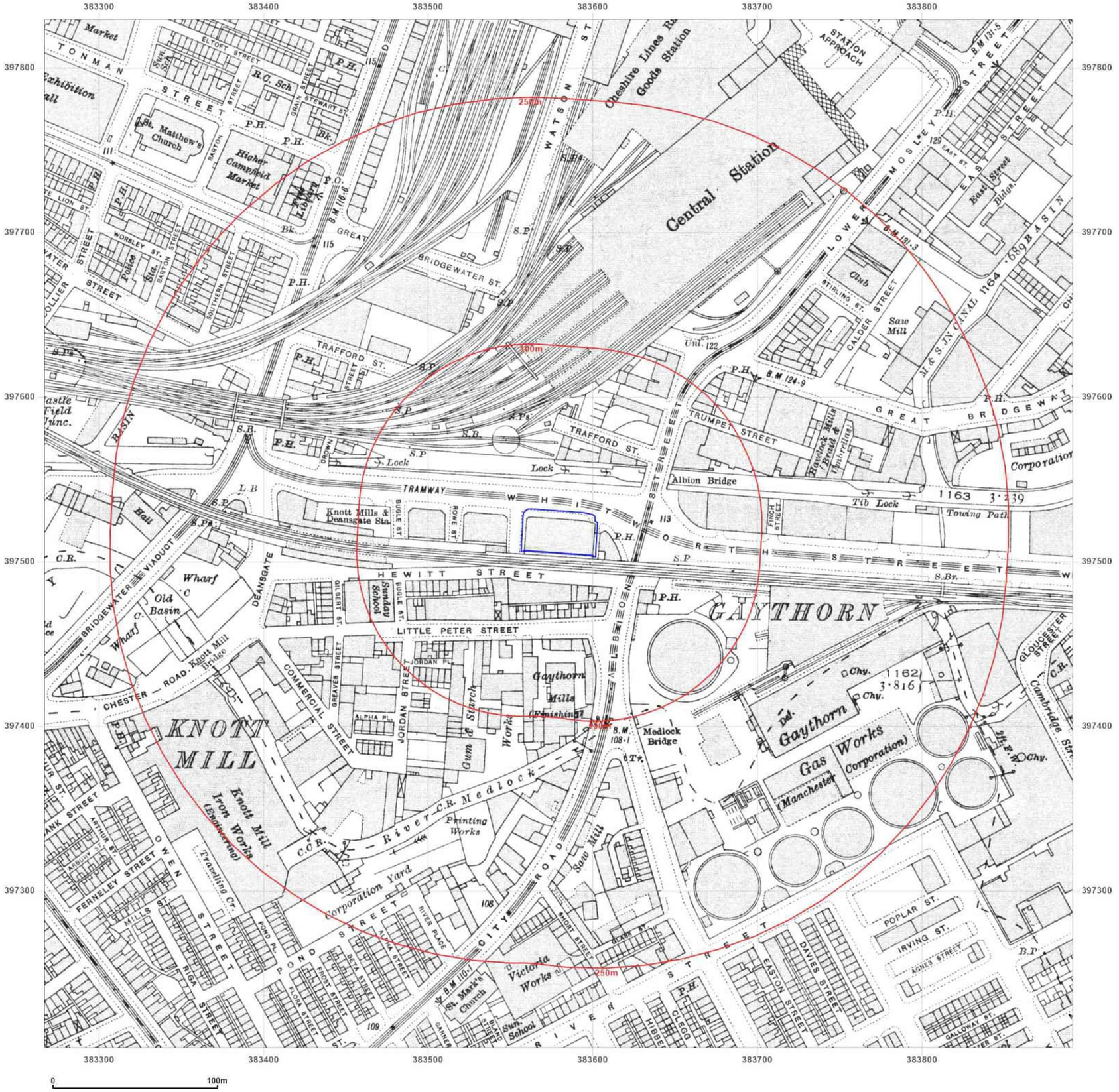
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GEO-ENVIRONMENTAL ENGINEERING EXCELLENCE

Site Details:

Whitworth Street West,
Manchester, M1 5NZ

Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: County Series

Map date: **1922**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1922
Revised 1922
Edition N/A
Copyright N/A
Levelled N/A

Groundsure INSIGHTS

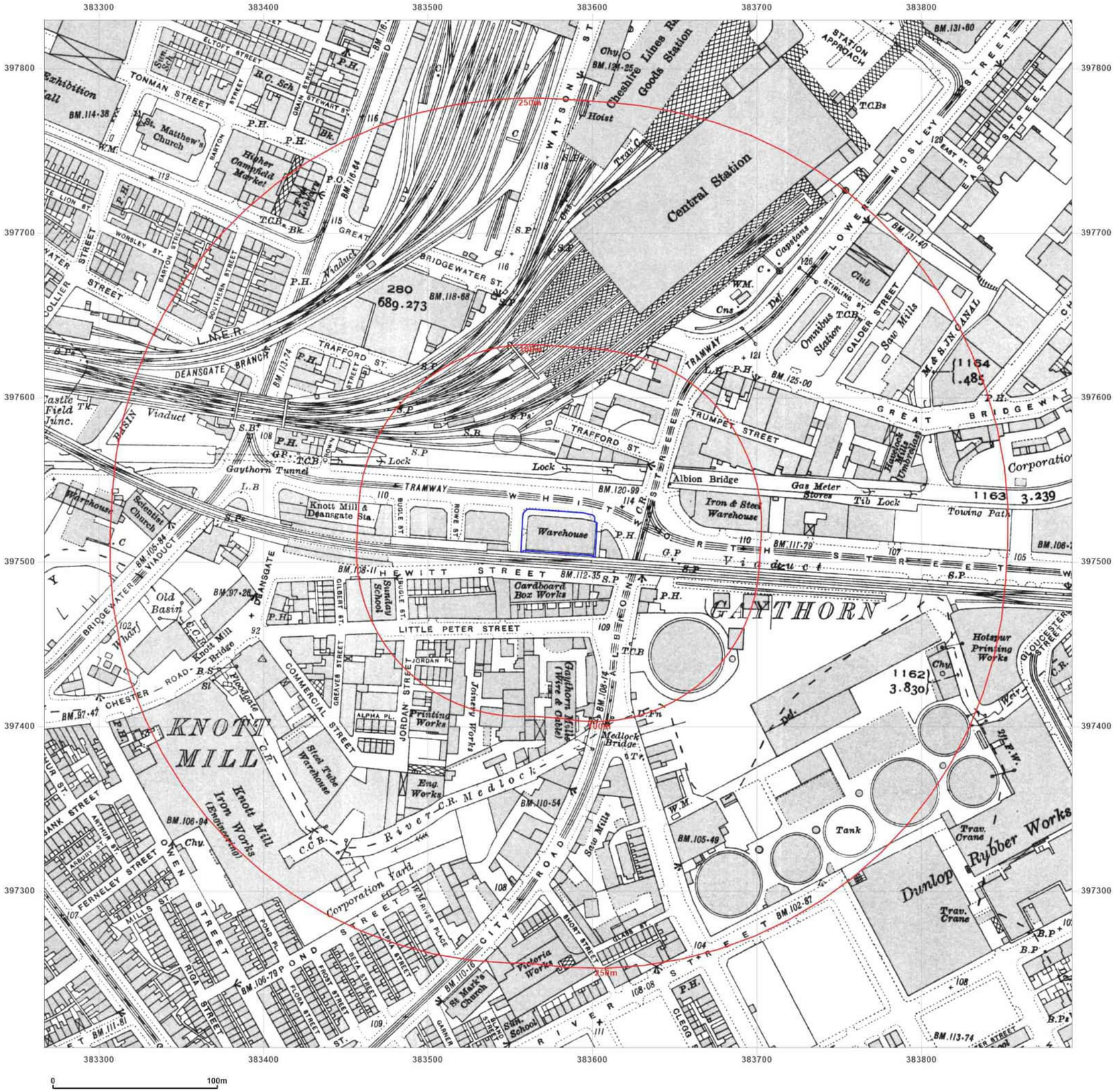
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Site Details:

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Manchester, M1 5NZ

Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: County Series

Map date: **1932**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1932
Revised 1932
Edition N/A
Copyright N/A
Levelled N/A

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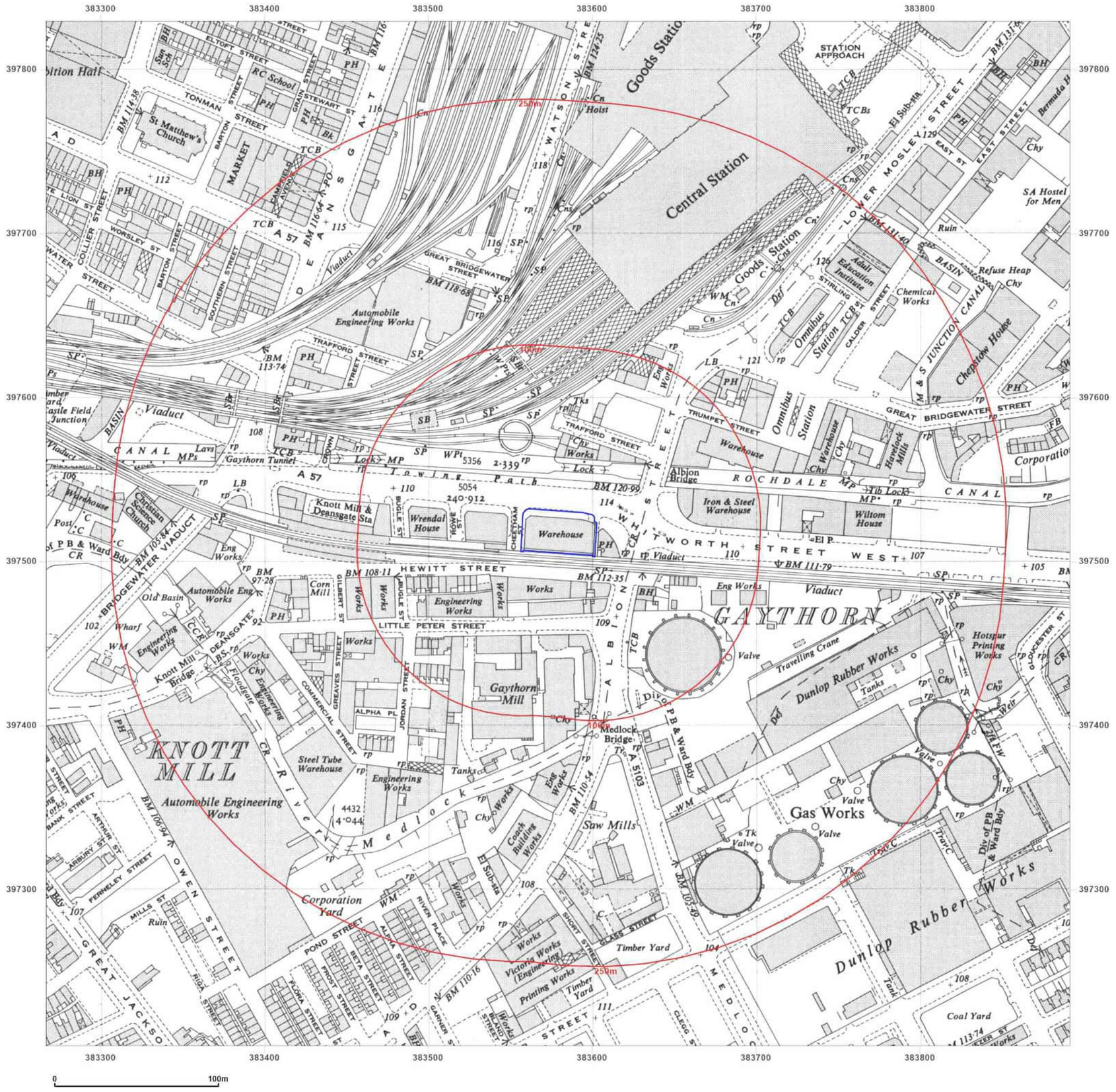
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Site Details:

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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **1949**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1948
Revised 1948
Edition N/A
Copyright 1949
Levelled 1927

Groundsure INSIGHTS

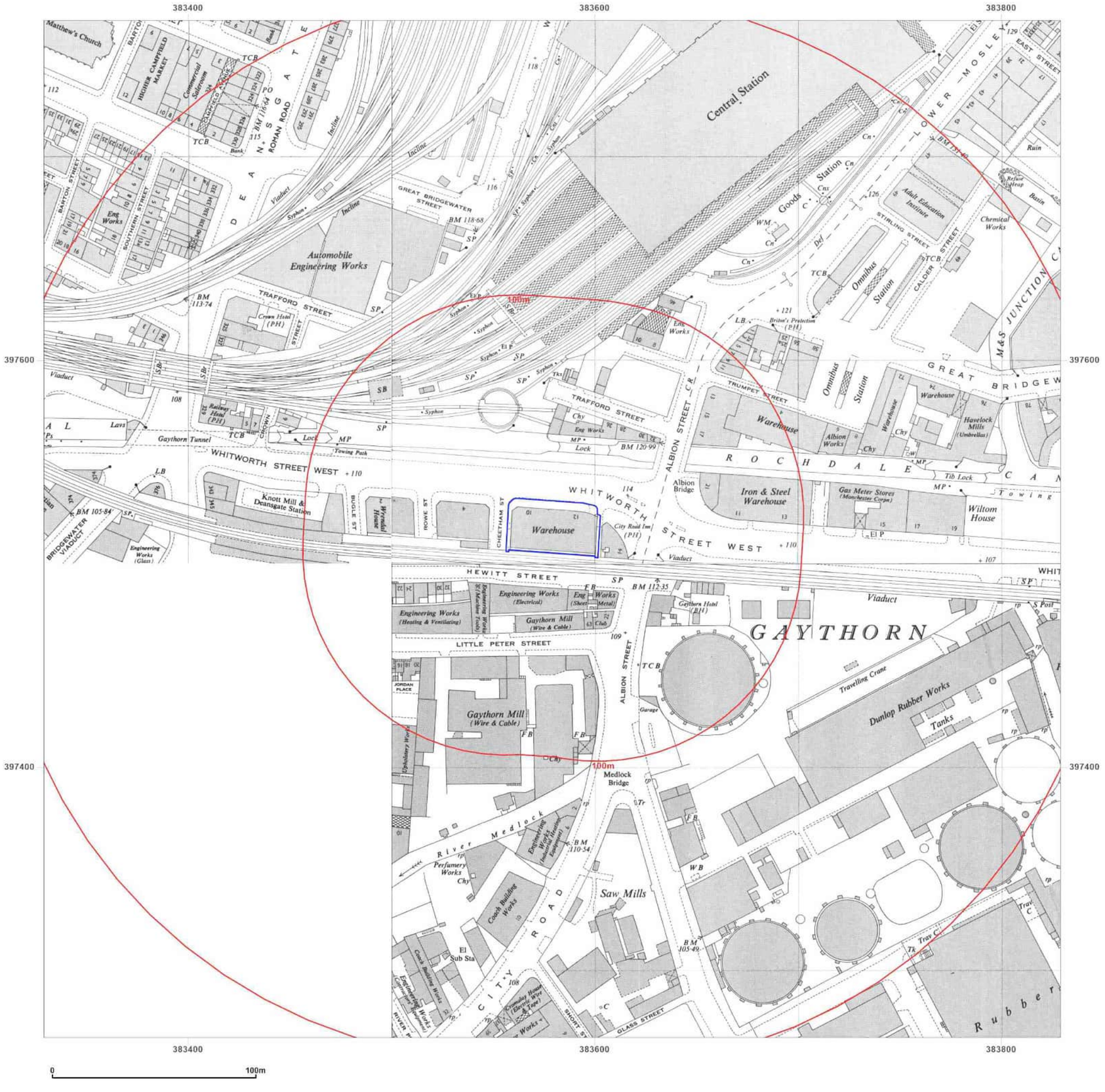
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Site Details:

Whitworth Street West,
Manchester, M1 5NZ

Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **1948-1953**

Scale: 1:1,250

Printed at: 1:2,000

N
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Surveyed 1948
Revised 1948
Edition N/A
Copyright N/A
Levelled 1927

Surveyed 1948
Revised 1948
Edition N/A
Copyright N/A
Levelled 1927

Surveyed 1948
Revised 1953
Edition N/A
Copyright N/A
Levelled 1927

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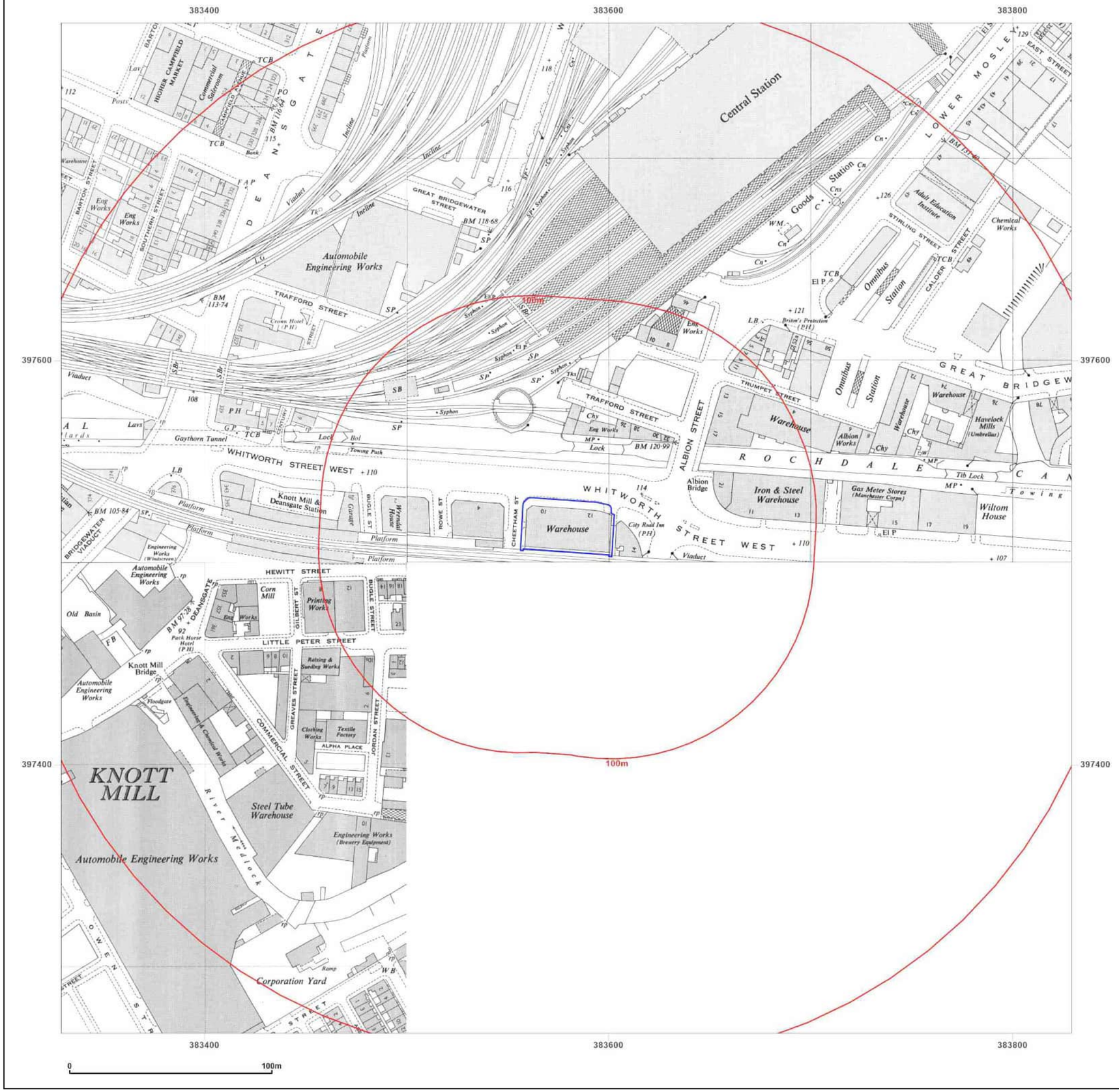
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Site Details:

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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **1951-1955**

Scale: 1:1,250

Printed at: 1:2,000

N
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Surveyed 1948
Revised 1955
Edition N/A
Copyright 1955
Levelled 1927

Surveyed 1951
Revised 1951
Edition N/A
Copyright N/A
Levelled 1927

Surveyed 1953
Revised 1953
Edition N/A
Copyright 1954
Levelled 1927

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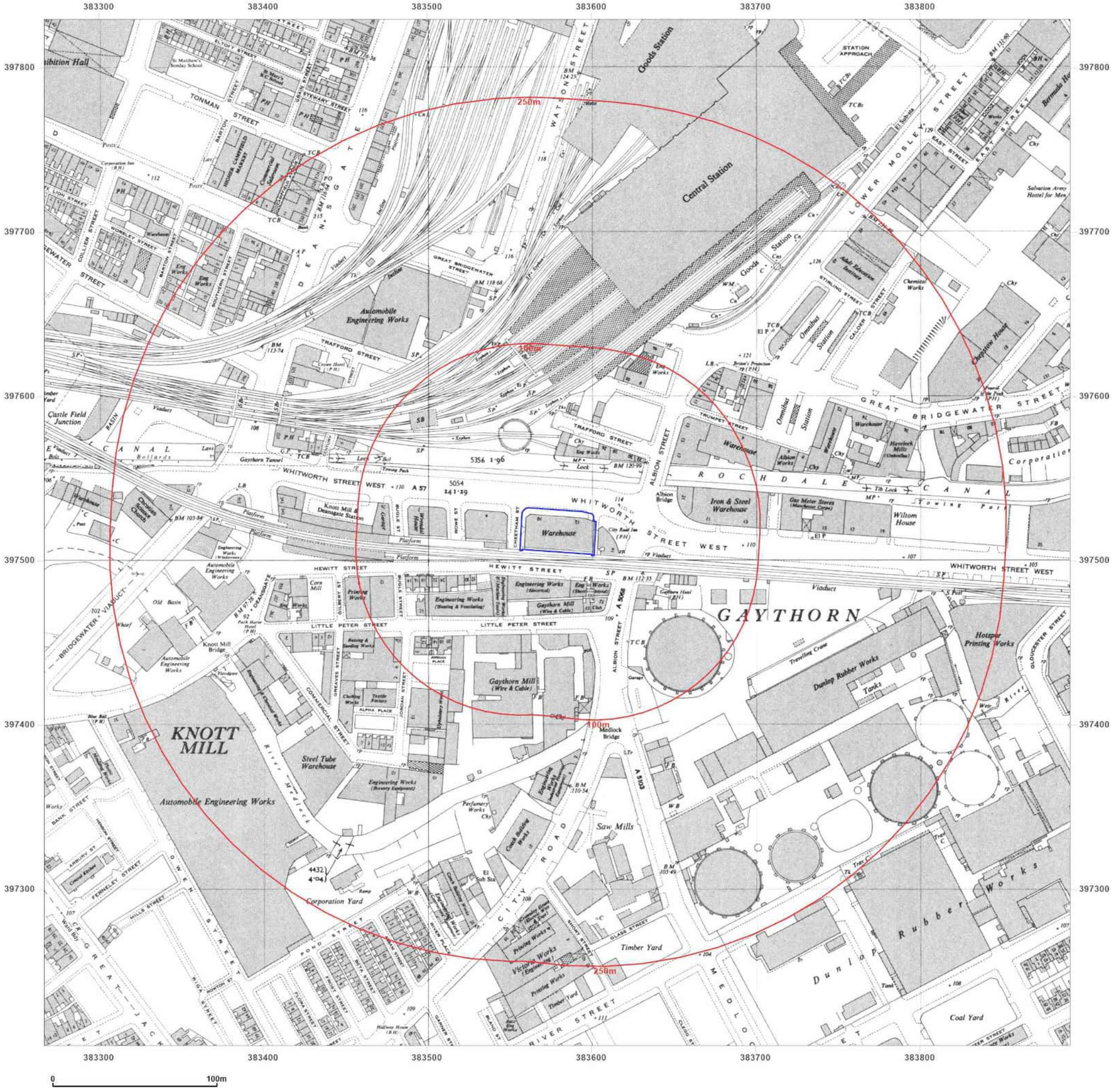
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Site Details:

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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **1957**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1953
Revised 1953
Edition N/A
Copyright 1957
Levelled 1927

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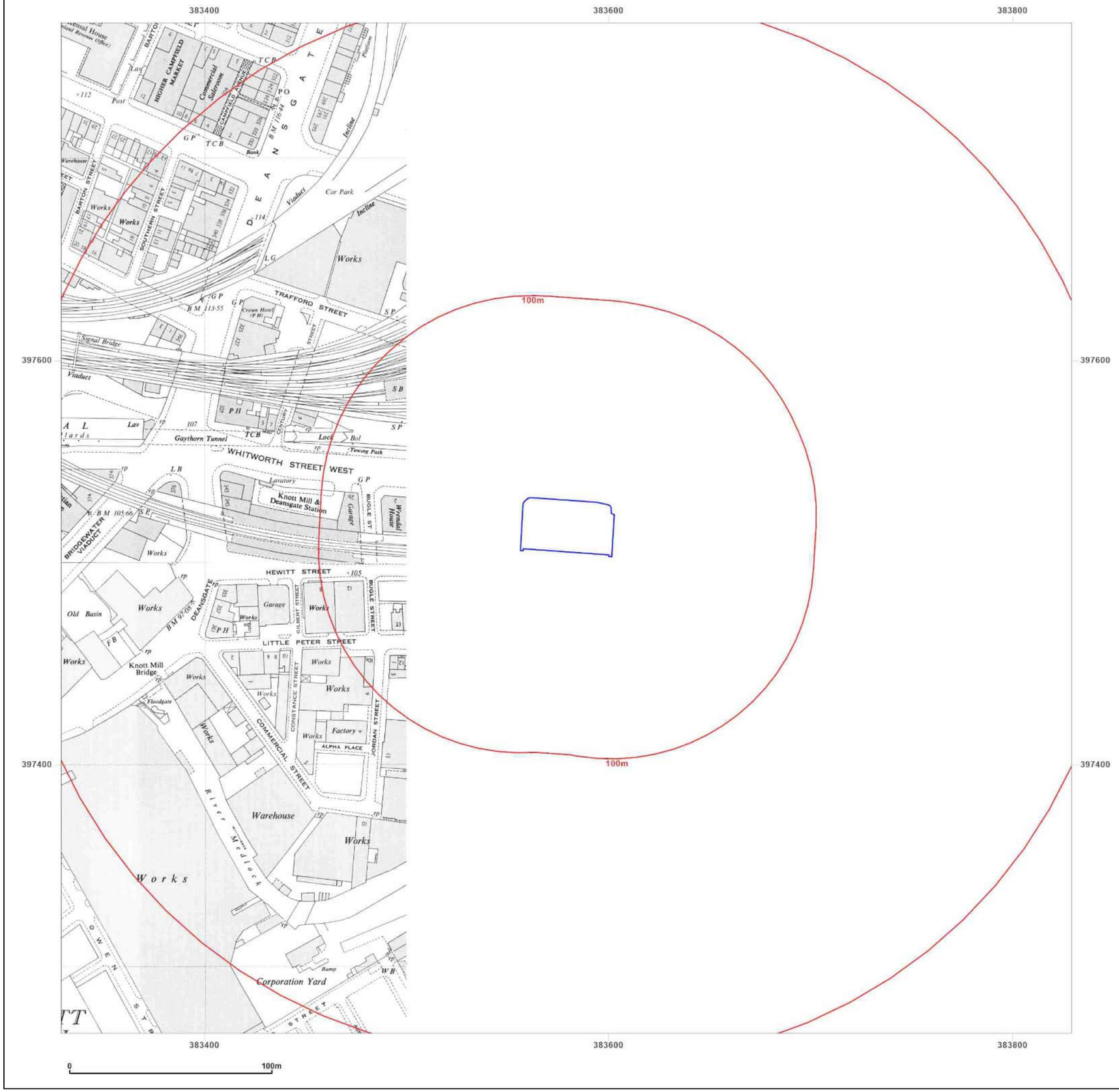
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Site Details:

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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **1960-1963**

Scale: 1:1,250

Printed at: 1:2,000

N
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Surveyed 1948
Revised 1962
Edition N/A
Copyright 1963
Levelled 1958

Surveyed 1959
Revised 1959
Edition N/A
Copyright 1960
Levelled 1958

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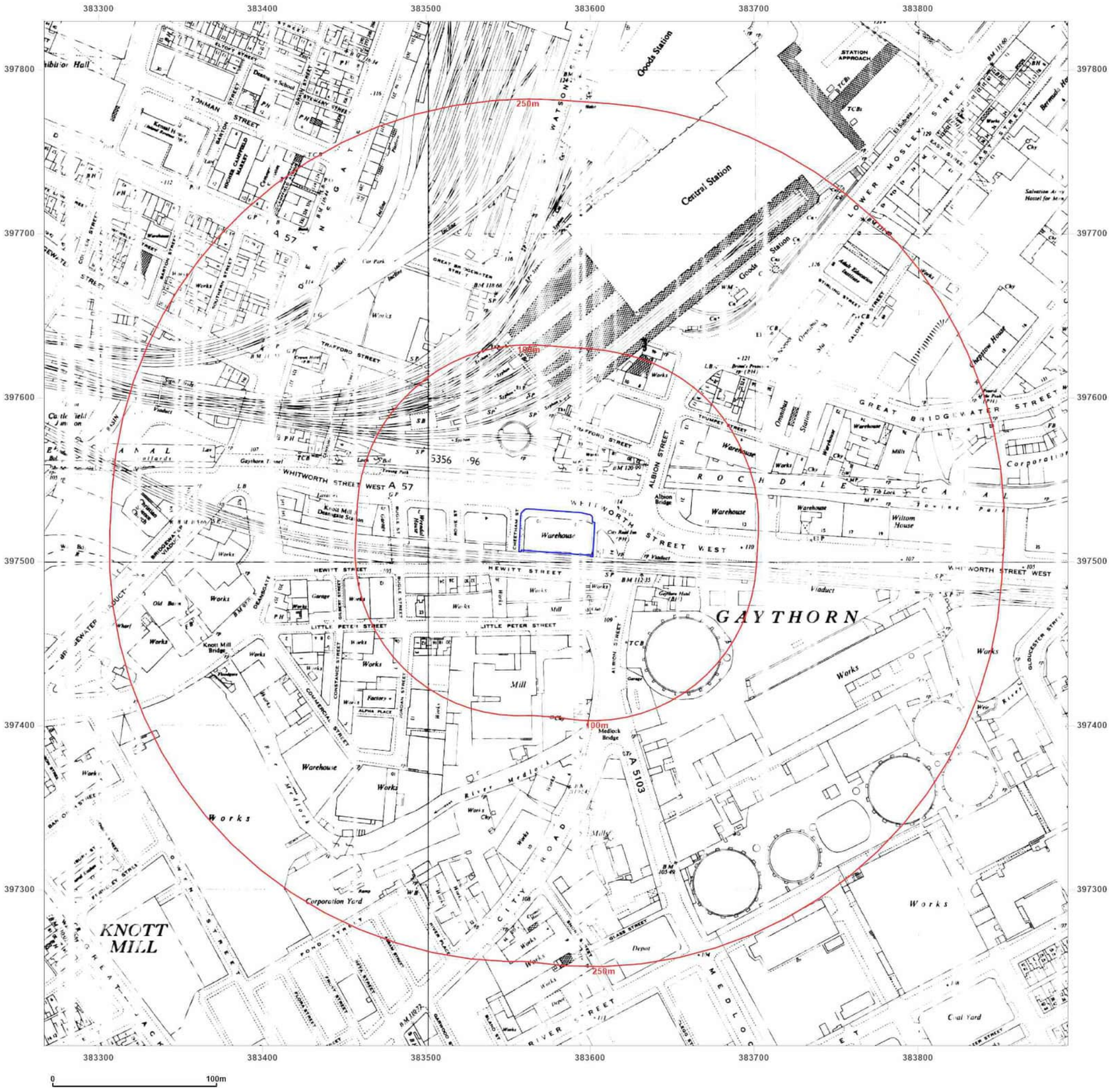
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Site Details:

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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **1965**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed N/A
Revised 1963
Edition 1965
Copyright N/A
Levelled 1958

Groundsure INSIGHTS

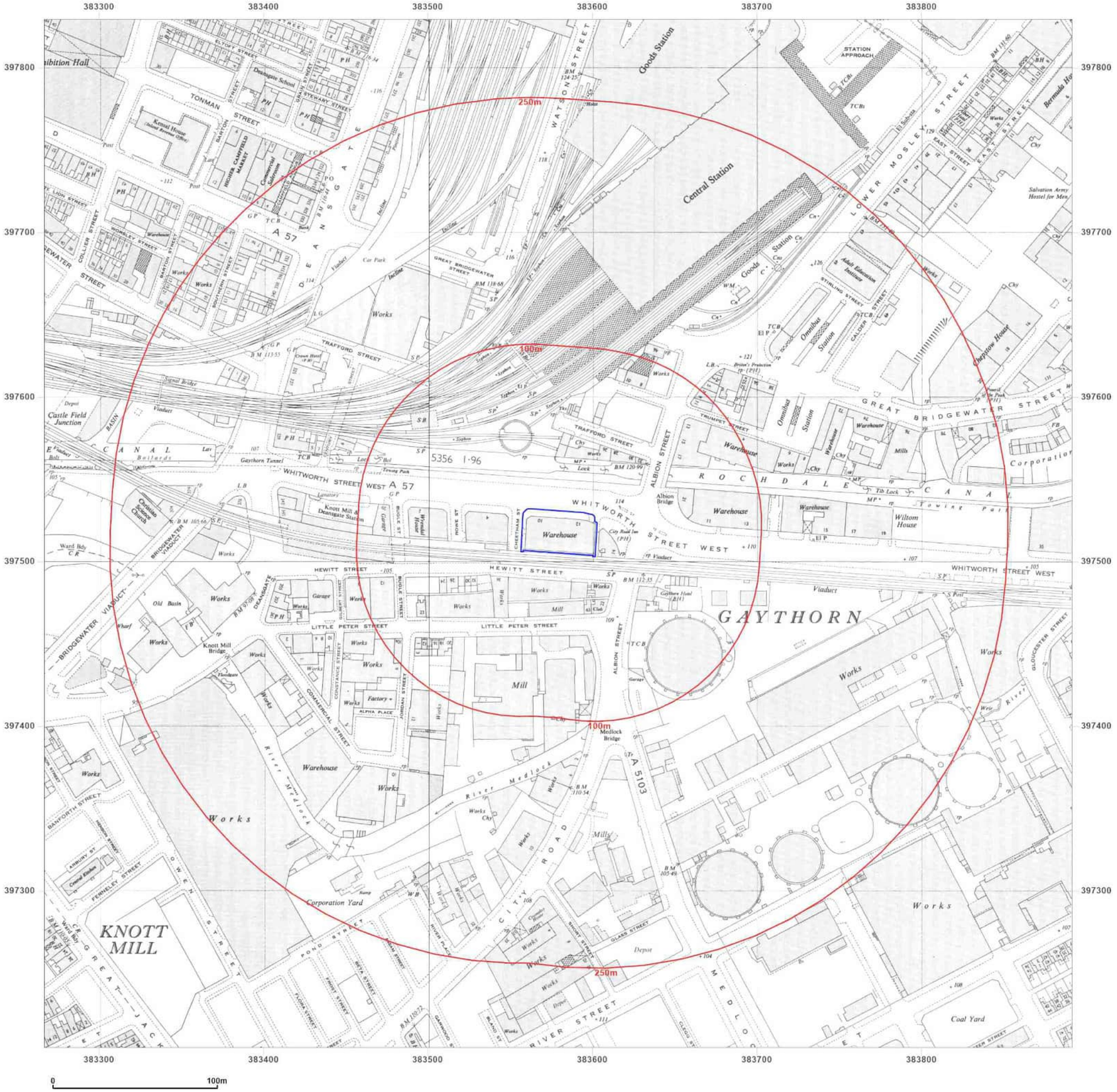
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Site Details:

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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **1965**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1963
Revised 1963
Edition N/A
Copyright 1965
Levelled 1958

Groundsure INSIGHTS

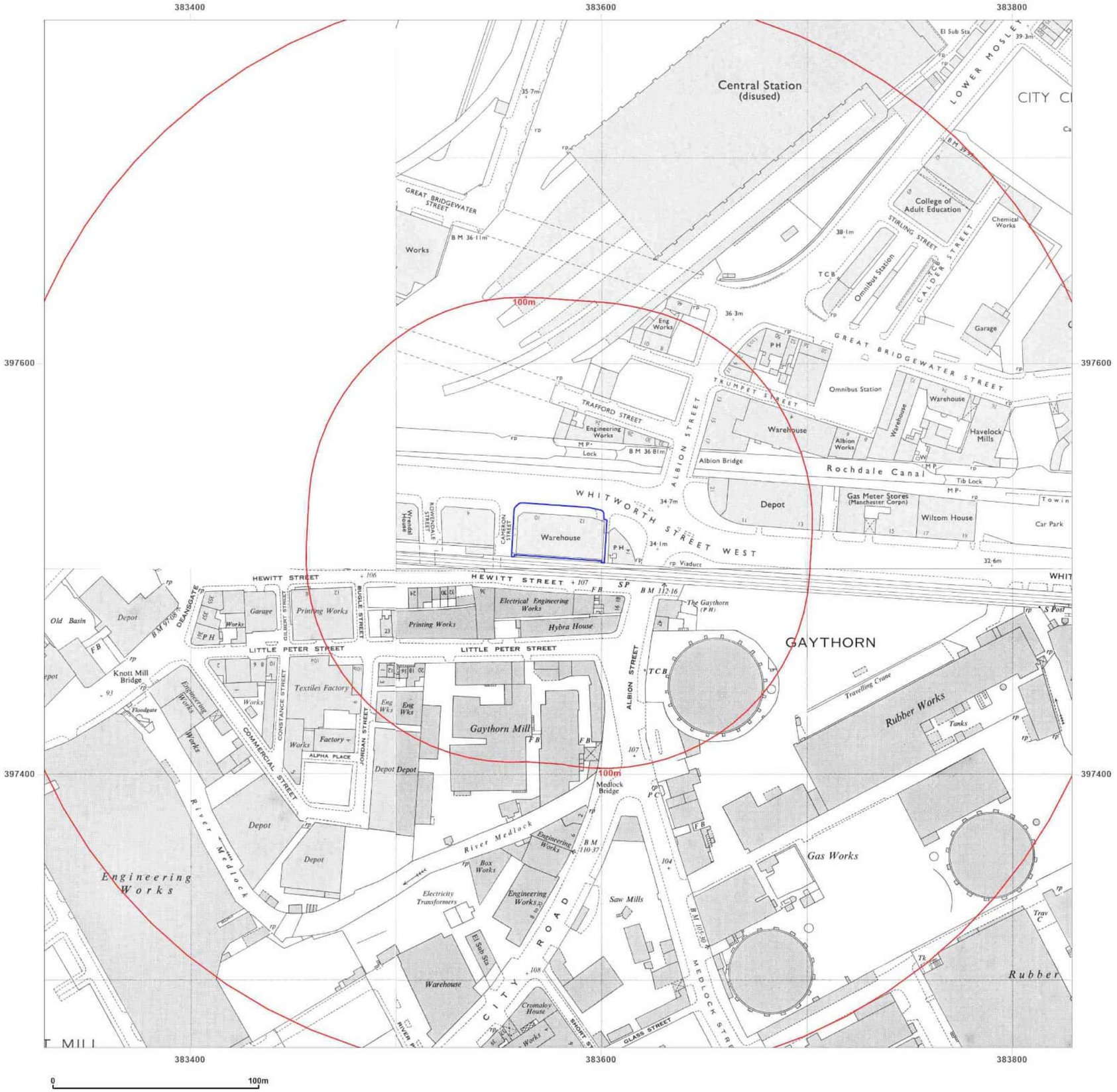
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Site Details:

Whitworth Street West,
Manchester, M1 5NZ

Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **1969-1973**

Scale: 1:1,250

Printed at: 1:2,000

N
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Surveyed 1948
Revised 1972
Edition N/A
Copyright 1973
Levelled 1963

Surveyed 1948
Revised 1968
Edition N/A
Copyright 1969
Levelled 1963

Surveyed 1948
Revised 1968
Edition N/A
Copyright 1969
Levelled 1963

Groundsure INSIGHTS

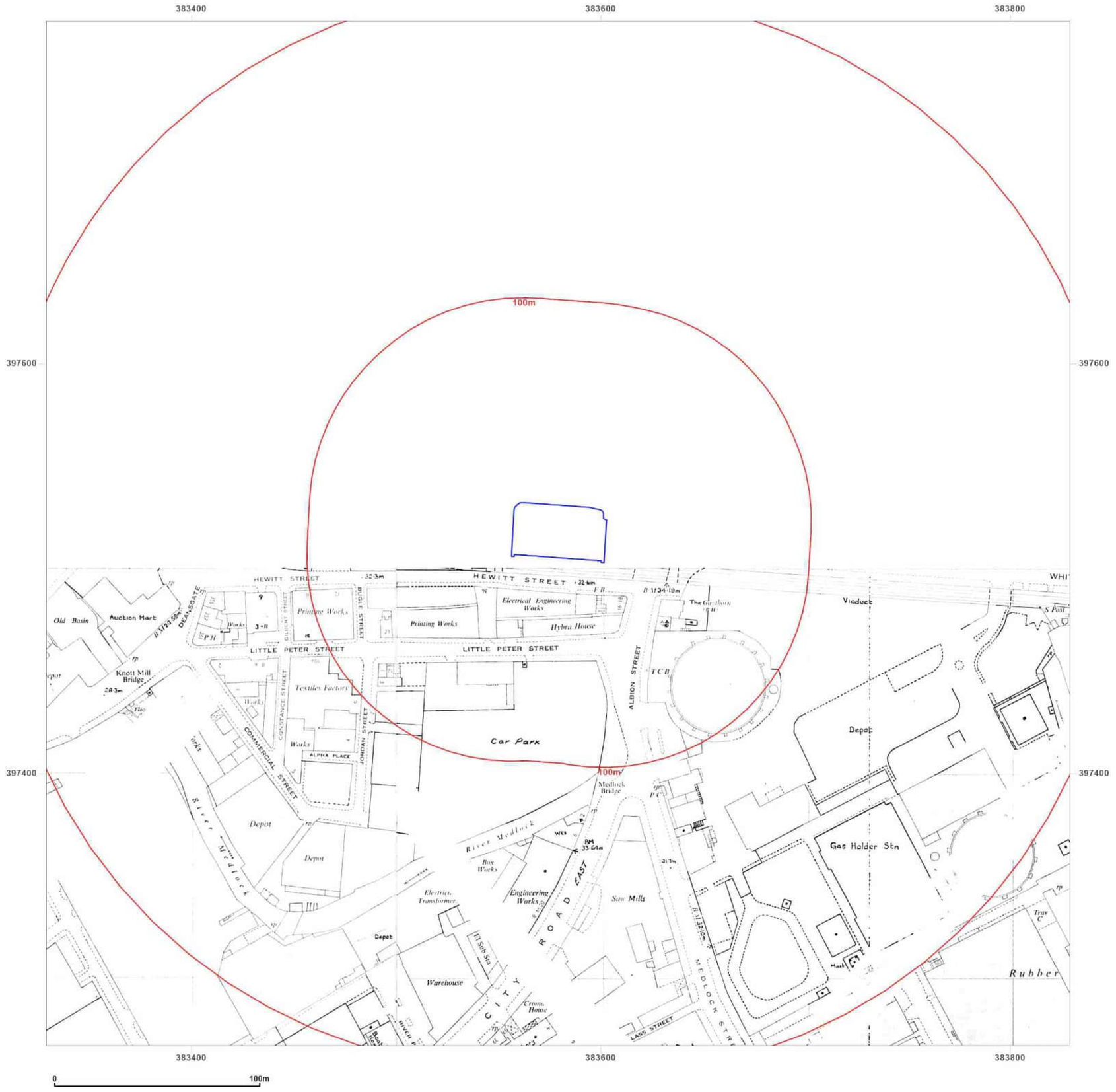
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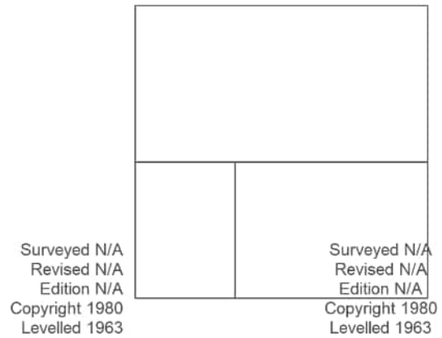
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Whitworth Street West,
Manchester, M1 5NZ

Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid
Map date: **1980**
Scale: 1:1,250
Printed at: 1:2,000

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Groundsure INSIGHTS

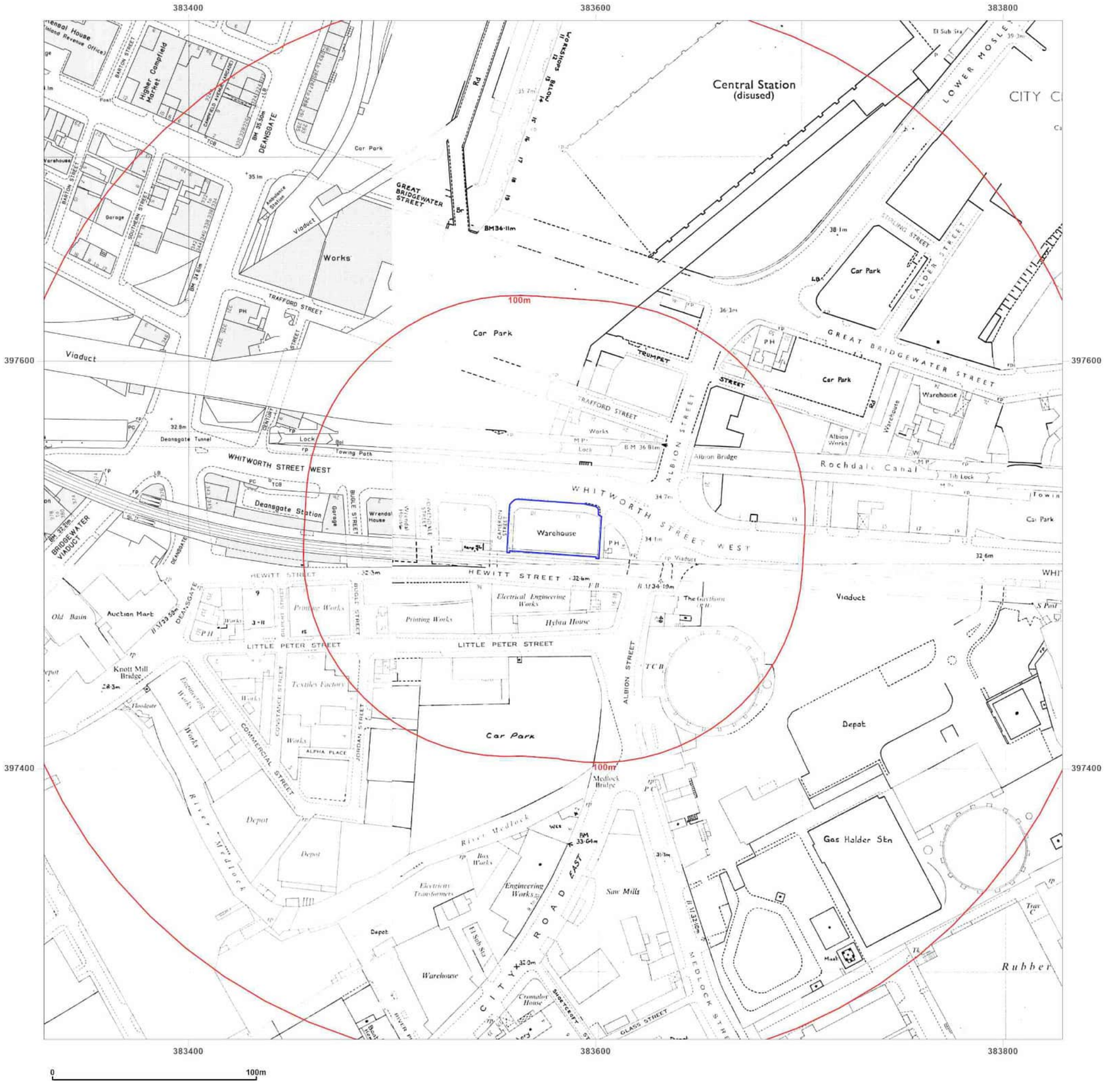
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Site Details:

Whitworth Street West,
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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **1980-1985**

Scale: 1:1,250

Printed at: 1:2,000

N
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Surveyed 1948
Revised 1979
Edition N/A
Copyright 1981
Levelled 1963

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1985
Levelled 1963

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1980
Levelled 1963

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1980
Levelled 1963

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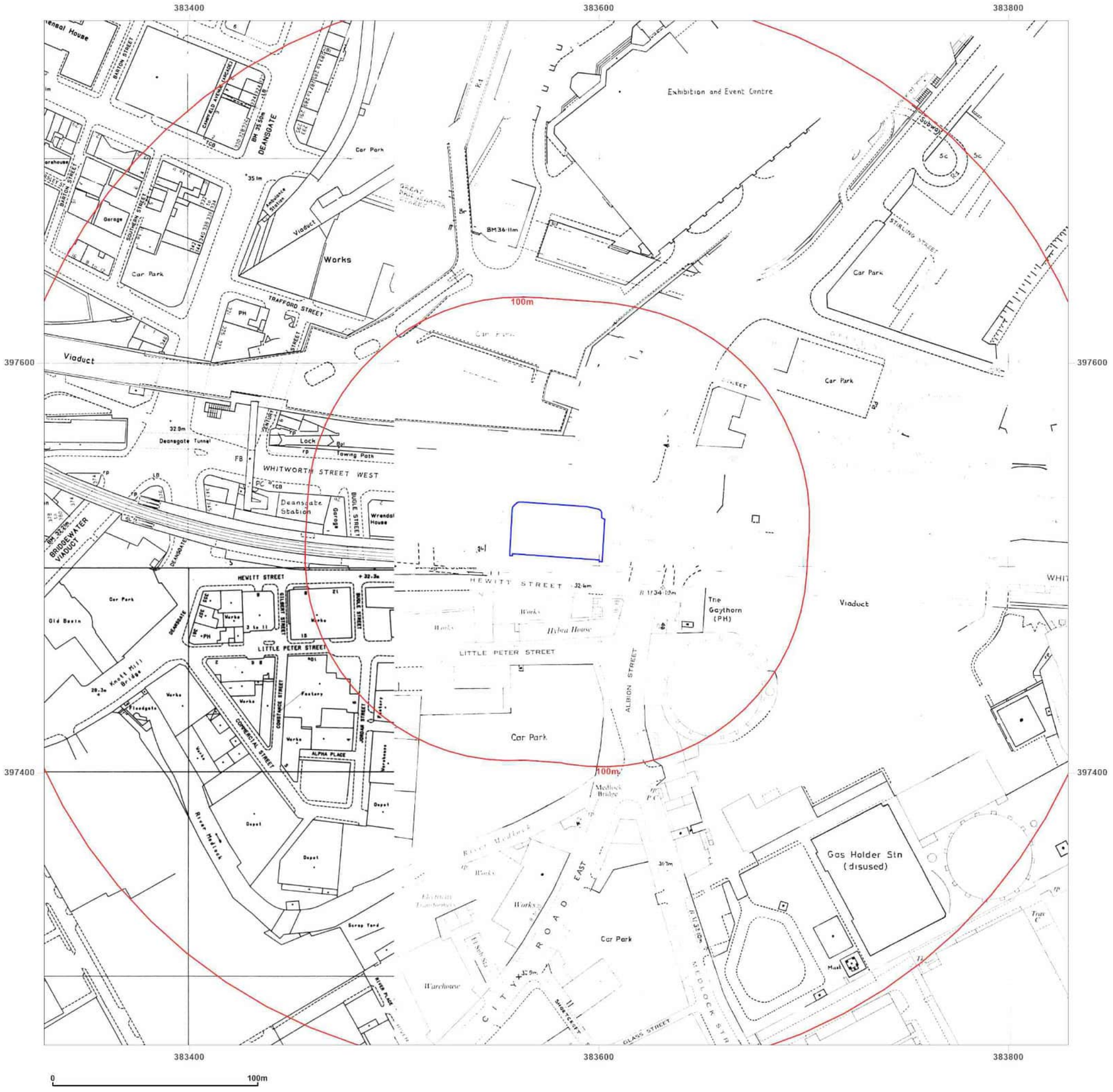
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Site Details:

Whitworth Street West,
Manchester, M1 5NZ

Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **1985-1990**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1963 Revised 1986 Edition N/A Copyright 1986 Levelled 1963	Surveyed N/A Revised N/A Edition N/A Copyright 1986 Levelled 1963
Surveyed 1968 Revised 1968 Edition N/A Copyright 1990 Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright 1985 Levelled 1963

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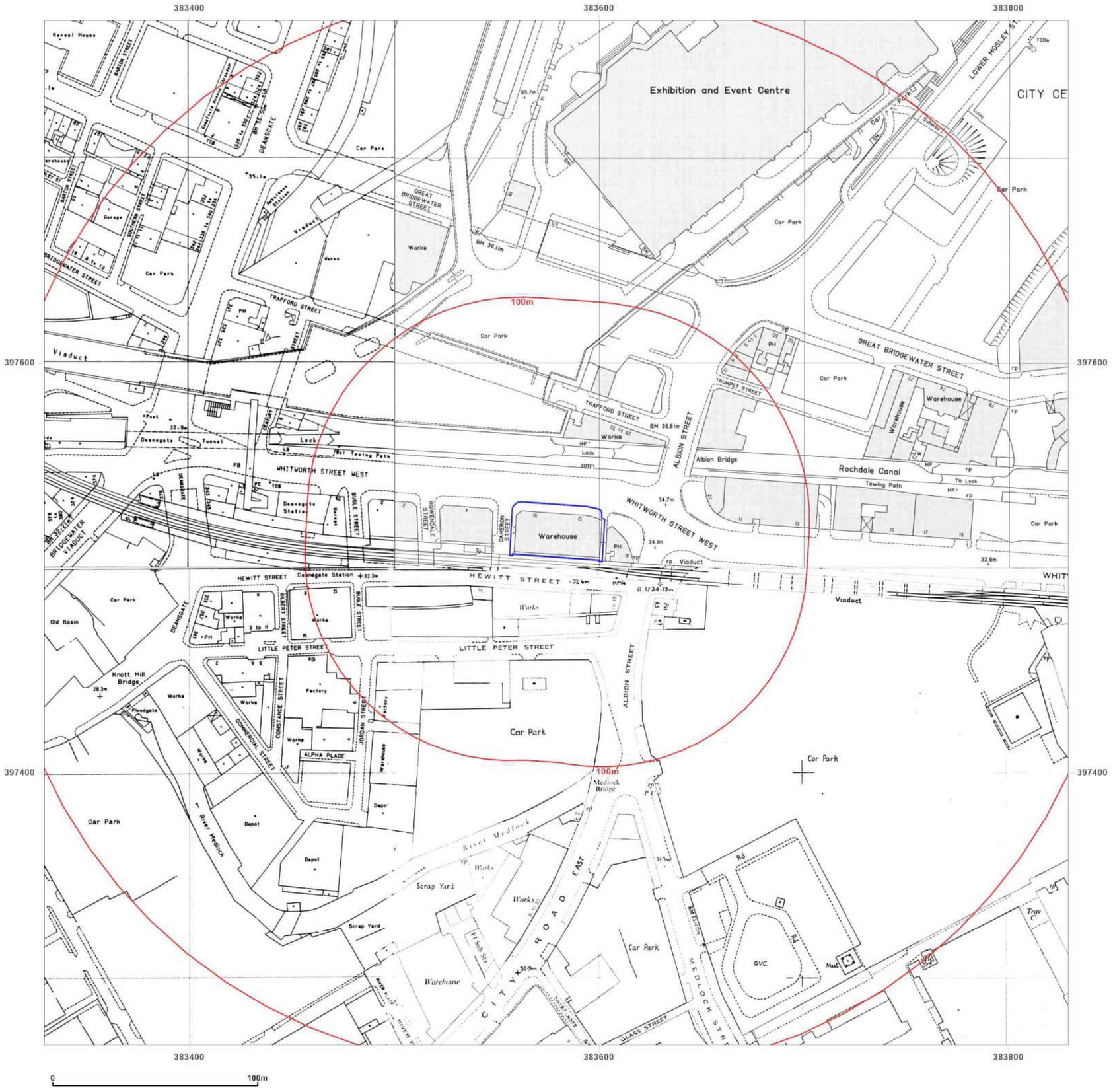
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Site Details:

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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **1987-1992**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
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Surveyed 1948 Revised 1979 Edition N/A Copyright 1990 Levelled N/A	Surveyed 1948 Revised 1987 Edition N/A Copyright 1988 Levelled 1963
Surveyed N/A Revised N/A Edition N/A Copyright 1992 Levelled N/A	Surveyed N/A Revised 1987 Edition N/A Copyright 1987 Levelled 1963

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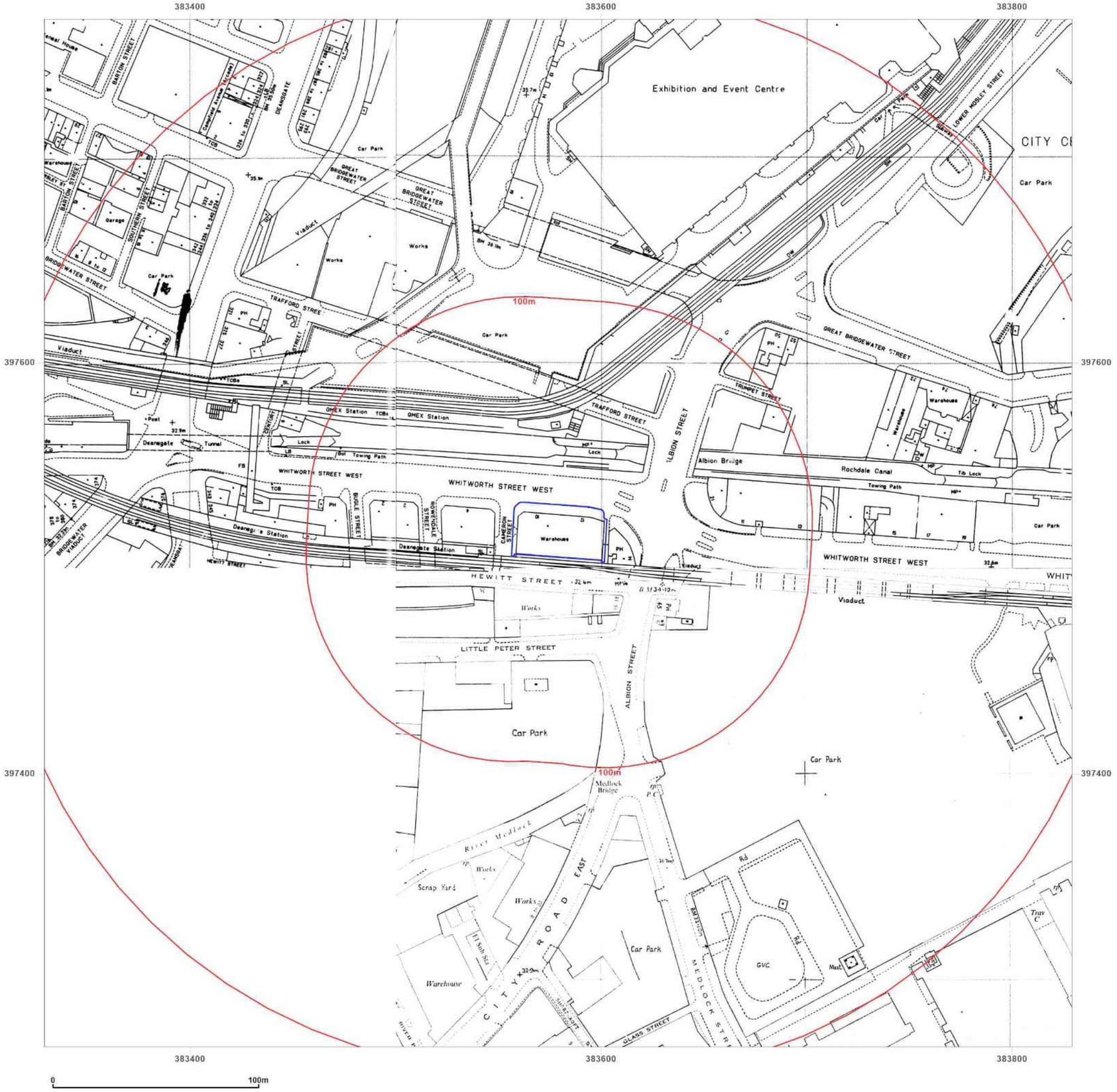
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Site Details:

Whitworth Street West,
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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **1987-1992**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

Surveyed 1963
Revised 1987
Edition N/A
Copyright 1987
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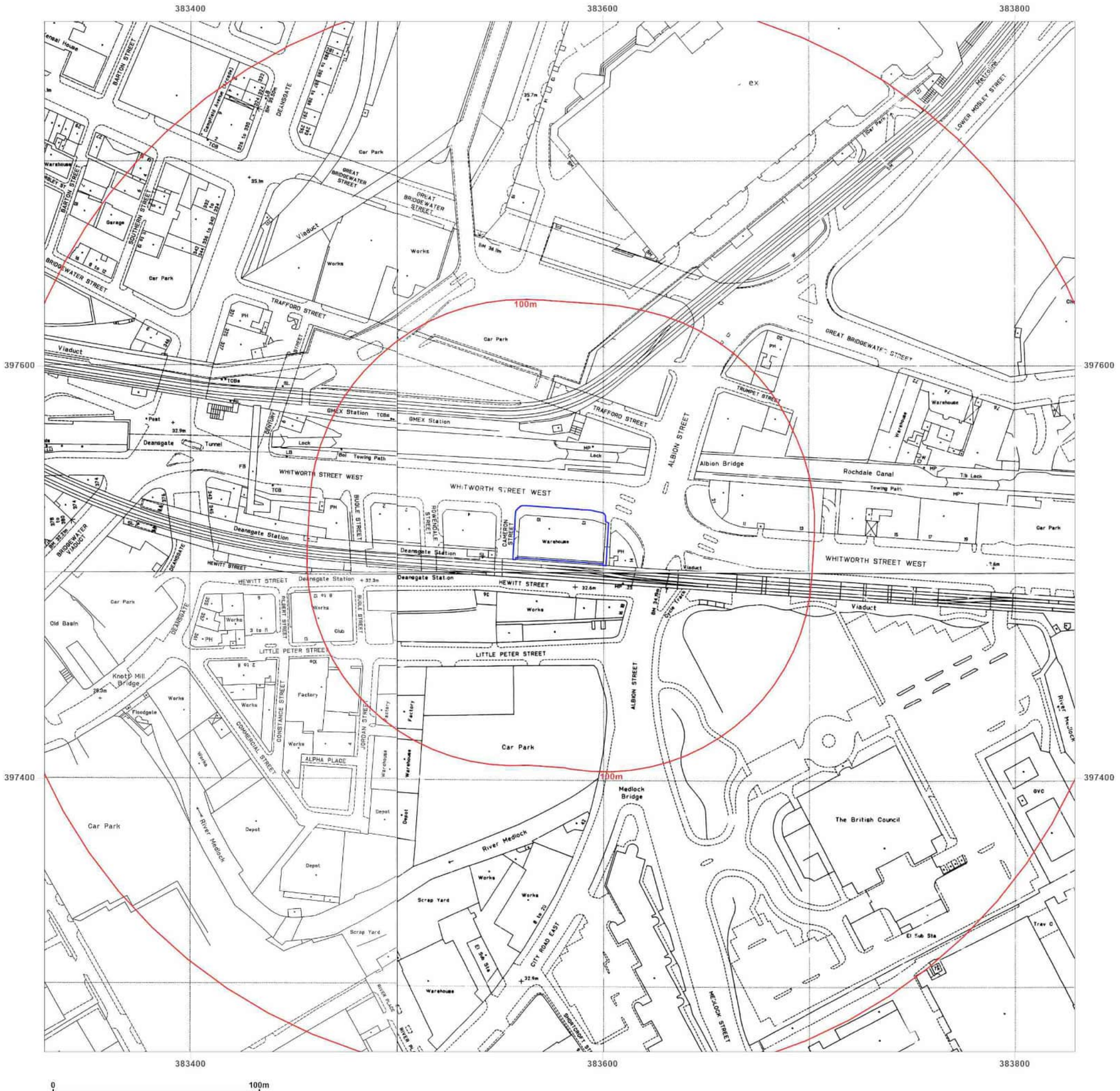
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Site Details:

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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **1992-1995**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1994 Revised 1994 Edition N/A Copyright 1994 Levelled N/A	Surveyed N/A Revised 1994 Edition N/A Copyright 1994 Levelled N/A
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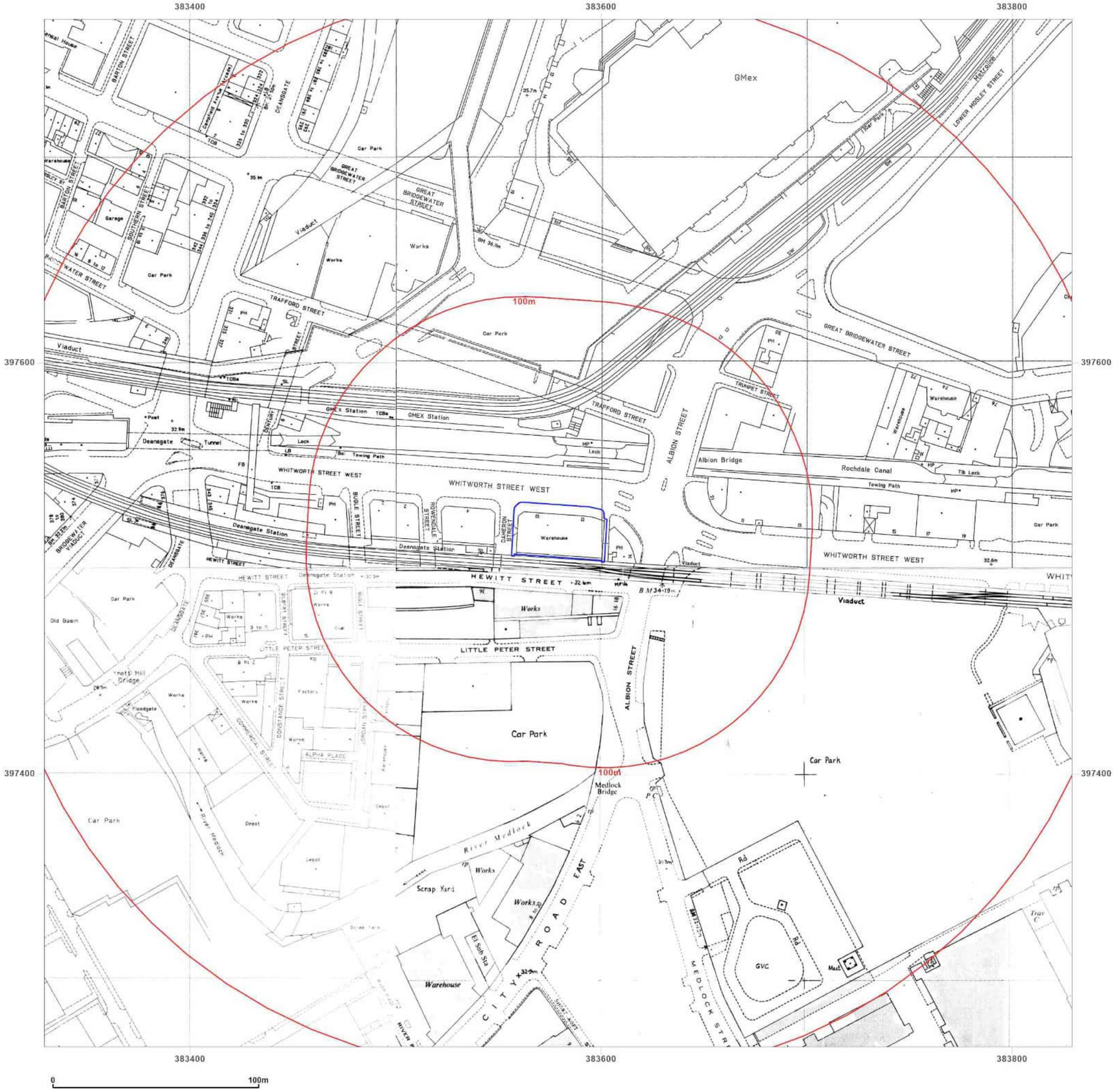
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Site Details:

Whitworth Street West,
Manchester, M1 5NZ

Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **1990-1995**

Scale: 1:1,250

Printed at: 1:2,000

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Revised N/A
Edition N/A
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Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1994
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1995
Levelled N/A

Surveyed 1963
Revised 1990
Edition N/A
Copyright 1990
Levelled 1963

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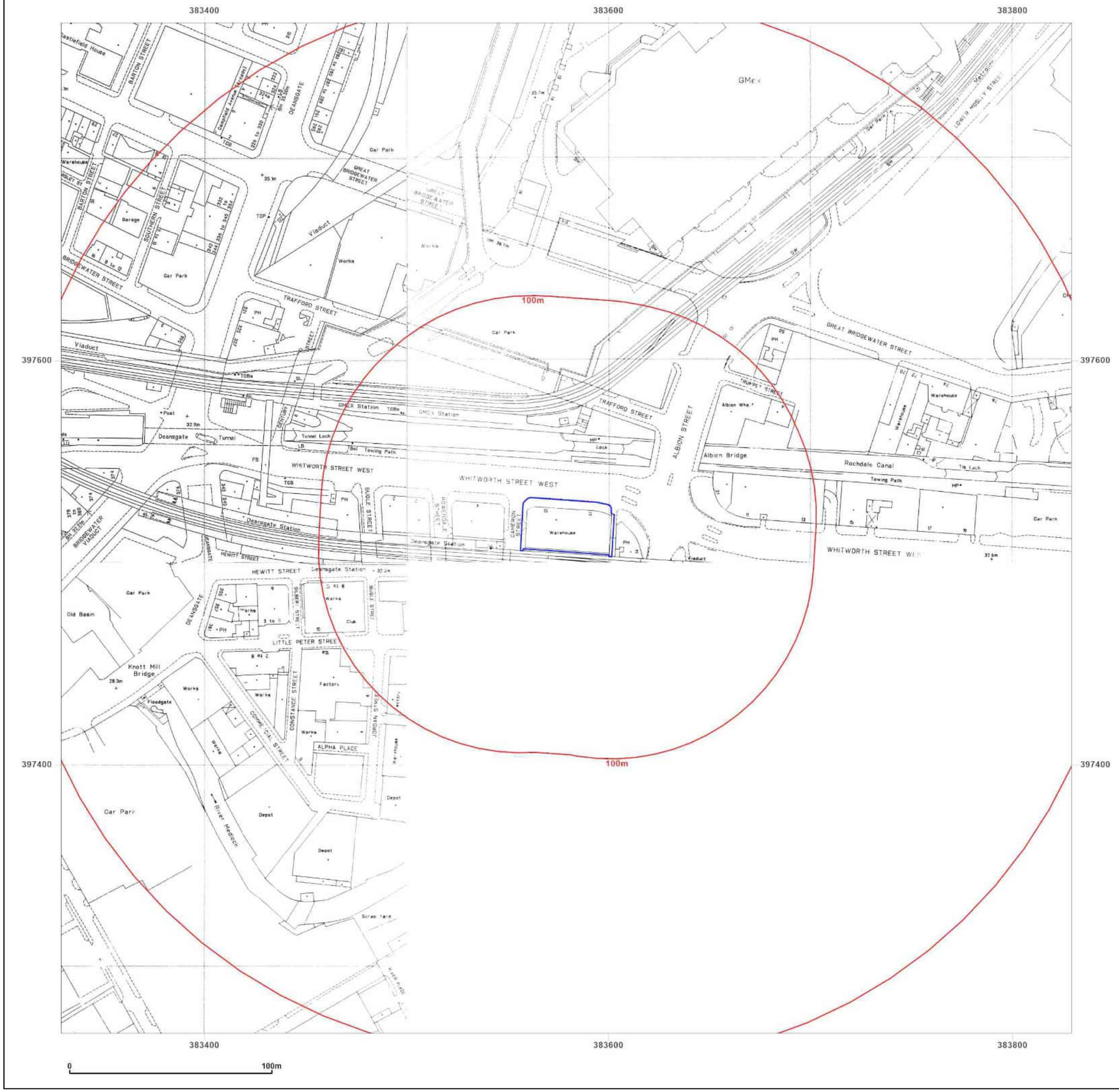
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Site Details:

Whitworth Street West,
Manchester, M1 5NZ

Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **1995**

Scale: 1:1,250

Printed at: 1:2,000

N
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Surveyed 1995
Revised 1995
Edition N/A
Copyright 1995
Levelled N/A

Surveyed N/A
Revised 1995
Edition N/A
Copyright 1995
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
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Levelled N/A

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Revised N/A
Edition N/A
Copyright 1995
Levelled N/A

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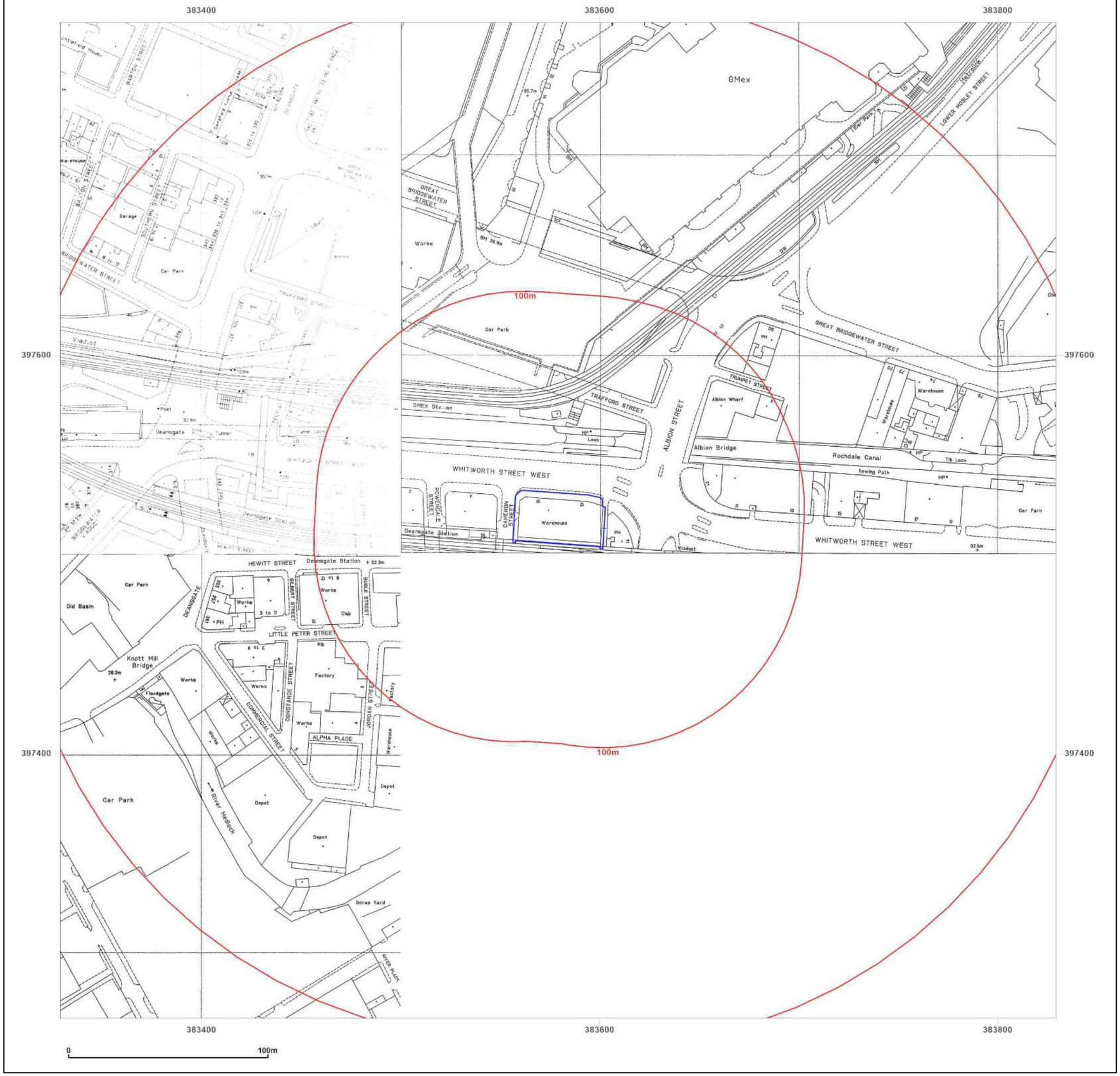
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Site Details:

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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **1995**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1995
Levelled N/A

Surveyed N/A
Revised 1995
Edition N/A
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Revised 1995
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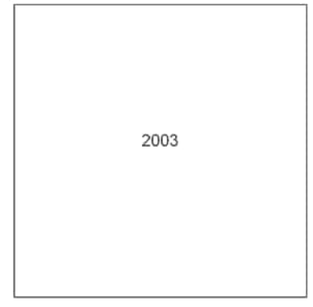
Site Details:

Whitworth Street West,
Manchester, M1 5NZ

Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
Printed at: 1:1,250

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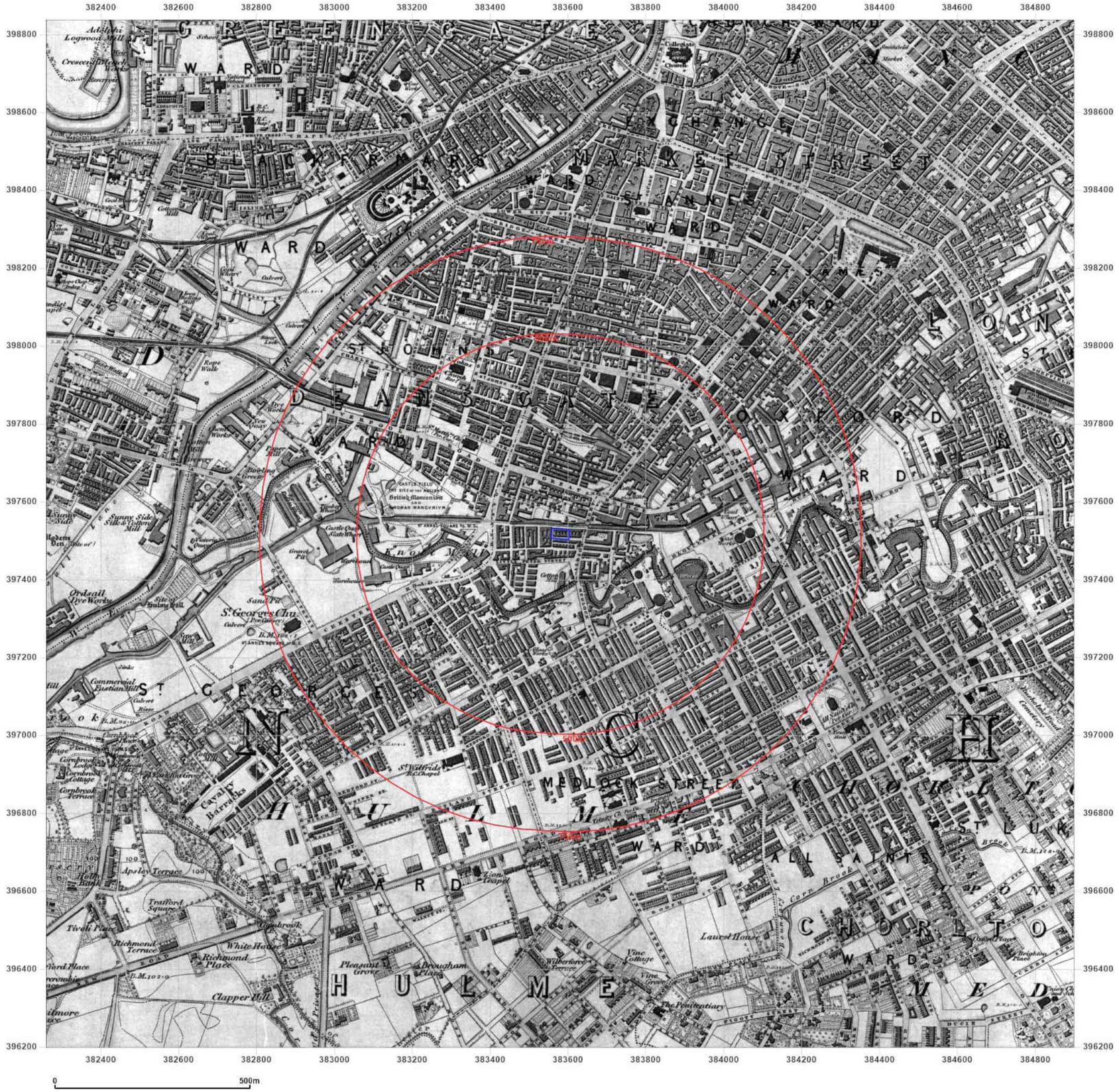


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Site Details:

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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: County Series

Map date: **1848**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
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Surveyed 1845
Revised N/A
Edition 1848
Copyright N/A
Levelled N/A

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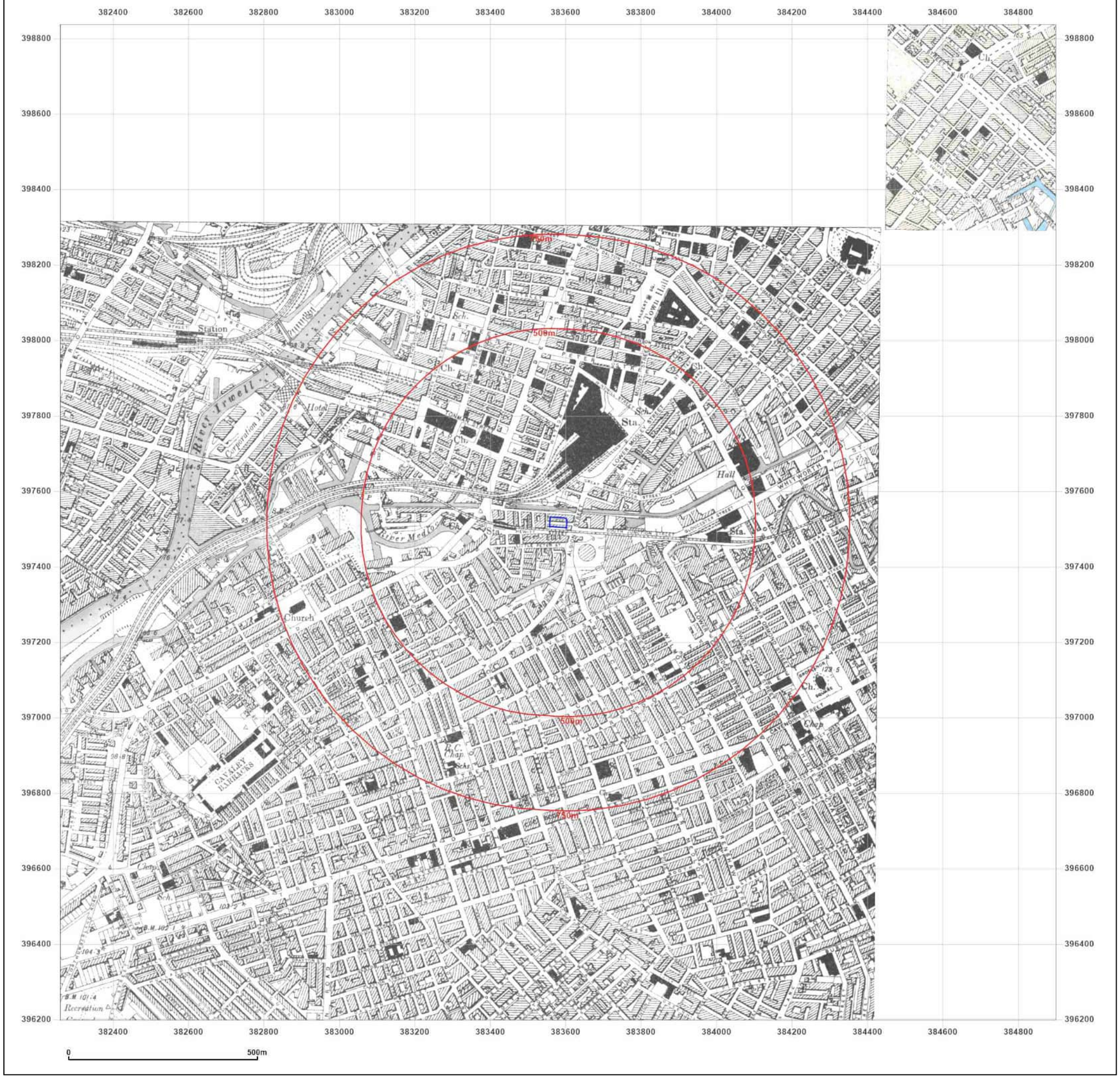
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Site Details:

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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: County Series

Map date: **1891-1896**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
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Surveyed 1891
Revised 1891
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1894
Revised 1896
Edition N/A
Copyright N/A
Levelled N/A

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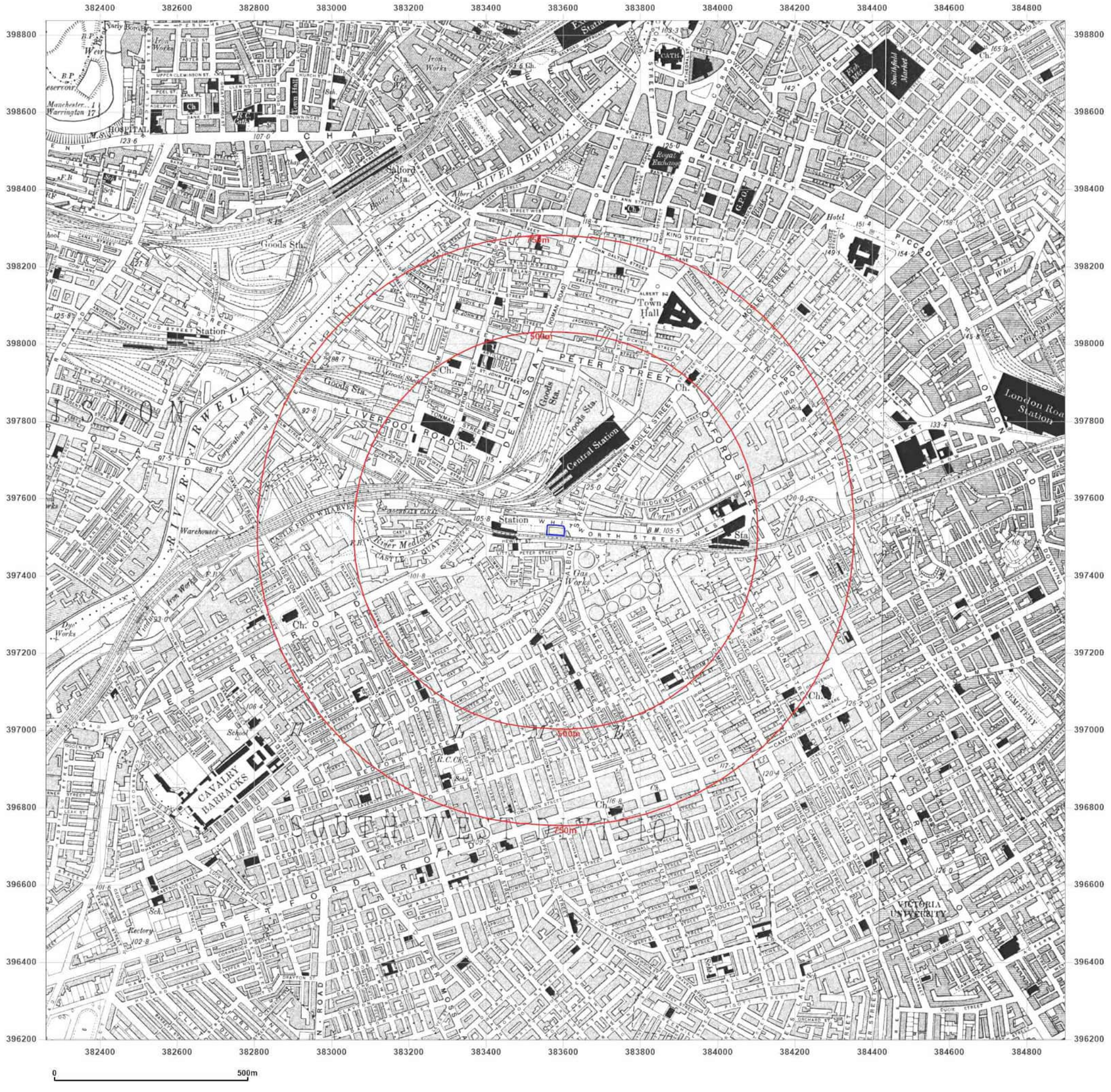
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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: County Series

Map date: **1905-1906**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1844
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1844
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1844
Revised 1905
Edition N/A
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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: County Series

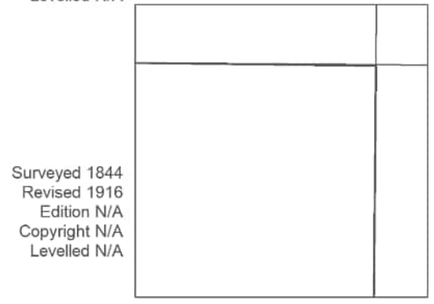
Map date: **1915-1916**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1844
Revised 1916
Edition N/A
Copyright N/A
Levelled N/A



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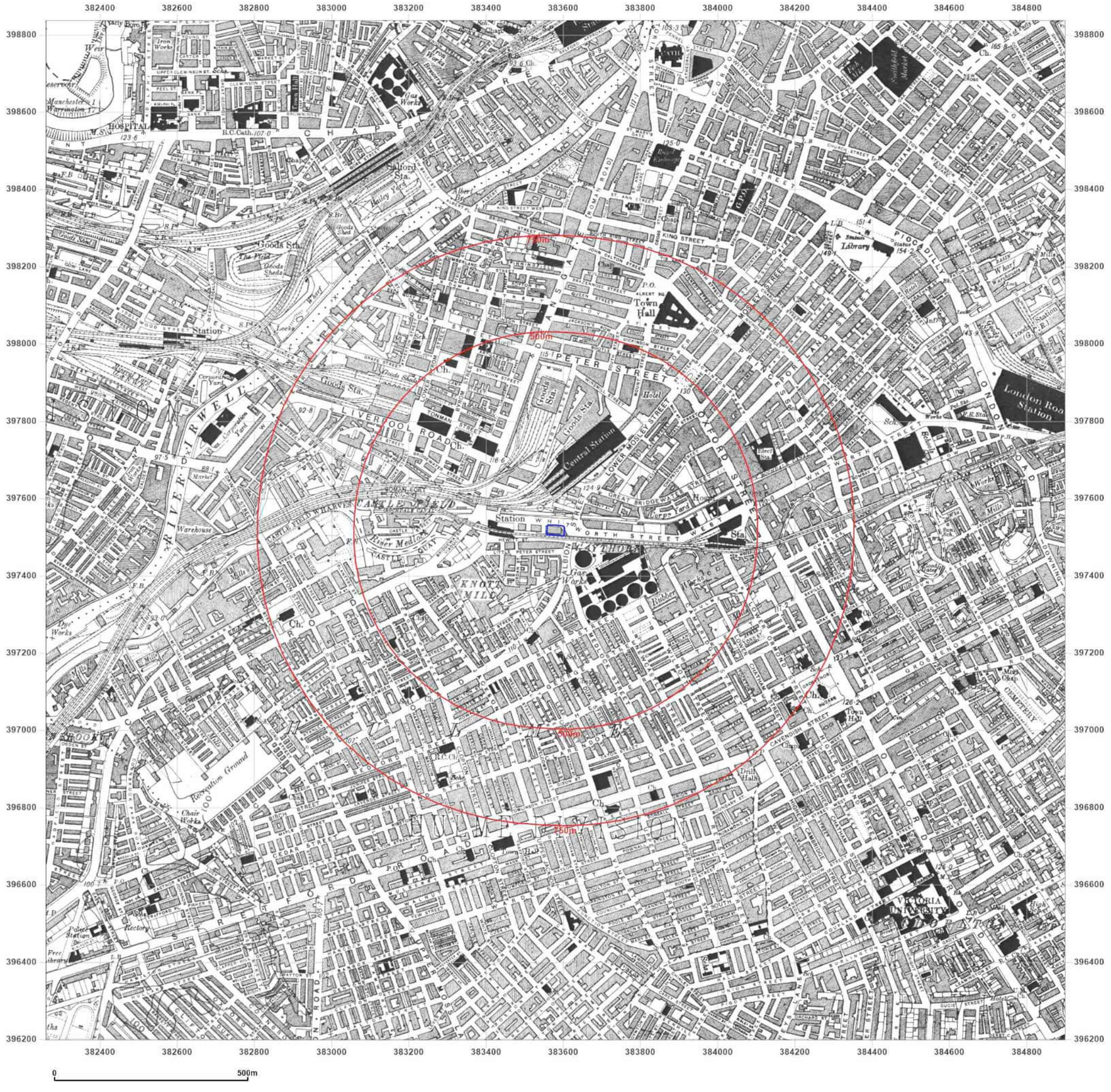
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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: County Series

Map date: **1921-1923**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1844
Revised 1921
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1844
Revised 1923
Edition N/A
Copyright N/A
Levelled N/A

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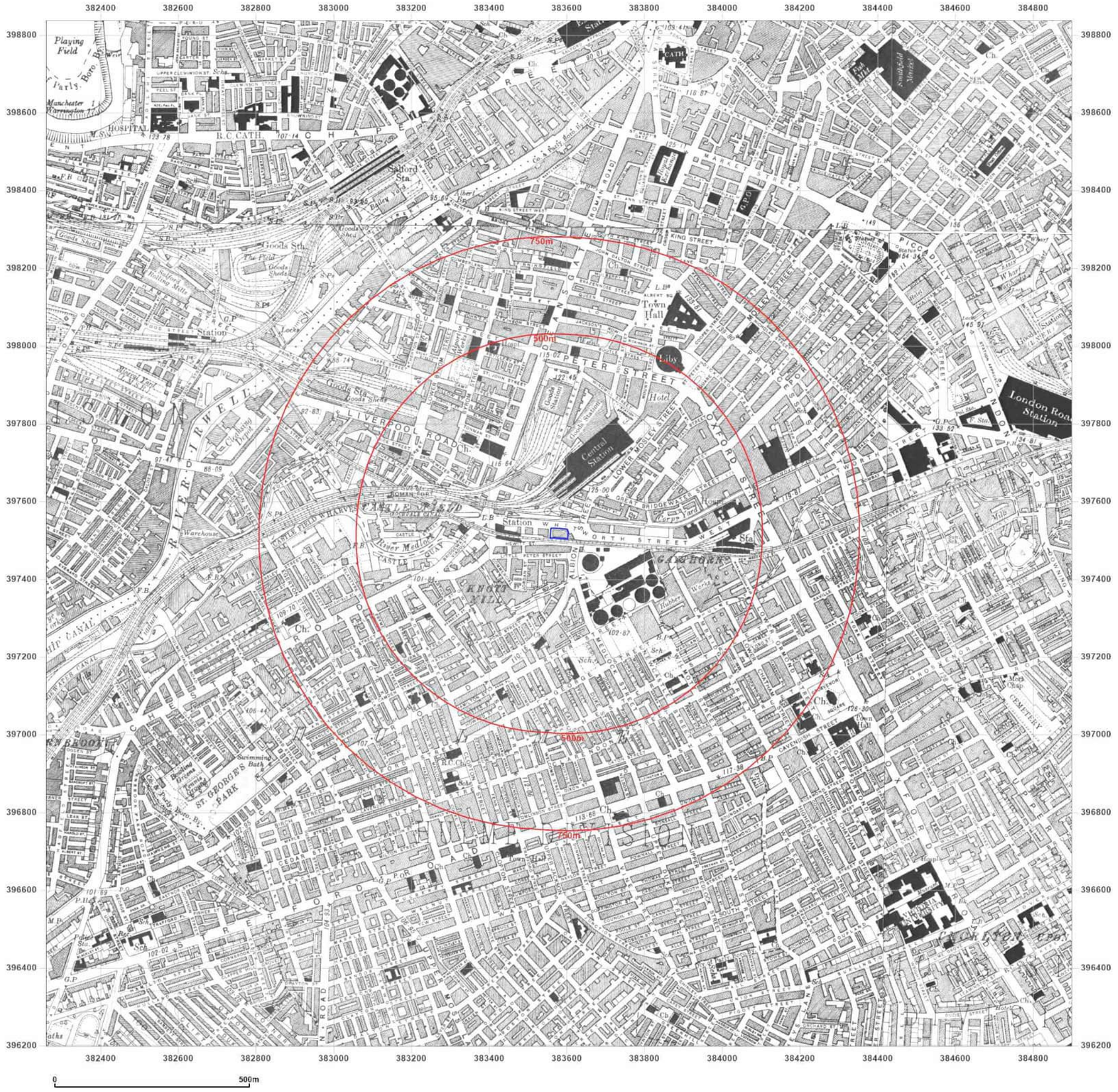
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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: County Series
Map date: **1931-1934**
Scale: 1:10,560
Printed at: 1:10,560

N
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Surveyed 1844
Revised 1931
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1844
Revised 1933
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1844
Revised 1932
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1844
Revised 1934
Edition N/A
Copyright N/A
Levelled N/A

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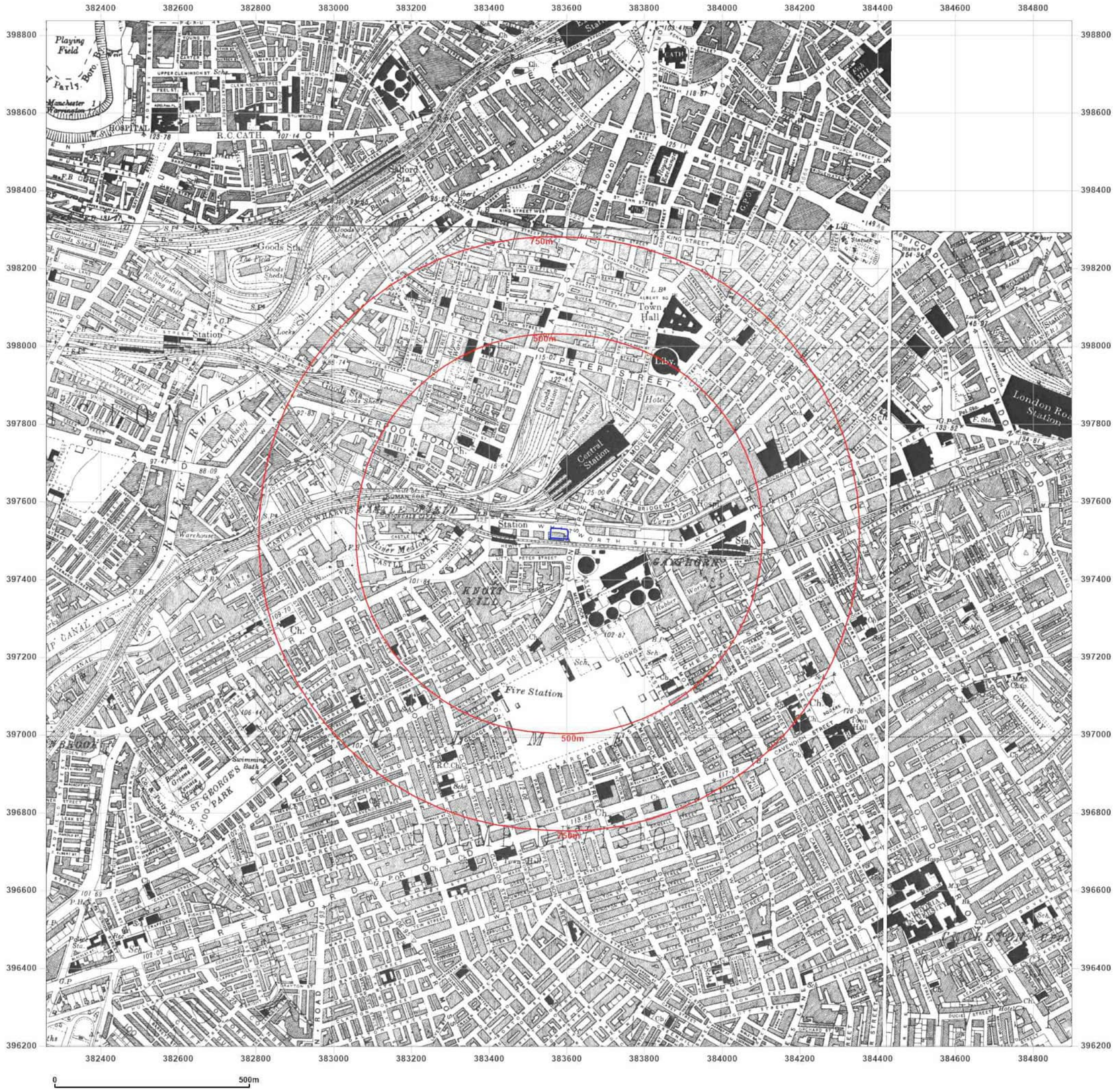
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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: County Series

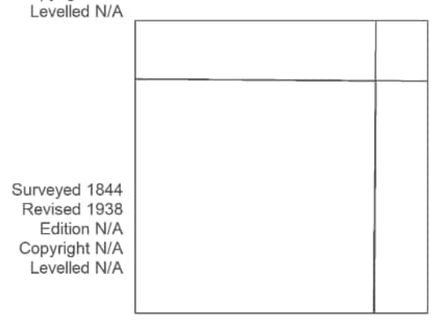
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Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1844
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A



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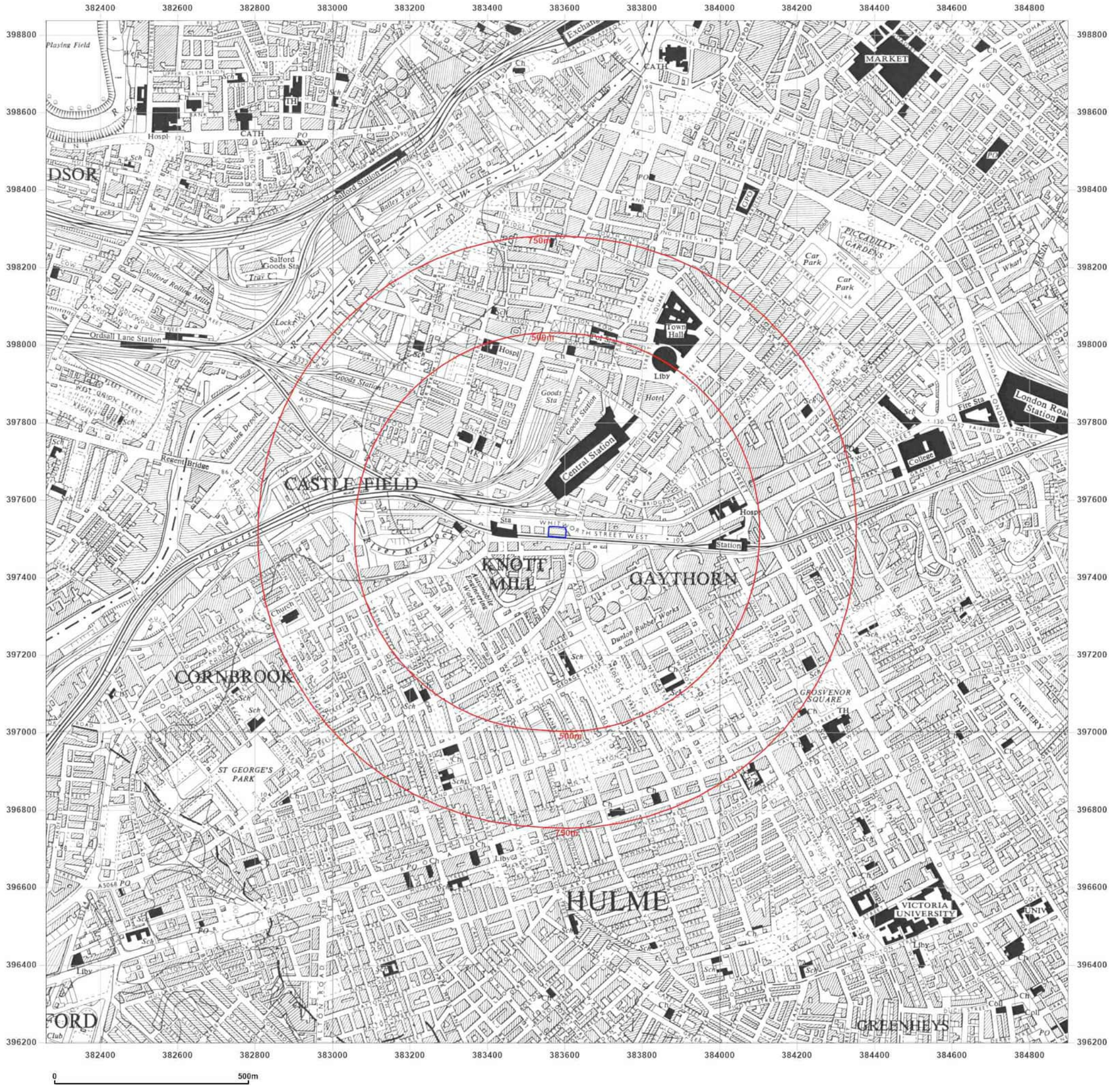
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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: Provisional

Map date: **1956**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1956
Revised 1956
Edition N/A
Copyright N/A
Levelled N/A

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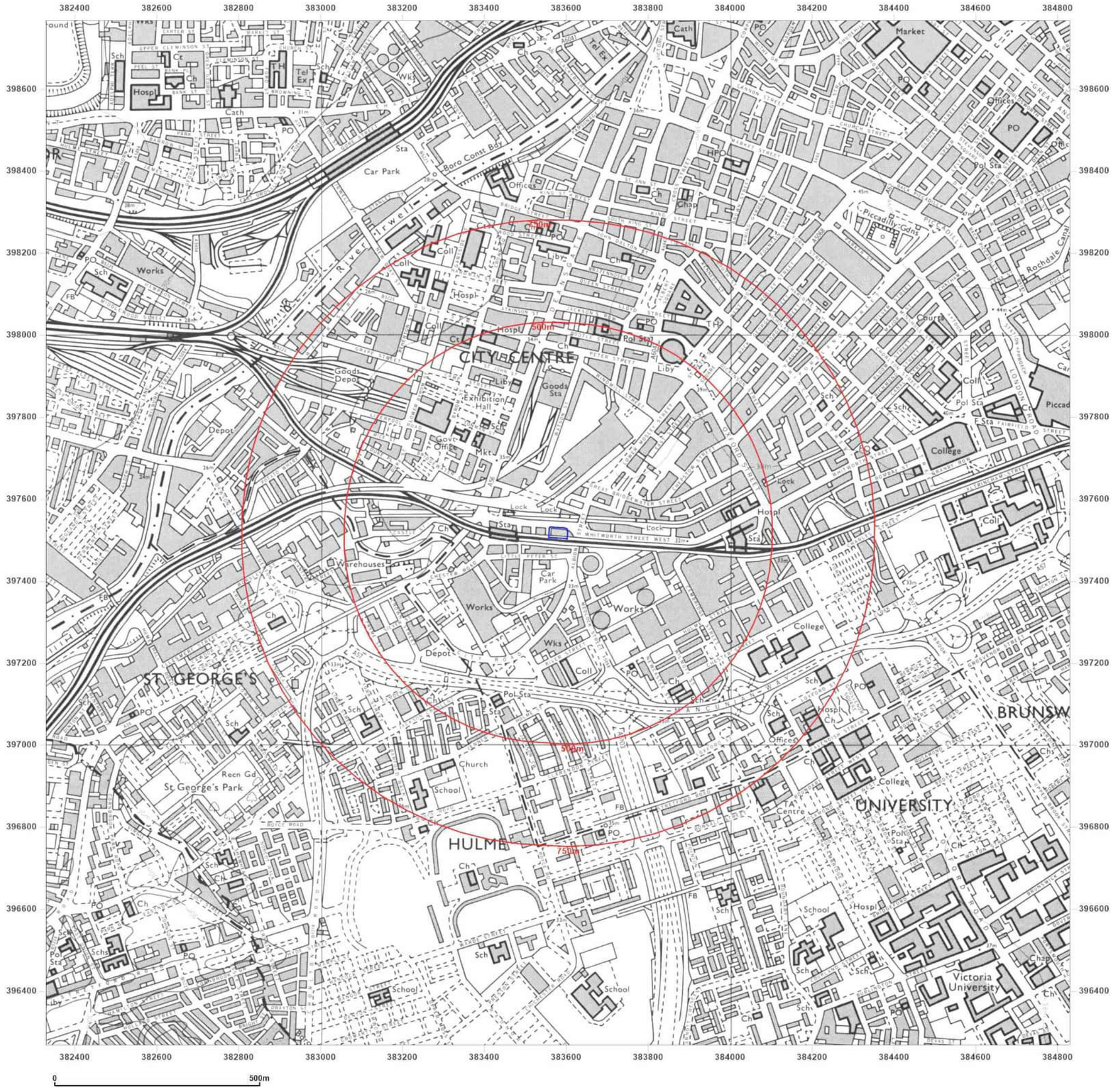
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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **1972**

Scale: 1:10,000

Printed at: 1:10,000

N
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Surveyed 1971
Revised 1972
Edition N/A
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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **1980**

Scale: 1:10,000

Printed at: 1:10,000

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Revised 1980
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Site Details:

Whitworth Street West,
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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **1985**

Scale: 1:10,000

Printed at: 1:10,000

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Site Details:

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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **1988**

Scale: 1:10,000

Printed at: 1:10,000

N
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Revised 1988
Edition N/A
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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **1994**

Scale: 1:10,000

Printed at: 1:10,000

N
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Surveyed 1986
Revised 1994
Edition N/A
Copyright N/A
Levelled N/A

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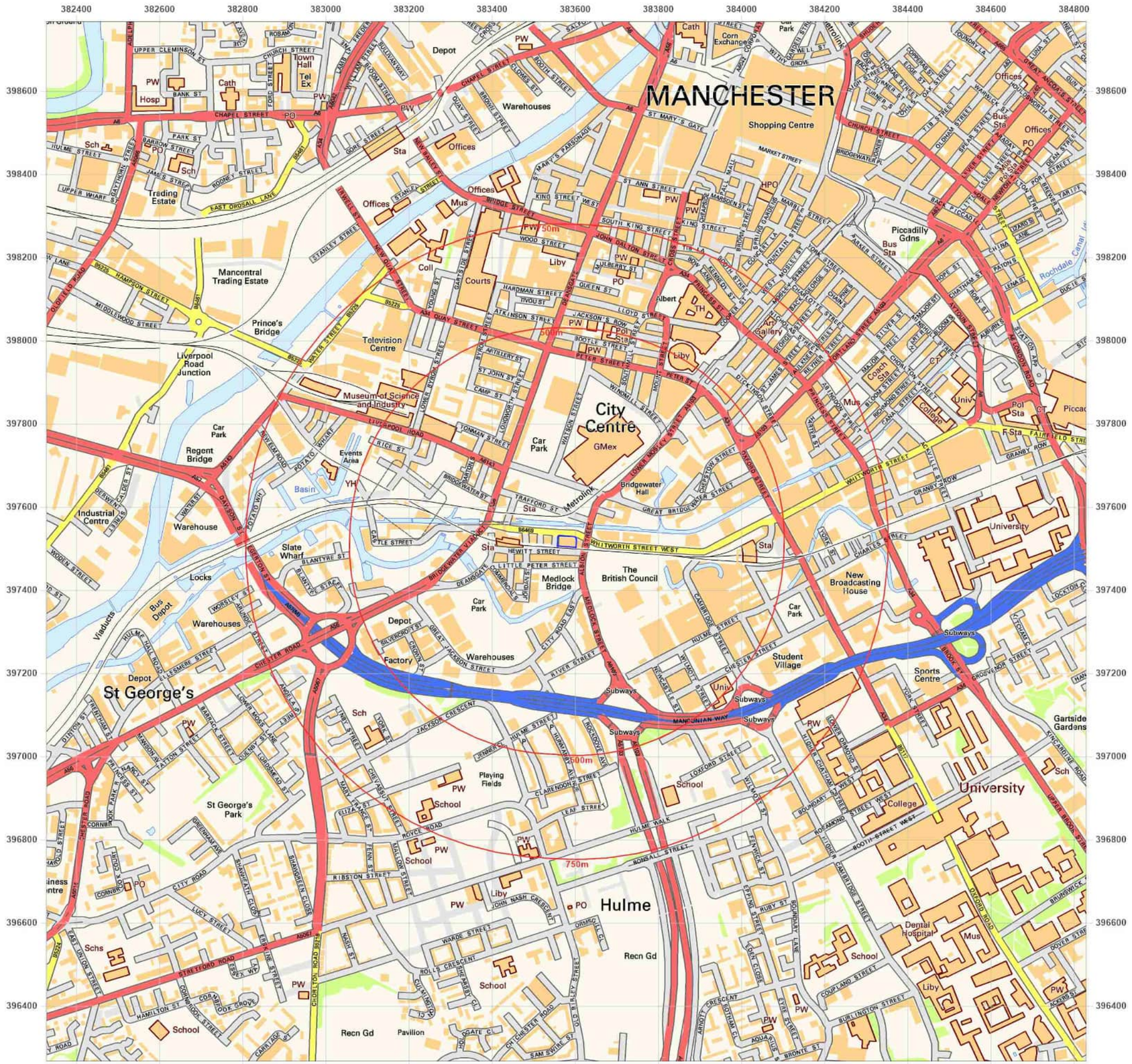
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Site Details:

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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid
Map date: **2001**
Scale: 1:10,000
Printed at: 1:10,000

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2001

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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

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2010

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Site Details:

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Client Ref: C5504-5783-SD
Report Ref: BRO-9FZ-NG9-Z92-DTF
Grid Ref: 383579, 397517

Map Name: National Grid

Map date: **2024**

Scale: 1:10,000

Printed at: 1:10,000

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Fire Insurance Plans

Groundsure
LOCATION INTELLIGENCE

Address
Whitworth Street West, Manchester, M1 5NZ

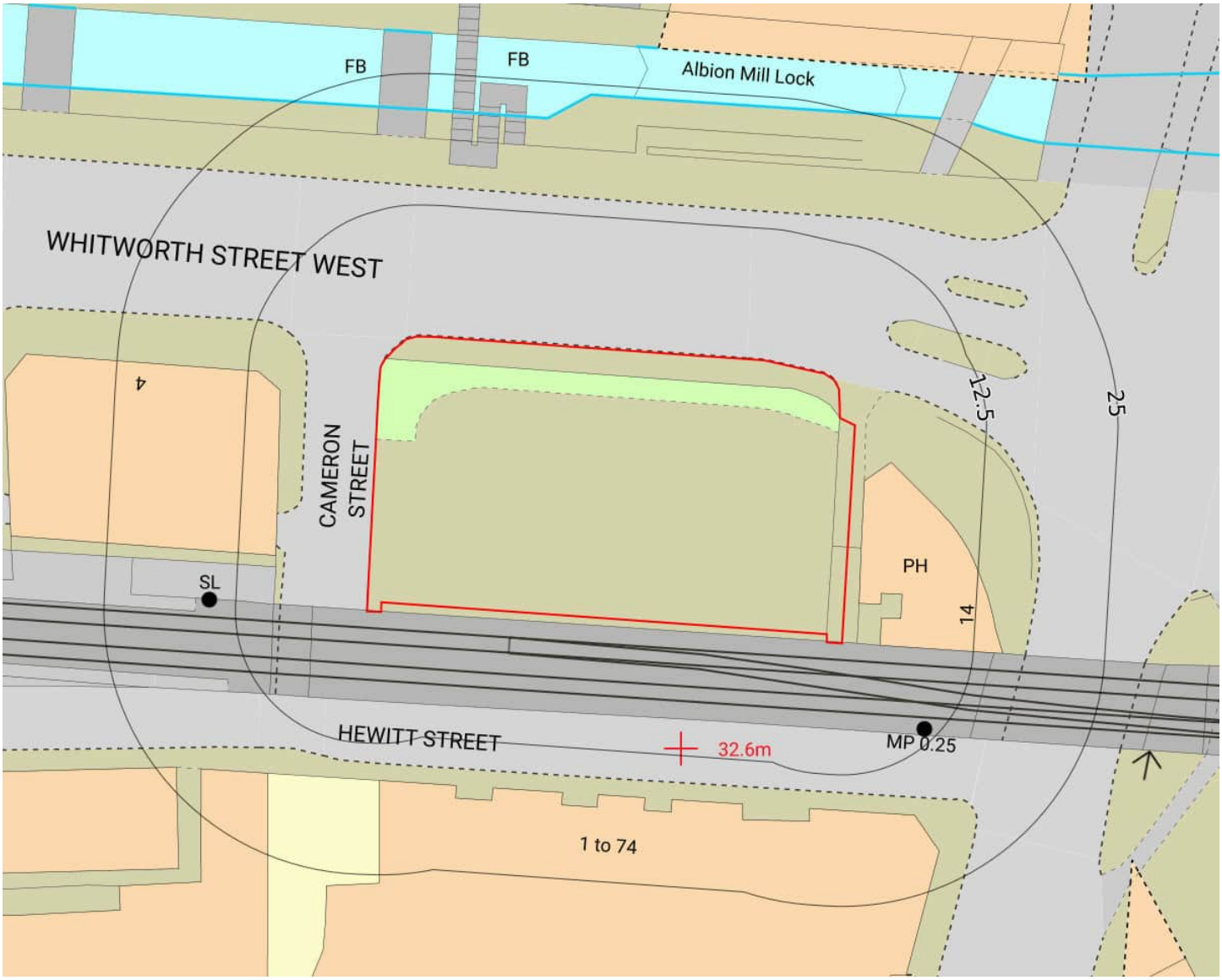
Your reference
C5504-5783-SD

Date
21/10/2024

Groundsure reference
BRO-T5T-6Q2-3UA-EO8

Grid reference
383579 397518

N



Contact us with any questions at:
info@groundsure.com
01273 257 755

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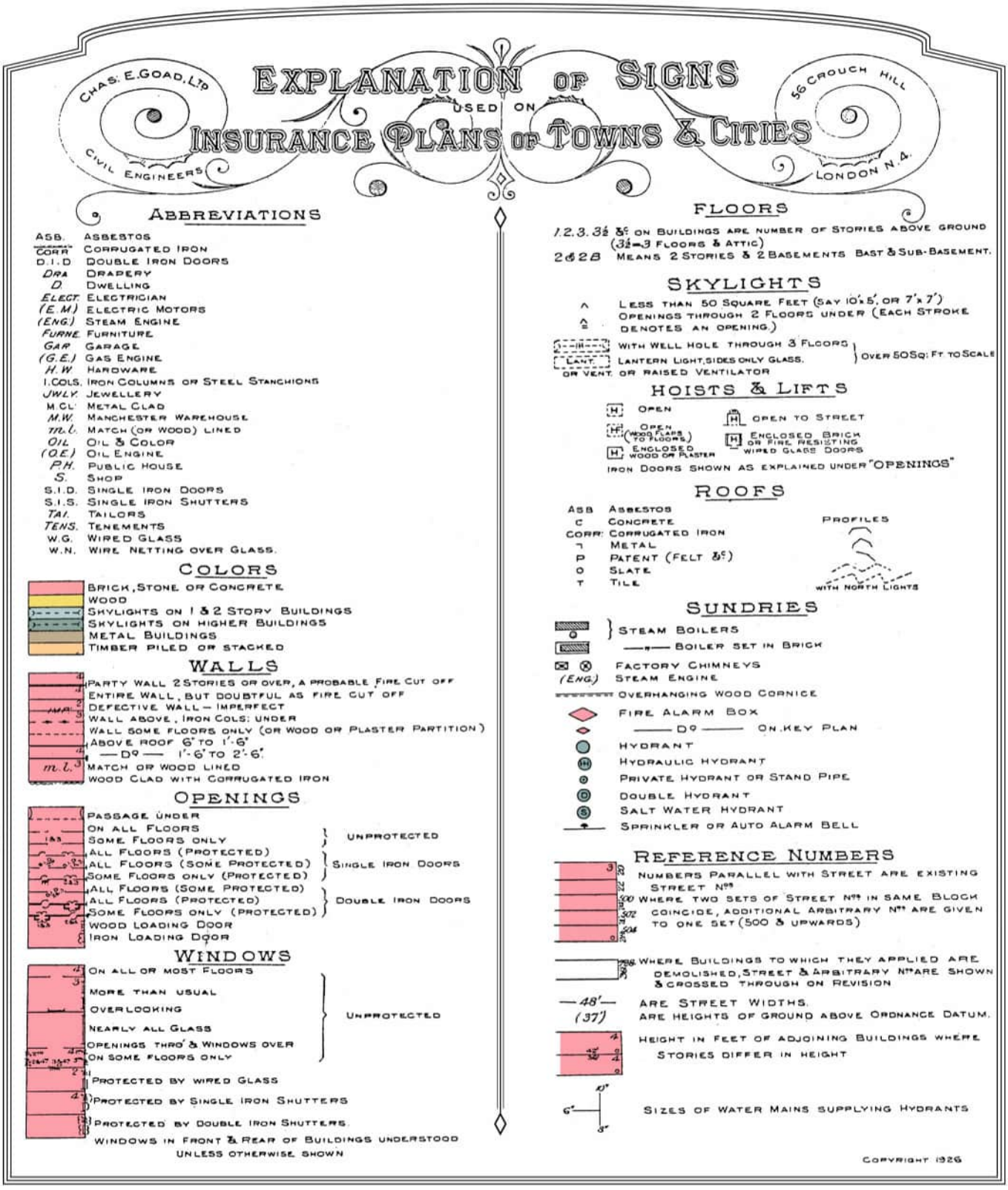
Groundsure
LOCATION INTELLIGENCE

1928, 1928, 1928 Manchester, 3-plan composite



Groundsure
LOCATION INTELLIGENCE

Legend



Further Information

This report contains all Goad plans available for your chosen location. Where plans cover only part of the mapped area, modern background mapping has been included for additional context.

Charles E. Goad

Goad plans were originally produced as Fire Insurance Plans (F.I.Ps) by Charles E. Goad Ltd. in the late 19th century. In addition to showing the materials used in building construction and the location of water supplies, the maps show the location of particular fire hazards such as chemical storage and processing areas, ovens and other such areas which are of interest to contaminated land practitioners. The first plans appeared in 1886, and by 1896 the collection comprised 73 volumes of plans for 37 cities. By 1912 the collection had grown to 124 volumes across 57 cities, though following this there was no significant expansion to new towns. Many cities saw significantly expanded coverage between 1928 and 1935, and regular revision of plans continued until the 1970s.

The maps were produced for the most important towns and cities in Great Britain at a scale of 1:480 (1 inch to 40 feet). Coverage for these towns varies according to the town's relative importance at the time, from an industrial and social perspective. All maps shown in this report are north-orientated and seamlessly stitched together with other maps of a similar age. Gaps in the mapping are filled in with contemporary mapping to provide a clear location context for the study site.

Contact Us

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01273 257 755

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www.groundsure.com/terms-and-conditions-april-2023/ ↗

APPENDIX C

Geo-Environmental Data Report

Groundsure
LOCATION INTELLIGENCE

Enviro+Geo Insight

Whitworth Street West, Manchester, M1 5NZ

Order Details

Date: 21/10/2024

Your ref: C5504-5783-SD

Our Ref: BRO-QKC-ZDX-M4N-894

Site Details

Location: 383579 397518

Area: 0.11 ha

Authority: Manchester City Council ↗



Summary of findings p. 2 >

OS MasterMap site plan p.14 >

Aerial image p. 9 >

Insight User Guide ↗

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info@groundsure.com ↗
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Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	0	11	79	94	-
22 >	1.2 >	Historical tanks >	0	3	78	53	-
27 >	1.3 >	Historical energy features >	0	3	26	24	-
30	1.4	Historical petrol stations	0	0	0	0	-
30 >	1.5 >	Historical garages >	0	0	10	27	-
32	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
33 >	2.1 >	Historical industrial land uses >	0	16	139	137	-
44 >	2.2 >	Historical tanks >	0	4	128	89	-
52 >	2.3 >	Historical energy features >	0	4	45	50	-
56	2.4	Historical petrol stations	0	0	0	0	-
56 >	2.5 >	Historical garages >	0	0	23	51	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
60	3.1	Active or recent landfill	0	0	0	0	-
60	3.2	Historical landfill (BGS records)	0	0	0	0	-
61	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
61	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
61 >	3.5 >	Historical waste sites >	0	0	7	9	-
63 >	3.6 >	Licensed waste sites >	0	0	0	1	-
64 >	3.7 >	Waste exemptions >	0	1	42	26	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
70 >	4.1 >	Recent industrial land uses >	0	2	22	-	-
72 >	4.2 >	Current or recent petrol stations >	0	0	0	1	-
72	4.3	Electricity cables	0	0	0	0	-
72	4.4	Gas pipelines	0	0	0	0	-
73	4.5	Sites determined as Contaminated Land	0	0	0	0	-

73	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
73	4.7	Regulated explosive sites	0	0	0	0	-
73	4.8	Hazardous substance storage/usage	0	0	0	0	-
73	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
74 >	4.10 >	Licensed industrial activities (Part A(1)) >	0	0	2	0	-
74 >	4.11 >	Licensed pollutant release (Part A(2)/B) >	0	0	0	4	-
75	4.12	Radioactive Substance Authorisations	0	0	0	0	-
75 >	4.13 >	Licensed Discharges to controlled waters >	0	0	13	13	-
79	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
79	4.15	Pollutant release to public sewer	0	0	0	0	-
80	4.16	List 1 Dangerous Substances	0	0	0	0	-
80	4.17	List 2 Dangerous Substances	0	0	0	0	-
80 >	4.18 >	Pollution Incidents (EA/NRW) >	0	0	0	1	-
80	4.19	Pollution inventory substances	0	0	0	0	-
81	4.20	Pollution inventory waste transfers	0	0	0	0	-
81	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology >	On site	0-50m	50-250m	250-500m	500-2000m
82 >	5.1 >	Superficial aquifer >	Identified (within 500m)				
84 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
86 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
87	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
87	5.5	Groundwater vulnerability- local information	None (within 0m)				
88 >	5.6 >	Groundwater abstractions >	0	0	0	12	53
104 >	5.7 >	Surface water abstractions >	0	0	0	0	2
105 >	5.8 >	Potable abstractions >	0	0	0	0	9
108 >	5.9 >	Source Protection Zones >	0	0	1	0	-
108	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
109 >	6.1 >	Water Network (OS MasterMap) >	0	3	15	-	-

111 >	6.2 >	Surface water features >	0	2	6	-	-
111 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
112 >	6.4 >	WFD Surface water bodies >	0	1	1	-	-
112 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-

Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
113	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
113	7.2	Historical Flood Events	0	0	0	-	-
113	7.3	Flood Defences	0	0	0	-	-
114	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
114	7.5	Flood Storage Areas	0	0	0	-	-
115 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
116	7.7	Flood Zone 3	None (within 50m)				

Page	Section	Surface water flooding >	
117 >	8.1 >	Surface water flooding >	1 in 250 year, 0.1m - 0.3m (within 50m)

Page	Section	Groundwater flooding >	
119 >	9.1 >	Groundwater flooding >	Moderate-High (within 50m)

Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
120	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
120	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
120	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
120	10.4	Special Protection Areas (SPA)	0	0	0	0	0
121	10.5	National Nature Reserves (NNR)	0	0	0	0	0
121	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
121	10.7	Designated Ancient Woodland	0	0	0	0	0
121	10.8	Biosphere Reserves	0	0	0	0	0
122	10.9	Forest Parks	0	0	0	0	0
122	10.10	Marine Conservation Zones	0	0	0	0	0
122	10.11	Green Belt	0	0	0	0	0
122	10.12	Proposed Ramsar sites	0	0	0	0	0

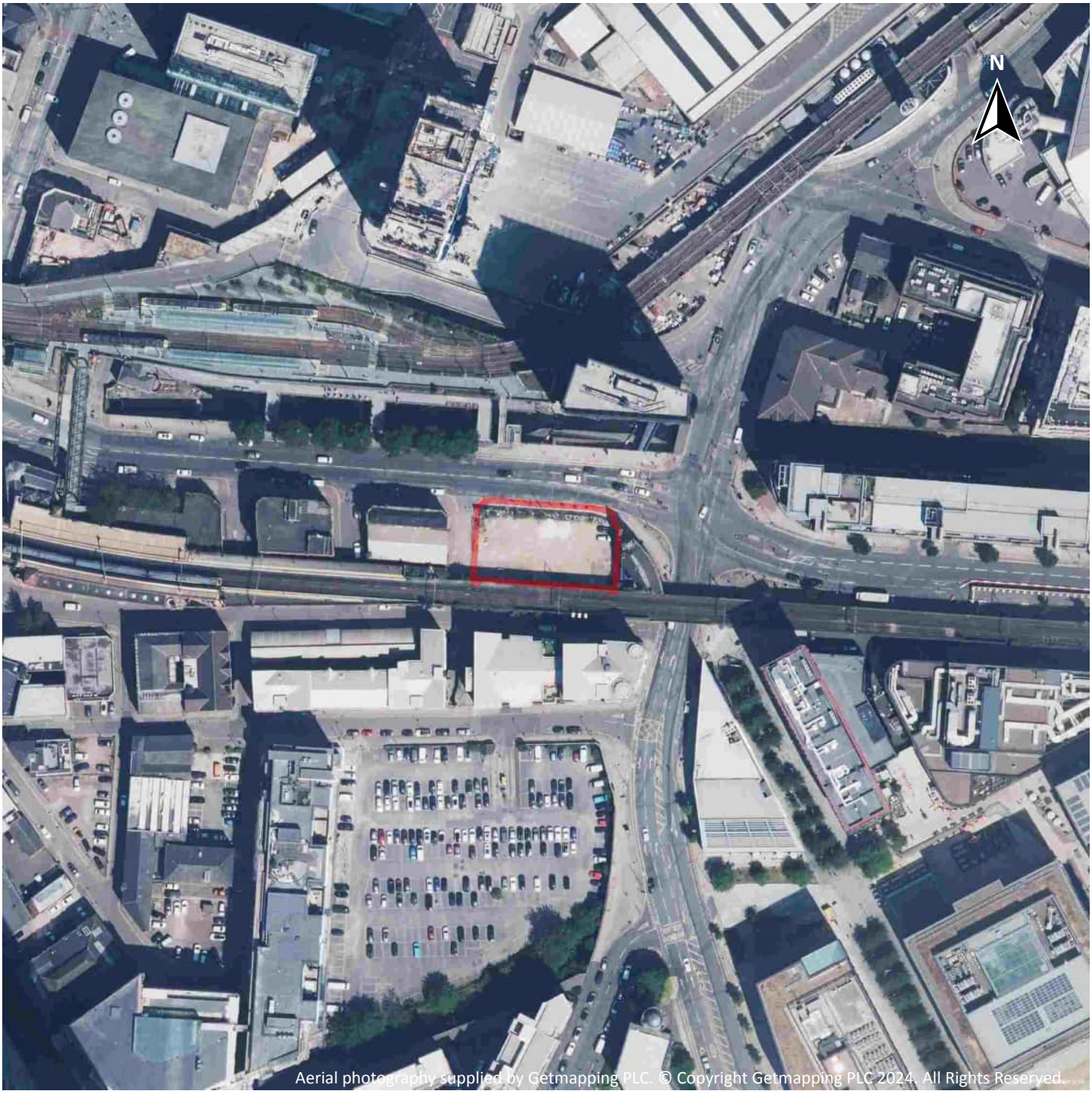
122	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
123	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
123	10.15	Nitrate Sensitive Areas	0	0	0	0	0
123 >	10.16 >	Nitrate Vulnerable Zones >	0	0	0	0	3
124 >	10.17 >	SSSI Impact Risk Zones >	1	-	-	-	-
125	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
126	11.1	World Heritage Sites	0	0	0	-	-
127	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
127	11.3	National Parks	0	0	0	-	-
127 >	11.4 >	Listed Buildings >	0	1	15	-	-
128 >	11.5 >	Conservation Areas >	0	0	1	-	-
129	11.6	Scheduled Ancient Monuments	0	0	0	-	-
129	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
130 >	12.1 >	Agricultural Land Classification >	Urban (within 250m)				
131	12.2	Open Access Land	0	0	0	-	-
131	12.3	Tree Felling Licences	0	0	0	-	-
131	12.4	Environmental Stewardship Schemes	0	0	0	-	-
131	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
132	13.1	Priority Habitat Inventory	0	0	0	-	-
132	13.2	Habitat Networks	0	0	0	-	-
132	13.3	Open Mosaic Habitat	0	0	0	-	-
132	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
133 >	14.1 >	10k Availability >	Identified (within 500m)				
134 >	14.2 >	Artificial and made ground (10k) >	1	0	1	2	-
136 >	14.3 >	Superficial geology (10k) >	1	0	2	1	-

137	14.4	Landslip (10k)	0	0	0	0	-
138 >	14.5 >	Bedrock geology (10k) >	1	0	1	0	-
139 >	14.6 >	Bedrock faults and other linear features (10k) >	0	0	1	2	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
140 >	15.1 >	50k Availability >	Identified (within 500m)				
141 >	15.2 >	Artificial and made ground (50k) >	1	0	0	0	-
142 >	15.3 >	Artificial ground permeability (50k) >	1	0	-	-	-
143 >	15.4 >	Superficial geology (50k) >	1	0	2	1	-
144 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
144	15.6	Landslip (50k)	0	0	0	0	-
144	15.7	Landslip permeability (50k)	None (within 50m)				
145 >	15.8 >	Bedrock geology (50k) >	1	0	1	0	-
146 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
146 >	15.10 >	Bedrock faults and other linear features (50k) >	0	0	1	2	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
147 >	16.1 >	BGS Boreholes >	0	3	77	-	-
Page	Section	Natural ground subsidence >					
152 >	17.1 >	Shrink swell clays >	Negligible (within 50m)				
153 >	17.2 >	Running sands >	Very low (within 50m)				
154 >	17.3 >	Compressible deposits >	Very low (within 50m)				
156 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
157 >	17.5 >	Landslides >	Very low (within 50m)				
158 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
160	18.1	BritPits	0	0	0	0	-
161 >	18.2 >	Surface ground workings >	0	8	12	-	-
162	18.3	Underground workings	0	0	0	0	0
162	18.4	Underground mining extents	0	0	0	0	-
162	18.5	Historical Mineral Planning Areas	0	0	0	0	-

162	18.6	Non-coal mining	0	0	0	0	0
162 >	**18.7 >**	**JPB mining areas >**	Identified (within 0m)				
163	18.8	The Coal Authority non-coal mining	0	0	0	0	-
163	18.9	Researched mining	0	0	0	0	-
163	18.10	Mining record office plans	0	0	0	0	-
164	18.11	BGS mine plans	0	0	0	0	-
164 >	**18.12 >**	**Coal mining >**	Identified (within 0m)				
164	18.13	Brine areas	None (within 0m)				
164	18.14	Gypsum areas	None (within 0m)				
164	18.15	Tin mining	None (within 0m)				
165	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
166	19.1	Natural cavities	0	0	0	0	-
166	19.2	Mining cavities	0	0	0	0	0
166	19.3	Reported recent incidents	0	0	0	0	-
166	19.4	Historical incidents	0	0	0	0	-
167	19.5	National karst database	0	0	0	0	-
Page	Section	**Radon >**					
168 >	**20.1 >**	**Radon >**	Less than 1% (within 0m)				
Page	Section	**Soil chemistry >**	On site	0-50m	50-250m	250-500m	500-2000m
170 >	**21.1 >**	**BGS Estimated Background Soil Chemistry >**	1	1	-	-	-
170 >	**21.2 >**	**BGS Estimated Urban Soil Chemistry >**	2	2	-	-	-
171	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	**Railway infrastructure and projects >**	On site	0-50m	50-250m	250-500m	500-2000m
172	22.1	Underground railways (London)	0	0	0	-	-
172	22.2	Underground railways (Non-London)	0	0	0	-	-
173	22.3	Railway tunnels	0	0	0	-	-
173 >	**22.4 >**	**Historical railway and tunnel features >**	1	22	64	-	-
176	22.5	Royal Mail tunnels	0	0	0	-	-

176 >	22.6 >	Historical railways >	0	0	3	-	-
177 >	22.7 >	Railways >	0	11	15	-	-
178	22.8	Crossrail 1	0	0	0	0	-
178	22.9	Crossrail 2	0	0	0	0	-
178	22.10	HS2	0	0	0	0	-

Recent aerial photograph



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Capture Date: 07/04/2023

Site Area: 0.11ha

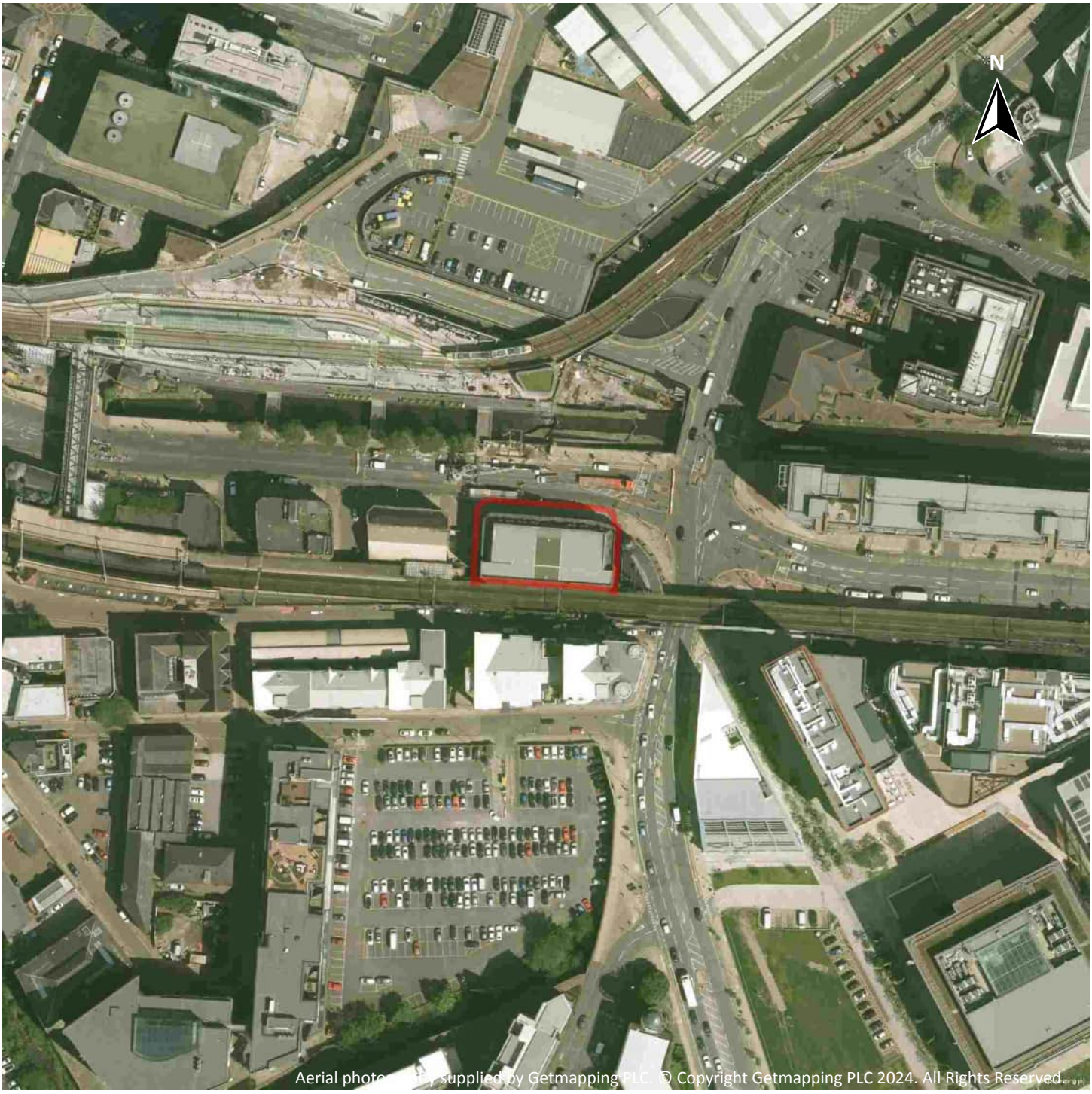
Recent site history - 2022 aerial photograph



Capture Date: 18/10/2022

Site Area: 0.11ha

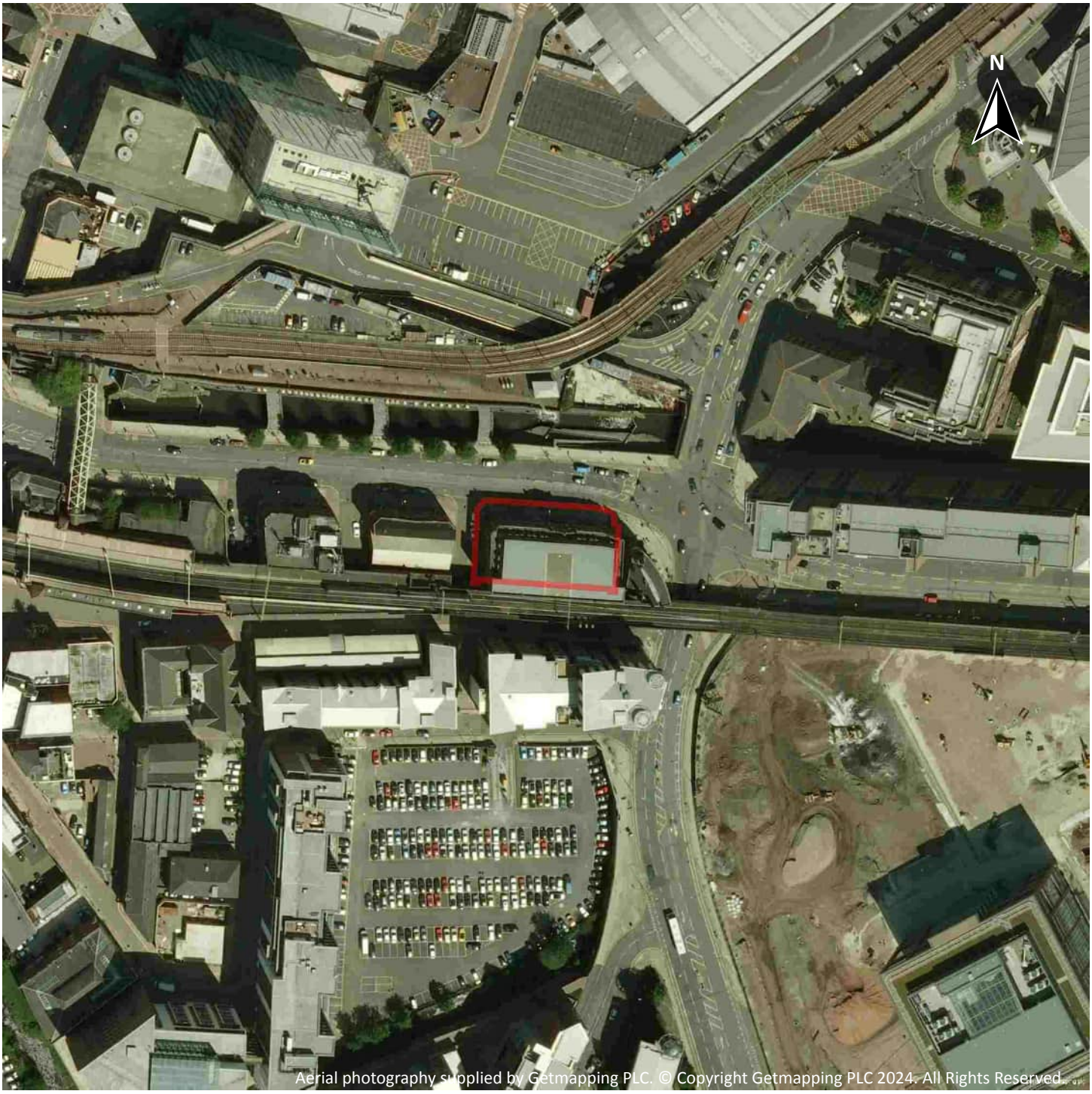
Recent site history - 2015 aerial photograph



Capture Date: 11/06/2015

Site Area: 0.11ha

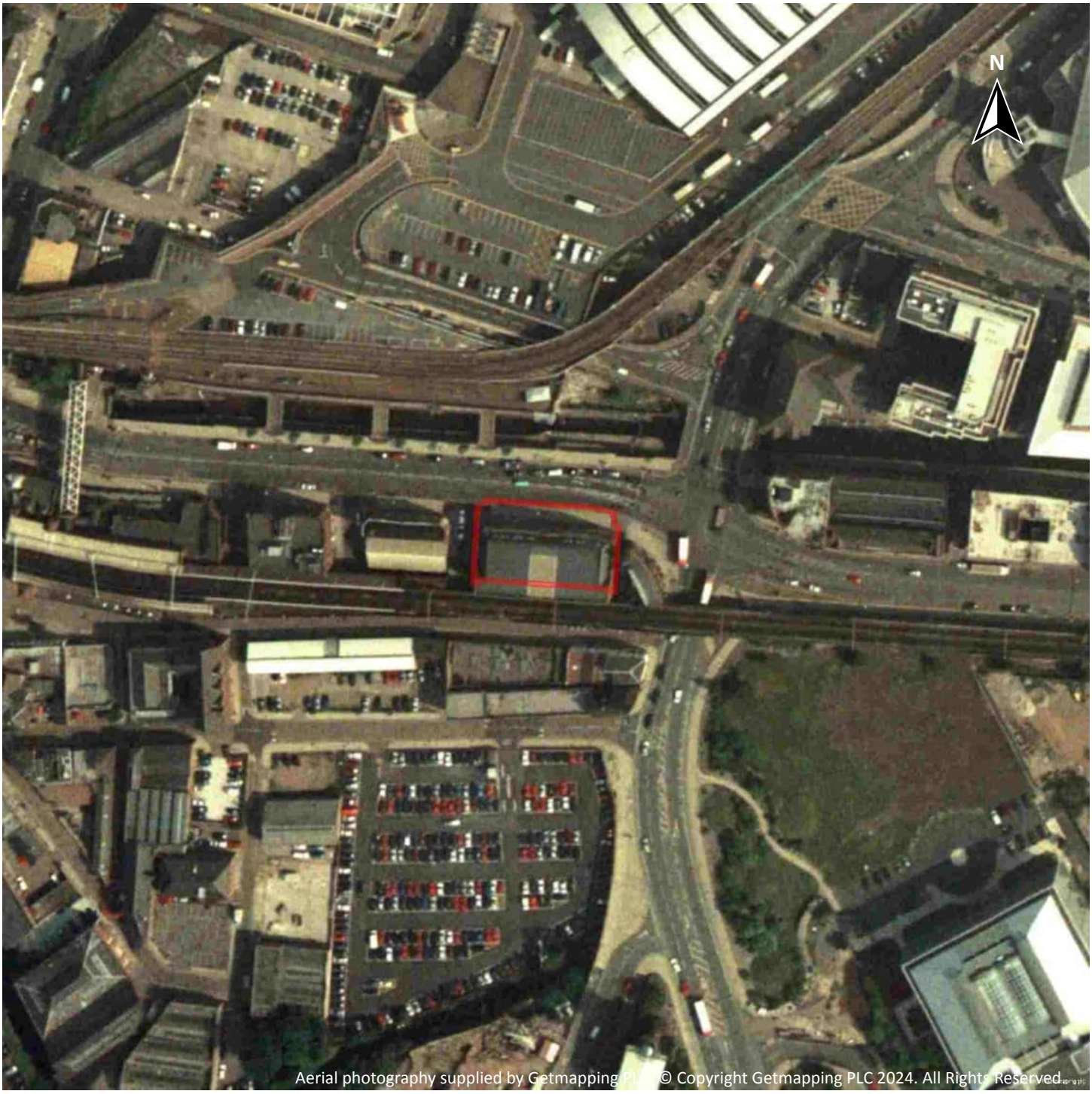
Recent site history - 2009 aerial photograph



Capture Date: 02/06/2009

Site Area: 0.11ha

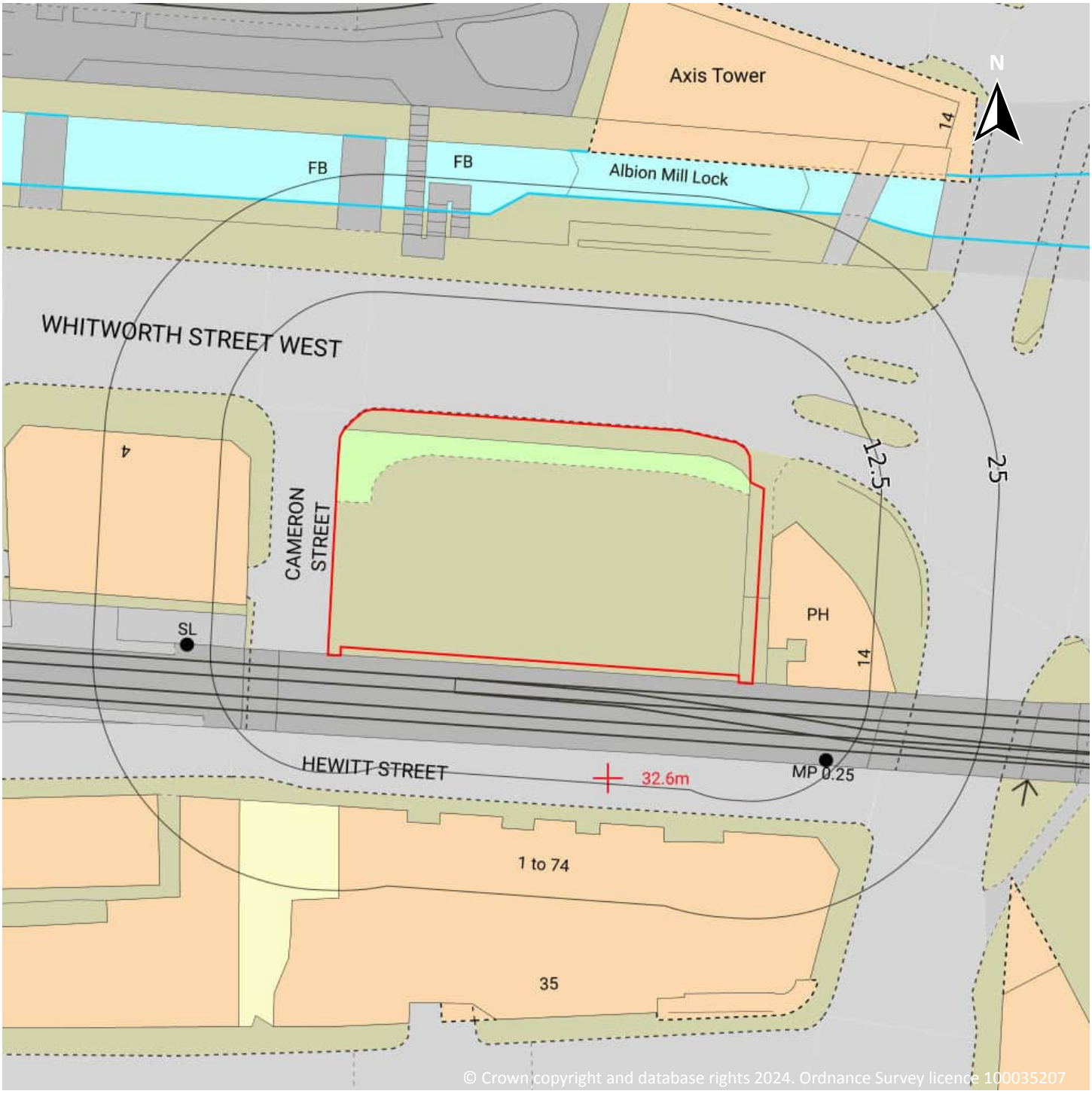
Recent site history - 2000 aerial photograph



Capture Date: 27/06/2000

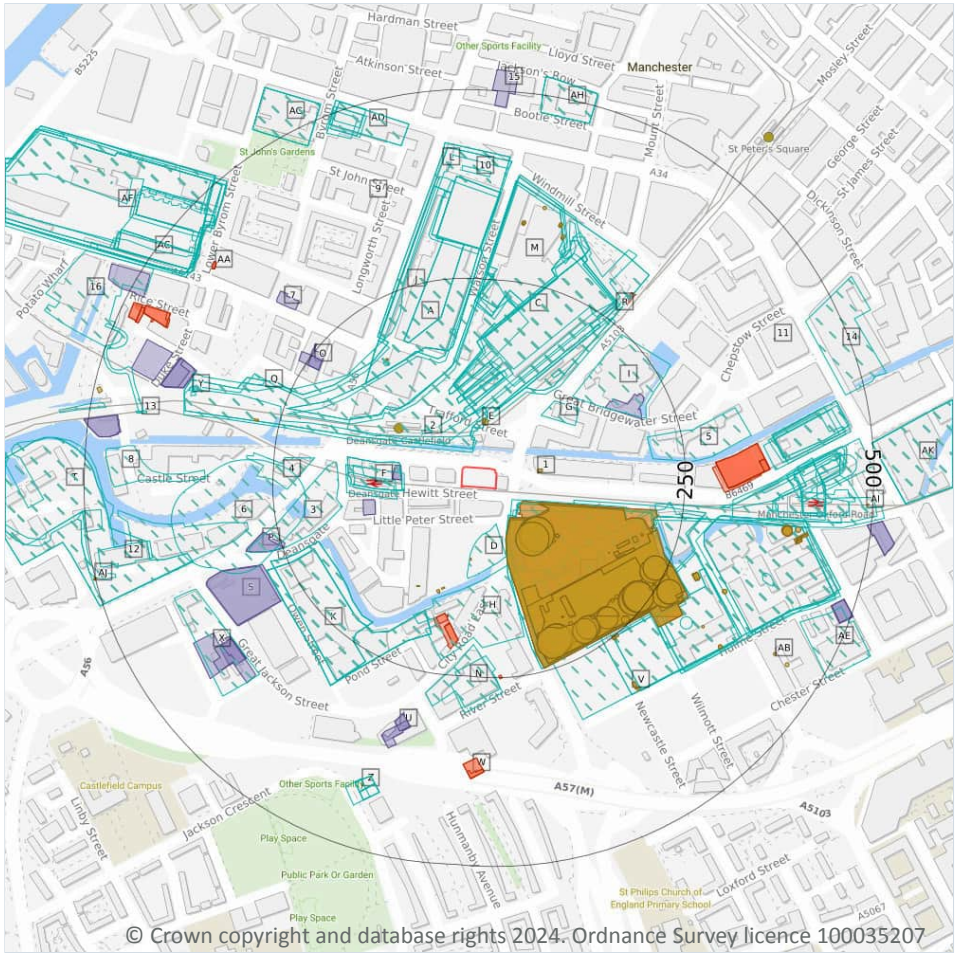
Site Area: 0.11ha

OS MasterMap site plan



Site Area: 0.11ha

1 Past land use



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Site Outline

Search buffers in metres (m)

- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

1.1 Historical industrial land uses

Records within 500m	184

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
A	20m N	Railway Sidings	1923	961415

ID	Location	Land use	Dates present	Group ID
A	25m N	Railway Sidings	1905 - 1916	979135
A	25m N	Railway Sidings	1932 - 1938	996911
B	26m SE	Unspecified Commercial/Industrial	1848 - 1896	983292
B	35m SE	Unspecified Works	1972	881829
B	36m SE	Unspecified Commercial/Industrial	1932 - 1938	924691
B	36m SE	Gas Works	1905 - 1923	968250
B	37m SE	Unspecified Commercial/Industrial	1956	1002925
A	39m NW	Railway Sidings	1956	938222
C	41m N	Railway Sidings	1896	1005691
D	46m S	Cotton Mill	1848	806913
C	54m NW	Disused Station	1980	987897
D	56m SE	Unspecified Tank	1956	947850
D	61m SE	Unspecified Tank	1932 - 1938	942139
D	61m SE	Gasometer	1905 - 1923	1008259
D	62m SE	Unspecified Tank	1896	984138
2	64m NW	Railway Building	1905 - 1938	933452
D	64m SE	Unspecified Tank	1972	861982
D	64m SE	Unspecified Tank	1980 - 1985	979125
C	67m N	Railway Station	1956	946401
C	68m N	Railway Station	1932 - 1938	887773
C	68m N	Railway Station	1905 - 1916	905658
C	68m N	Railway Station	1923	910657
C	72m N	Railway Station	1896	948108
F	76m W	Railway Station	1985 - 1994	986222
F	79m W	Railway Station	1956 - 1972	941476
F	79m W	Railway Station	1980	998002
F	86m W	Railway Station	1905 - 1938	897469
F	89m W	Railway Station	1896	1007364

ID	Location	Land use	Dates present	Group ID
G	95m NE	Bus Station	1980	856994
H	102m S	Brewery	1848	808324
D	114m S	Railway Sidings	1896	857570
B	129m SE	Unspecified Works	1980	957915
C	136m N	Disused Station	1985	917245
I	142m NE	Cotton Mills	1848	825898
G	145m NE	Railway Building	1905 - 1938	932943
J	156m N	Railway Sidings	1972	888823
J	156m N	Railway Sidings	1985	965779
J	156m N	Railway Sidings	1980	994576
3	160m W	Unspecified Commercial/Industrial	1848	822314
B	163m SE	Unspecified Tank	1848	849454
B	167m SE	Gas Works	1980	888421
B	167m SE	Gas Works	1985	923545
A	169m NW	Railway Building	1923	854221
K	171m S	Unspecified Commercial/Industrial	1905	901731
K	171m S	Unspecified Mill	1916	940511
K	171m S	Unspecified Commercial/Industrial	1923	946710
K	171m S	Unspecified Mill	1932 - 1938	947543
A	176m N	Railway Building	1923	854222
B	184m SE	Unspecified Tank	1848	849453
B	191m SE	Unspecified Tanks	1956	993648
B	193m SE	Unspecified Tank	1972	871635
B	193m SE	Gasometer	1980	936391
4	196m W	Unspecified Commercial/Industrial	1848	822320
L	197m NW	Railway Buildings	1923	810636
K	197m SW	Automobile Works	1956	858949
K	197m SW	Unspecified Works	1980	901928

ID	Location	Land use	Dates present	Group ID
K	197m SW	Unspecified Works	1972	933496
B	197m SE	Unspecified Tanks	1896	958691
M	198m N	Goods Station	1923	958822
B	200m SE	Unspecified Tank	1932 - 1938	876704
B	200m SE	Gasometer	1905 - 1923	922201
M	202m N	Goods Station	1932 - 1938	967290
M	202m N	Goods Station	1905 - 1916	974221
5	205m E	Corporation Yard	1905 - 1938	940902
B	206m SE	Unspecified Tank	1932 - 1938	887495
B	206m SE	Gasometer	1905 - 1923	961359
6	207m W	Quay	1905 - 1938	975316
N	208m S	Unspecified Works	1972	835214
B	210m SE	Gasometer	1905 - 1923	939619
B	210m SE	Unspecified Tank	1932 - 1938	1009278
B	210m E	Unspecified Commercial/Industrial	1905	879196
B	210m E	Rubber Works	1923	965876
B	210m E	Rubber Works	1932 - 1938	994093
B	213m E	Railway Sidings	1905 - 1938	859983
M	213m N	Goods Station	1956	963807
B	214m SE	Unspecified Tank	1932 - 1938	921791
B	214m SE	Gasometer	1905 - 1923	924805
B	214m SE	Unspecified Tanks	1956	1009741
B	215m SE	Gasometer	1985	897602
B	215m SE	Unspecified Tank	1972	913097
B	215m SE	Gasometer	1980	917421
B	216m E	Rubber Works	1916	922757
B	219m SE	Unspecified Tank	1932 - 1938	991708
B	219m SE	Gasometer	1905 - 1923	1001145

ID	Location	Land use	Dates present	Group ID
N	221m S	Glass Works	1848	821947
B	236m SE	Rubber Works	1956	973654
Q	248m NW	Railway Buildings	1905 - 1938	863965
B	249m SE	Unspecified Tank	1932 - 1938	937983
B	249m SE	Gasometer	1905 - 1923	946404
R	250m NE	Railway Building	1932 - 1938	889705
B	251m SE	Unspecified Works	1985 - 1994	928815
B	251m SE	Unspecified Works	1980	976327
B	256m SE	Unspecified Tank	1848	996644
B	274m E	Unspecified Commercial/Industrial	1896	1008574
B	282m E	Unspecified Works	1985 - 1994	892981
B	282m E	Unspecified Works	1980	946286
L	283m N	Goods Station	1905 - 1938	953299
T	288m W	Quay	1848	960465
L	290m N	Disused Goods Station	1980	817824
L	290m N	Goods Station	1956	917923
L	290m N	Goods Station	1972	947488
B	300m E	Railway Sidings	1896	993937
B	301m SE	Unspecified Tank	1848	849452
B	315m E	Railway Sidings	1985 - 1994	879821
8	340m W	Slate Wharf	1848	857272
B	351m E	Railway Station	1905 - 1938	935895
B	356m E	Hospital	1923	984126
B	362m E	Hospital	1932 - 1938	964142
X	363m SW	Unspecified Depot	1972	821167
Y	366m W	Railway Building	1916	960031
Y	367m W	Railway Building	1923	854220
B	367m E	Railway Station	1896	957144

ID	Location	Land use	Dates present	Group ID
B	368m E	Railway Station	1956	999761
B	368m E	Coal Wharf	1848	806616
B	369m E	Hospital	1956 - 1972	938949
B	369m E	Hospital	1980	997388
T	369m W	Unspecified Depot	1985 - 1994	866652
T	369m W	Unspecified Depot	1980	986151
Y	371m W	Railway Building	1932 - 1938	932961
B	372m E	Unspecified Tanks	1848	819192
B	372m E	Hospital	1916	923488
B	384m E	Gas Works	1848	852813
B	385m E	Unspecified Tank	1896	849969
10	386m N	Railway Buildings	1923	810635
B	394m E	Railway Station	1988 - 1994	991843
B	395m E	Railway Station	1972	903819
B	395m E	Railway Station	1980	931454
B	395m E	Railway Station	1985	982166
B	398m E	Railway Building	1956	854219
Z	401m S	Police Station	1972	937951
Z	401m S	Police Station	1985	986465
Z	401m S	Police Station	1980	987579
Z	409m S	Fire Station	1938	958741
Z	410m S	Fire Station	1972	879366
Z	410m S	Fire Station	1985	913222
Z	410m S	Fire Station	1980	1003634
12	419m W	Warehouse	1848	852230
B	423m E	Tanks	1848	827416
13	425m W	Railway Building	1905 - 1923	944816
Y	430m W	Unspecified Ground Workings	1848	814699

ID	Location	Land use	Dates present	Group ID
AD	434m N	Hospital	1956 - 1972	879488
AD	434m N	Hospital	1980	992702
AE	440m SE	Unspecified Mills	1916 - 1923	920381
AF	443m NW	Railway Sidings	1916 - 1938	923062
AF	443m NW	Railway Sidings	1894	942068
AF	444m NW	Railway Sidings	1923	978214
AC	447m NW	Railway Sidings	1956	927260
AC	447m NW	Railway Building	1972	933625
AC	447m NW	Railway Building	1985	937253
AC	447m NW	Railway Building	1980	968055
AF	447m NW	Railway Sidings	1956	881875
AF	447m NW	Goods Depot	1972	969057
AF	447m NW	Goods Depot	1980	982780
AC	448m NW	Goods Sheds	1905 - 1938	871028
AF	448m NW	Railway Sidings	1905	871411
AF	448m NW	Railway Sidings	1932	1009972
AF	449m NW	Railway Sidings	1988 - 1994	916623
AC	449m NW	Railway Buildings	1896	810649
AF	449m NW	Railway Sidings	1896	990314
14	456m NE	Unspecified Commercial/Industrial	1923	822321
AD	458m N	Hospital	1916	875319
AD	460m N	Hospital	1923	994712
AD	462m N	Hospital	1932 - 1938	869533
AC	462m NW	Goods Station	1956	810453
AC	464m NW	Goods Sheds	1905 - 1938	891142
AC	465m NW	Railway Building	1985	964774
AC	465m NW	Railway Building	1980	984510
AC	465m NW	Railway Building	1972	1002551

ID	Location	Land use	Dates present	Group ID
AD	470m N	Hospital	1985 - 1988	985880
T	473m W	Unspecified Ground Workings	1848	814700
AG	473m NW	Unspecified Commercial/Industrial	1923	872303
AG	473m NW	Unspecified Commercial/Industrial	1905	934160
AG	473m NW	Unspecified Works	1932 - 1938	967713
AH	475m N	Police Station	1980	914364
AH	475m N	Police Station	1956 - 1972	952220
AH	475m N	Police Station	1985 - 1994	996946
T	478m W	Unspecified Warehouses	1972	856272
Y	479m W	Railway Buildings	1905	810633
16	481m NW	Unspecified Depot	1985 - 1988	885508
AK	499m E	Unspecified Commercial/Industrial	1923	910139
AK	499m E	Unspecified Commercial/Industrial	1905	951830
AK	499m E	Unspecified Mills	1932 - 1938	992472
AK	499m E	Unspecified Mills	1916	993089

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**134**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
B	39m SE	Gas Works	1893 - 1908	129043
B	43m SE	Gas Works	1891	146932
B	45m SE	Gas Works	1922	138279

ID	Location	Land use	Dates present	Group ID
1	55m E	Tanks	1891	108717
E	57m N	Tanks	1949	152322
D	57m SE	Unspecified Tank	1969	130499
D	57m SE	Unspecified Tank	1953	154985
D	58m SE	Unspecified Tank	1957 - 1965	128947
D	58m SE	Unspecified Tank	1949	143876
E	59m N	Tanks	1951 - 1965	130425
D	59m SE	Unspecified Tank	1980 - 1985	137448
E	59m N	Tanks	1948	143858
D	60m SE	Unspecified Tank	1932	134199
D	60m SE	Gasometer	1908 - 1922	142772
D	95m S	Unspecified Tank	1891	115291
D	100m SE	Unspecified Tank	1969 - 1985	153577
D	100m SE	Unspecified Tank	1953	153919
D	100m SE	Unspecified Tank	1957	128256
D	102m SE	Unspecified Tank	1908 - 1932	152429
H	135m S	Tanks	1949	108714
G	136m NE	Unspecified Tank	1891	115293
B	137m SE	Gas Works	1949	128464
H	139m S	Tanks	1949	108715
H	143m SW	Unspecified Tank	1891	115294
B	158m SE	Unspecified Tank	1969	142299
B	159m SE	Disused Gas Holder Station	1985	126184
B	159m SE	Gas Holder Station	1980	155526
B	168m SE	Tanks	1893	151285
B	168m SE	Tanks	1891	126769
B	172m SE	Unspecified Tank	1891	115292
A	175m NW	Unspecified Tank	1957	156070

ID	Location	Land use	Dates present	Group ID
A	175m NW	Unspecified Tank	1955	149684
B	177m SE	Tanks	1949 - 1957	131406
B	177m SE	Tanks	1969	142141
B	178m SE	Tanks	1969	131205
B	178m SE	Tanks	1953	148910
B	183m SE	Unspecified Tank	1957	115290
B	183m SE	Tanks	1949	127220
B	190m SE	Unspecified Tank	1957	138206
B	190m SE	Unspecified Tank	1949	151860
B	192m E	Tanks	1957	108596
B	194m SE	Gasometer	1949	140020
B	194m SE	Unspecified Tank	1957 - 1965	143015
B	195m SE	Unspecified Tank	1953	131493
B	195m SE	Gasometer	1893 - 1969	150127
B	196m SE	Tanks	1932	108716
B	196m SE	Gasometers	1908 - 1922	153355
B	201m SE	Unspecified Tank	1953 - 1969	143010
B	202m E	Unspecified Tank	1949 - 1969	148917
B	205m SE	Unspecified Tank	1957 - 1965	134264
B	205m SE	Gasometer	1949	136972
B	205m SE	Unspecified Tank	1953	137941
B	206m SE	Gasometer	1893	144817
B	210m SE	Unspecified Tank	1953 - 1965	130539
B	211m SE	Unspecified Tank	1893	147641
B	212m SE	Gasometer	1893	139247
B	212m E	Unspecified Tank	1891	114954
B	212m SE	Unspecified Tank	1891 - 1893	129472
B	212m SE	Unspecified Tank	1953 - 1985	142137

ID	Location	Land use	Dates present	Group ID
B	212m SE	Gasometer	1891	141539
B	214m E	Unspecified Tank	1891	140833
B	215m SE	Gasometer	1893 - 1969	149968
B	216m SE	Gasometer	1891	152905
B	216m SE	Unspecified Tank	1957 - 1965	141299
B	216m SE	Gasometer	1949	142179
B	216m SE	Unspecified Tank	1953	138289
B	217m SE	Gas Holder	1980 - 1985	137601
B	218m SE	Gasometer	1891 - 1893	130887
B	220m SE	Unspecified Tank	1957 - 1965	127332
B	220m SE	Gasometer	1949	135711
B	220m SE	Unspecified Tank	1953	131749
B	239m SE	Unspecified Tank	1893	149484
B	239m SE	Gasometer	1891	114291
B	242m SE	Unspecified Tank	1893	154854
B	243m SE	Gasometer	1969	114290
B	243m SE	Unspecified Tank	1953 - 1965	145295
B	244m SE	Unspecified Tank	1980 - 1985	151024
B	249m SE	Gasometer	1891 - 1893	156214
B	249m SE	Unspecified Tank	1949 - 1957	137028
B	249m SE	Unspecified Tank	1969 - 1990	140651
B	250m SE	Unspecified Tank	1998	153520
B	251m SE	Unspecified Tank	1957 - 1965	133065
B	251m SE	Gasometer	1949	136042
B	251m SE	Unspecified Tank	1953	138538
B	277m SE	Unspecified Tank	1987 - 1990	144190
Q	278m W	Unspecified Tank	1932	115026
B	282m SE	Unspecified Tank	1891 - 1893	145005

ID	Location	Land use	Dates present	Group ID
B	284m SE	Unspecified Tank	1998	149018
B	284m SE	Unspecified Tank	1969	154747
B	285m SE	Unspecified Tank	1980 - 1990	126732
V	314m SE	Unspecified Tank	1949 - 1957	139489
V	314m SE	Unspecified Tank	1969	154955
M	318m N	Unspecified Tank	1986	145853
M	319m N	Unspecified Tank	1988 - 1999	148102
V	323m SE	Unspecified Tank	1980 - 1985	141556
M	325m N	Unspecified Tank	1986	130493
M	327m N	Unspecified Tank	1988	132824
M	327m N	Unspecified Tank	1994 - 1999	147875
B	328m SE	Unspecified Tank	1908	114953
B	330m SE	Unspecified Tank	1922	135180
B	330m SE	Unspecified Tank	1893	145665
M	332m N	Unspecified Tank	1986	132999
M	334m N	Unspecified Tank	1988	139530
M	334m N	Unspecified Tank	1994 - 1999	126977
M	351m N	Unspecified Tank	1988 - 1999	148866
B	361m SE	Unspecified Tank	1893	129815
B	361m SE	Unspecified Tank	1922	131267
9	381m N	Unspecified Tank	1891	115172
B	383m E	Unspecified Tank	1893	115711
B	384m E	Gasometer	1891	135547
B	384m E	Gasometer	1908	148893
B	401m E	Tanks	1953	108483
B	401m E	Unspecified Tank	1922	115713
B	404m E	Unspecified Tank	1953	140978
B	404m E	Unspecified Tank	1948	143136

ID	Location	Land use	Dates present	Group ID
B	404m E	Tanks	1950	108894
B	404m E	Unspecified Tank	1955	155695
B	404m E	Unspecified Tank	1948	142178
B	405m E	Unspecified Tank	1953	156072
B	405m E	Unspecified Tank	1955	152417
11	408m NE	Unspecified Tank	1891	115174
B	409m E	Unspecified Tank	1948	133077
B	410m E	Unspecified Tank	1953	149069
B	410m E	Unspecified Tank	1955	153467
AB	428m SE	Unspecified Tank	1922	115714
AB	448m SE	Unspecified Tank	1949 - 1985	151969
Y	488m W	Unspecified Tank	1922	115025
AI	493m E	Unspecified Tank	1953	140936
AI	493m E	Unspecified Tank	1955	142095
AJ	498m W	Unspecified Tank	1980	134057
AJ	498m W	Unspecified Tank	1980	154190
AJ	499m W	Unspecified Tank	1965	149868
AJ	499m W	Unspecified Tank	1969	139198
AJ	499m W	Unspecified Tank	1960	147256

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**53**

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
B	39m SE	Gas Works	1893 - 1908	86780
B	43m SE	Gas Works	1891	73990
B	45m SE	Gas Works	1922	84456
D	60m SE	Gasometer	1908 - 1922	88154
B	137m SE	Gas Works	1949	79857
B	159m SE	Disused Gas Holder Station	1985	68843
B	159m SE	Gas Holder Station	1980	74476
H	169m S	Electricity Substation	1998	92277
H	169m S	Electricity Transformers	1969 - 1985	73429
H	181m S	Electricity Substation	1949 - 1957	70856
H	182m S	Electricity Substation	1969 - 1990	90707
B	194m SE	Gasometer	1949	87070
B	195m SE	Gasometer	1893 - 1969	81639
B	196m SE	Gasometers	1908 - 1922	79709
B	205m SE	Gasometer	1949	74834
B	206m SE	Gasometer	1893	91928
B	212m SE	Gasometer	1893	84792
B	212m SE	Gasometer	1891	77434
B	215m SE	Gasometer	1893 - 1969	79524
B	216m SE	Gasometer	1891	77969
B	216m SE	Gasometer	1949	88747
B	217m SE	Gas Holder	1980 - 1985	90352
B	218m SE	Gasometer	1891 - 1893	86689
B	220m SE	Gasometer	1949	76936
B	225m SE	Electricity Substation	1998	65849
B	239m SE	Gasometer	1891	68520
B	243m SE	Gasometer	1969	68519
N	247m S	Electricity Substation	1998	66826

ID	Location	Land use	Dates present	Group ID
B	249m SE	Gasometer	1891 - 1893	73168
B	251m SE	Gasometer	1949	90192
R	281m NE	Electricity Substation	1948 - 1985	85241
B	286m E	Hydraulic Power Station	1932	87405
B	291m E	Hydraulic Power Station	1951 - 1973	77593
B	291m E	Hydraulic Power Station	1948	88074
B	291m E	Hydraulic Power Station	1949	73635
B	291m E	Hydraulic Power Station	1957	83124
B	348m E	Electricity Substation	1948 - 1985	77026
B	349m E	Electricity Substation	1988 - 1999	70454
W	357m S	Electricity Substation	1949	70165
W	357m S	Electricity Substation	1957	80045
W	371m S	Electricity Substation	1953	69203
B	384m E	Gasometer	1891	77992
B	384m E	Gasometer	1908	91082
AA	422m NW	Electricity Substation	1948 - 1957	87242
AA	422m NW	Electricity Substation	1981 - 1995	80836
AC	433m NW	Electricity Substation	1957	76855
AC	435m NW	Electricity Substation	1995	69187
AC	436m NW	Electricity Substation	1949 - 1955	72632
AC	454m NW	Electricity Substation	1948	84176
AC	470m NW	Electricity Substation	1986	81033
AC	470m NW	Electricity Substation	1990	90860
AC	475m NW	Electricity Substation	1994 - 1995	71919
AC	475m NW	Electricity Substation	1981	75511

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	37

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
D	71m SE	Garage	1953 - 1965	24325
F	79m W	Garage	1955 - 1981	30682
F	80m W	Garage	1986 - 1990	27623
F	116m W	Garage	1960 - 1969	28379
I	168m NE	Garage	1973	22727
O	231m NW	Garage	1994 - 1995	27975
O	231m NW	Garage	1995	25530
O	231m NW	Garage	1981 - 1990	28188
P	246m W	Garage	1980	30971
P	249m W	Garage	1969	28889
S	280m SW	Garage	1980 - 1990	28779
S	283m SW	Garage	1995 - 1997	26716
7	306m NW	Garage	1981	22730
U	309m S	Garage	1960 - 1965	24793

ID	Location	Land use	Dates present	Group ID
U	310m S	Garage	1957	27182
U	318m S	Garage	1954	29208
X	364m SW	Garage	1980	30605
X	365m SW	Garage	1965	24027
X	365m SW	Garage	1980 - 1990	26797
X	365m SW	Garage	1957	29417
X	365m SW	Garage	1969	28842
X	365m SW	Garage	1960	29338
X	366m SW	Garage	1995 - 1997	23312
Y	375m W	Garage	1981 - 1986	30488
Y	377m W	Garage	1963	25233
X	378m SW	Garage	1954	27153
Y	384m W	Garage	1965	29108
Y	413m W	Garage	1981	22731
Y	455m W	Garage	1963 - 1981	27617
Y	457m W	Garage	1986	25384
AE	471m E	Garage	1962 - 1969	26876
AE	471m E	Garage	1985 - 1987	25586
AE	471m E	Garage	1970	24700
15	478m N	Garage	1948	22733
AC	480m NW	Garage	1981 - 1990	23619
AI	495m E	Garage	1969 - 1998	31003
AI	495m E	Garage	1948 - 1962	23262

This data is sourced from Ordnance Survey / Groundsure.

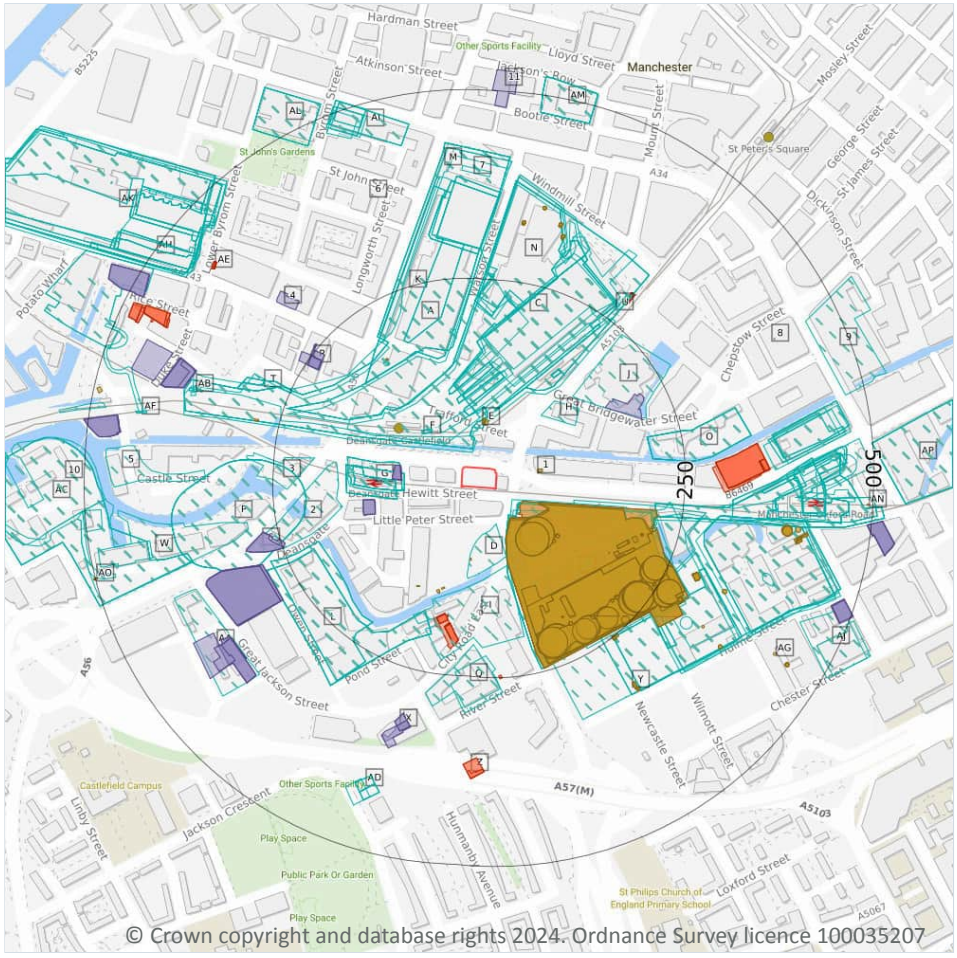
1.6 Historical military land

Records within 500m	0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.

2 Past land use - un-grouped



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Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

2.1 Historical industrial land uses

Records within 500m	292

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 33 >**

ID	Location	Land Use	Date	Group ID
A	20m N	Railway Sidings	1923	961415
A	25m N	Railway Sidings	1938	996911
A	25m N	Railway Sidings	1932	996911

ID	Location	Land Use	Date	Group ID
A	25m N	Railway Sidings	1916	979135
A	25m N	Railway Sidings	1905	979135
B	26m SE	Unspecified Commercial/Industrial	1896	983292
B	35m SE	Unspecified Works	1972	881829
B	36m SE	Unspecified Commercial/Industrial	1938	924691
B	36m SE	Unspecified Commercial/Industrial	1932	924691
B	36m SE	Gas Works	1916	968250
B	36m SE	Gas Works	1905	968250
B	36m SE	Gas Works	1923	968250
B	37m SE	Unspecified Commercial/Industrial	1956	1002925
A	39m NW	Railway Sidings	1956	938222
C	41m N	Railway Sidings	1896	1005691
D	46m S	Cotton Mill	1848	806913
C	54m NW	Disused Station	1980	987897
D	56m SE	Unspecified Tank	1956	947850
D	61m SE	Gasometer	1916	1008259
D	61m SE	Gasometer	1905	1008259
D	61m SE	Unspecified Tank	1938	942139
D	61m SE	Unspecified Tank	1932	942139
D	61m SE	Gasometer	1923	1008259
D	62m SE	Unspecified Tank	1896	984138
F	64m NW	Railway Building	1938	933452
F	64m NW	Railway Building	1932	933452
F	64m NW	Railway Building	1916	933452
F	64m NW	Railway Building	1905	933452
F	64m NW	Railway Building	1923	933452
D	64m SE	Unspecified Tank	1972	861982
D	64m SE	Unspecified Tank	1980	979125

ID	Location	Land Use	Date	Group ID
D	64m SE	Unspecified Tank	1985	979125
C	67m N	Railway Station	1956	946401
C	68m N	Railway Station	1938	887773
C	68m N	Railway Station	1932	887773
C	68m N	Railway Station	1916	905658
C	68m N	Railway Station	1905	905658
C	68m N	Railway Station	1923	910657
C	72m N	Railway Station	1896	948108
G	76m W	Railway Station	1988	986222
G	76m W	Railway Station	1985	986222
G	76m W	Railway Station	1994	986222
G	79m W	Railway Station	1972	941476
G	79m W	Railway Station	1956	941476
G	79m W	Railway Station	1980	998002
G	86m W	Railway Station	1938	897469
G	86m W	Railway Station	1932	897469
G	86m W	Railway Station	1916	897469
G	86m W	Railway Station	1905	897469
G	86m W	Railway Station	1923	897469
G	89m W	Railway Station	1896	1007364
H	95m NE	Bus Station	1980	856994
I	102m S	Brewery	1848	808324
D	114m S	Railway Sidings	1896	857570
B	129m SE	Unspecified Works	1980	957915
C	136m N	Disused Station	1985	917245
J	142m NE	Cotton Mills	1848	825898
H	145m NE	Railway Building	1938	932943
H	145m NE	Railway Building	1932	932943

ID	Location	Land Use	Date	Group ID
H	145m NE	Railway Building	1916	932943
H	145m NE	Railway Building	1905	932943
H	145m NE	Railway Building	1923	932943
B	155m SE	Unspecified Commercial/Industrial	1848	983292
K	156m N	Railway Sidings	1972	888823
K	156m N	Railway Sidings	1980	994576
K	156m N	Railway Sidings	1985	965779
2	160m W	Unspecified Commercial/Industrial	1848	822314
B	163m SE	Unspecified Tank	1848	849454
B	167m SE	Gas Works	1980	888421
B	167m SE	Gas Works	1985	923545
A	169m NW	Railway Building	1923	854221
L	171m S	Unspecified Mill	1938	947543
L	171m S	Unspecified Mill	1932	947543
L	171m S	Unspecified Mill	1916	940511
L	171m S	Unspecified Commercial/Industrial	1905	901731
L	171m S	Unspecified Commercial/Industrial	1923	946710
A	176m N	Railway Building	1923	854222
B	184m SE	Unspecified Tank	1848	849453
B	191m SE	Unspecified Tanks	1956	993648
B	193m SE	Unspecified Tank	1972	871635
B	193m SE	Gasometer	1980	936391
3	196m W	Unspecified Commercial/Industrial	1848	822320
M	197m NW	Railway Buildings	1923	810636
L	197m SW	Unspecified Works	1972	933496
L	197m SW	Automobile Works	1956	858949
L	197m SW	Unspecified Works	1980	901928
B	197m SE	Unspecified Tanks	1896	958691

ID	Location	Land Use	Date	Group ID
N	198m N	Goods Station	1923	958822
B	200m SE	Gasometer	1916	922201
B	200m SE	Gasometer	1905	922201
B	200m SE	Unspecified Tank	1938	876704
B	200m SE	Unspecified Tank	1932	876704
B	200m SE	Gasometer	1923	922201
N	202m N	Goods Station	1938	967290
N	202m N	Goods Station	1932	967290
N	202m N	Goods Station	1916	974221
N	202m N	Goods Station	1905	974221
O	205m E	Corporation Yard	1938	940902
O	205m E	Corporation Yard	1932	940902
O	205m E	Corporation Yard	1916	940902
O	205m E	Corporation Yard	1905	940902
O	205m E	Corporation Yard	1923	940902
B	206m SE	Gasometer	1916	961359
B	206m SE	Gasometer	1905	961359
B	206m SE	Unspecified Tank	1938	887495
B	206m SE	Unspecified Tank	1932	887495
B	206m SE	Gasometer	1923	961359
P	207m W	Quay	1938	975316
P	207m W	Quay	1932	975316
P	207m W	Quay	1916	975316
P	207m W	Quay	1905	975316
P	207m W	Quay	1923	975316
Q	208m S	Unspecified Works	1972	835214
B	210m SE	Gasometer	1916	939619
B	210m SE	Gasometer	1905	939619

ID	Location	Land Use	Date	Group ID
B	210m SE	Unspecified Tank	1938	1009278
B	210m SE	Unspecified Tank	1932	1009278
B	210m SE	Gasometer	1923	939619
B	210m E	Rubber Works	1938	994093
B	210m E	Rubber Works	1932	994093
B	210m E	Unspecified Commercial/Industrial	1905	879196
B	210m E	Rubber Works	1923	965876
B	213m E	Railway Sidings	1938	859983
B	213m E	Railway Sidings	1932	859983
B	213m E	Railway Sidings	1916	859983
B	213m E	Railway Sidings	1905	859983
B	213m E	Railway Sidings	1923	859983
N	213m N	Goods Station	1956	963807
B	214m SE	Gasometer	1916	924805
B	214m SE	Gasometer	1905	924805
B	214m SE	Unspecified Tank	1938	921791
B	214m SE	Unspecified Tank	1932	921791
B	214m SE	Gasometer	1923	924805
B	214m SE	Unspecified Tanks	1956	1009741
B	215m SE	Unspecified Tank	1972	913097
B	215m SE	Gasometer	1980	917421
B	215m SE	Gasometer	1985	897602
B	216m E	Rubber Works	1916	922757
B	219m SE	Gasometer	1916	1001145
B	219m SE	Gasometer	1905	1001145
B	219m SE	Unspecified Tank	1938	991708
B	219m SE	Unspecified Tank	1932	991708
B	219m SE	Gasometer	1923	1001145

ID	Location	Land Use	Date	Group ID
Q	221m S	Glass Works	1848	821947
B	236m SE	Rubber Works	1956	973654
T	248m NW	Railway Buildings	1938	863965
T	248m NW	Railway Buildings	1932	863965
T	248m NW	Railway Buildings	1916	863965
T	248m NW	Railway Buildings	1905	863965
T	248m NW	Railway Buildings	1923	863965
B	249m SE	Gasometer	1916	946404
B	249m SE	Gasometer	1905	946404
B	249m SE	Unspecified Tank	1938	937983
B	249m SE	Unspecified Tank	1932	937983
B	249m SE	Gasometer	1923	946404
U	250m NE	Railway Building	1938	889705
U	250m NE	Railway Building	1932	889705
B	251m SE	Unspecified Works	1988	928815
B	251m SE	Unspecified Works	1980	976327
B	251m SE	Unspecified Works	1985	928815
B	251m SE	Unspecified Works	1994	928815
B	256m SE	Unspecified Tank	1848	996644
B	274m E	Unspecified Commercial/Industrial	1896	1008574
B	282m E	Unspecified Works	1988	892981
B	282m E	Unspecified Works	1980	946286
B	282m E	Unspecified Works	1985	892981
B	282m E	Unspecified Works	1994	892981
M	283m N	Goods Station	1938	953299
M	283m N	Goods Station	1932	953299
M	283m N	Goods Station	1916	953299
M	283m N	Goods Station	1905	953299

ID	Location	Land Use	Date	Group ID
M	283m N	Goods Station	1923	953299
W	288m W	Quay	1848	960465
M	290m N	Goods Station	1972	947488
M	290m N	Goods Station	1956	917923
M	290m N	Disused Goods Station	1980	817824
B	300m E	Railway Sidings	1896	993937
B	301m SE	Unspecified Tank	1848	849452
B	315m E	Railway Sidings	1988	879821
B	315m E	Railway Sidings	1985	879821
B	315m E	Railway Sidings	1994	879821
5	340m W	Slate Wharf	1848	857272
B	351m E	Railway Station	1938	935895
B	351m E	Railway Station	1932	935895
B	351m E	Railway Station	1916	935895
B	351m E	Railway Station	1905	935895
B	351m E	Railway Station	1923	935895
B	356m E	Hospital	1923	984126
B	362m E	Hospital	1938	964142
B	362m E	Hospital	1932	964142
AA	363m SW	Unspecified Depot	1972	821167
AB	366m W	Railway Building	1916	960031
AB	367m W	Railway Building	1923	854220
B	367m E	Railway Station	1896	957144
B	368m E	Railway Station	1956	999761
B	368m E	Coal Wharf	1848	806616
B	369m E	Hospital	1972	938949
B	369m E	Hospital	1956	938949
B	369m E	Hospital	1980	997388

ID	Location	Land Use	Date	Group ID
AC	369m W	Unspecified Depot	1988	866652
AC	369m W	Unspecified Depot	1980	986151
AC	369m W	Unspecified Depot	1985	866652
AC	369m W	Unspecified Depot	1994	866652
AB	371m W	Railway Building	1938	932961
AB	371m W	Railway Building	1932	932961
B	372m E	Unspecified Tanks	1848	819192
B	372m E	Hospital	1916	923488
B	384m E	Gas Works	1848	852813
B	385m E	Unspecified Tank	1896	849969
7	386m N	Railway Buildings	1923	810635
B	394m E	Railway Station	1988	991843
B	394m E	Railway Station	1994	991843
B	395m E	Railway Station	1972	903819
B	395m E	Railway Station	1980	931454
B	395m E	Railway Station	1985	982166
B	398m E	Railway Building	1956	854219
AD	401m S	Police Station	1972	937951
AD	401m S	Police Station	1980	987579
AD	401m S	Police Station	1985	986465
AD	409m S	Fire Station	1938	958741
AD	410m S	Fire Station	1972	879366
AD	410m S	Fire Station	1980	1003634
AD	410m S	Fire Station	1985	913222
W	419m W	Warehouse	1848	852230
B	423m E	Tanks	1848	827416
AF	425m W	Railway Building	1916	944816
AF	425m W	Railway Building	1905	944816

ID	Location	Land Use	Date	Group ID
AF	425m W	Railway Building	1923	944816
AB	430m W	Unspecified Ground Workings	1848	814699
AI	434m N	Hospital	1972	879488
AI	434m N	Hospital	1956	879488
AI	434m N	Hospital	1980	992702
AJ	440m SE	Unspecified Mills	1923	920381
AK	443m NW	Railway Sidings	1916	923062
AK	444m NW	Railway Sidings	1923	978214
AH	447m NW	Railway Building	1972	933625
AH	447m NW	Railway Sidings	1956	927260
AH	447m NW	Railway Building	1980	968055
AH	447m NW	Railway Building	1985	937253
AK	447m NW	Goods Depot	1972	969057
AK	447m NW	Railway Sidings	1956	881875
AK	447m NW	Goods Depot	1980	982780
AH	448m NW	Goods Sheds	1938	871028
AH	448m NW	Goods Sheds	1932	871028
AH	448m NW	Goods Sheds	1916	871028
AH	448m NW	Goods Sheds	1905	871028
AH	448m NW	Goods Sheds	1923	871028
AK	448m NW	Railway Sidings	1938	923062
AK	448m NW	Railway Sidings	1932	1009972
AK	448m NW	Railway Sidings	1905	871411
AK	449m NW	Railway Sidings	1988	916623
AK	449m NW	Railway Sidings	1994	916623
AH	449m NW	Railway Buildings	1896	810649
AK	449m NW	Railway Sidings	1896	990314
9	456m NE	Unspecified Commercial/Industrial	1923	822321

ID	Location	Land Use	Date	Group ID
AI	458m N	Hospital	1916	875319
AI	460m N	Hospital	1923	994712
AI	462m N	Hospital	1938	869533
AI	462m N	Hospital	1932	869533
AH	462m NW	Goods Station	1956	810453
AH	464m NW	Goods Sheds	1938	891142
AH	464m NW	Goods Sheds	1932	891142
AH	464m NW	Goods Sheds	1916	891142
AH	464m NW	Goods Sheds	1905	891142
AH	464m NW	Goods Sheds	1923	891142
AH	465m NW	Railway Building	1972	1002551
AH	465m NW	Railway Building	1980	984510
AH	465m NW	Railway Building	1985	964774
AI	470m N	Hospital	1988	985880
AI	470m N	Hospital	1985	985880
10	472m W	Quay	1848	960465
AC	473m W	Unspecified Ground Workings	1848	814700
AL	473m NW	Unspecified Works	1938	967713
AL	473m NW	Unspecified Works	1932	967713
AL	473m NW	Unspecified Commercial/Industrial	1905	934160
AL	473m NW	Unspecified Commercial/Industrial	1923	872303
AJ	473m SE	Unspecified Mills	1916	920381
AM	475m N	Police Station	1972	952220
AM	475m N	Police Station	1956	952220
AM	475m N	Police Station	1988	996946
AM	475m N	Police Station	1980	914364
AM	475m N	Police Station	1985	996946
AM	475m N	Police Station	1994	996946

ID	Location	Land Use	Date	Group ID
AC	478m W	Unspecified Warehouses	1972	856272
AB	479m W	Railway Buildings	1905	810633
AH	481m NW	Unspecified Depot	1988	885508
AH	481m NW	Unspecified Depot	1985	885508
AP	499m E	Unspecified Mills	1938	992472
AP	499m E	Unspecified Mills	1932	992472
AP	499m E	Unspecified Mills	1916	993089
AP	499m E	Unspecified Commercial/Industrial	1905	951830
AP	499m E	Unspecified Commercial/Industrial	1923	910139

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**221**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 33 >**

ID	Location	Land Use	Date	Group ID
B	39m SE	Gas Works	1908	129043
B	42m SE	Gas Works	1893	129043
B	43m SE	Gas Works	1891	146932
B	45m SE	Gas Works	1922	138279
1	55m E	Tanks	1891	108717
E	57m N	Tanks	1949	152322
D	57m SE	Unspecified Tank	1969	130499
D	57m SE	Unspecified Tank	1953	154985
D	58m SE	Unspecified Tank	1957	128947
D	58m SE	Unspecified Tank	1965	128947
D	58m SE	Unspecified Tank	1949	143876

ID	Location	Land Use	Date	Group ID
E	59m N	Tanks	1957	130425
E	59m N	Tanks	1965	130425
D	59m SE	Unspecified Tank	1980	137448
D	59m SE	Unspecified Tank	1980	137448
D	59m SE	Unspecified Tank	1985	137448
E	59m N	Tanks	1951	130425
E	59m N	Tanks	1948	143858
D	60m SE	Gasometer	1908	142772
D	60m SE	Gasometer	1922	142772
D	60m SE	Unspecified Tank	1932	134199
D	95m S	Unspecified Tank	1891	115291
D	100m SE	Unspecified Tank	1969	153577
D	100m SE	Unspecified Tank	1953	153919
D	100m SE	Unspecified Tank	1957	128256
D	101m SE	Unspecified Tank	1980	153577
D	101m SE	Unspecified Tank	1980	153577
D	101m SE	Unspecified Tank	1985	153577
D	102m SE	Unspecified Tank	1908	152429
D	102m SE	Unspecified Tank	1922	152429
D	102m SE	Unspecified Tank	1932	152429
I	135m S	Tanks	1949	108714
H	136m NE	Unspecified Tank	1891	115293
B	137m SE	Gas Works	1949	128464
I	139m S	Tanks	1949	108715
I	143m SW	Unspecified Tank	1891	115294
B	158m SE	Unspecified Tank	1969	142299
B	159m SE	Gas Holder Station	1980	155526
B	159m SE	Gas Holder Station	1980	155526

ID	Location	Land Use	Date	Group ID
B	159m SE	Disused Gas Holder Station	1985	126184
B	168m SE	Tanks	1893	151285
B	168m SE	Tanks	1891	126769
B	172m SE	Unspecified Tank	1891	115292
A	175m NW	Unspecified Tank	1957	156070
A	175m NW	Unspecified Tank	1955	149684
B	177m SE	Tanks	1969	142141
B	177m SE	Tanks	1953	131406
B	177m SE	Tanks	1957	131406
B	177m SE	Tanks	1949	131406
B	178m SE	Tanks	1969	131205
B	178m SE	Tanks	1953	148910
B	183m SE	Unspecified Tank	1957	115290
B	183m SE	Tanks	1949	127220
B	190m SE	Unspecified Tank	1957	138206
B	190m SE	Unspecified Tank	1949	151860
B	192m E	Tanks	1957	108596
B	194m SE	Unspecified Tank	1957	143015
B	194m SE	Unspecified Tank	1965	143015
B	194m SE	Gasometer	1949	140020
B	195m SE	Gasometer	1969	150127
B	195m SE	Unspecified Tank	1953	131493
B	196m SE	Gasometers	1908	153355
B	196m SE	Gasometers	1922	153355
B	196m SE	Tanks	1932	108716
B	197m SE	Gasometer	1893	150127
B	201m SE	Unspecified Tank	1957	143010
B	201m SE	Unspecified Tank	1965	143010

ID	Location	Land Use	Date	Group ID
B	202m SE	Unspecified Tank	1969	143010
B	202m SE	Unspecified Tank	1953	143010
B	202m E	Unspecified Tank	1969	148917
B	202m E	Unspecified Tank	1953	148917
B	202m E	Unspecified Tank	1957	148917
B	202m E	Unspecified Tank	1965	148917
B	202m E	Unspecified Tank	1949	148917
B	205m SE	Unspecified Tank	1957	134264
B	205m SE	Unspecified Tank	1965	134264
B	205m SE	Gasometer	1949	136972
B	205m SE	Unspecified Tank	1953	137941
B	206m SE	Gasometer	1893	144817
B	210m SE	Unspecified Tank	1953	130539
B	210m SE	Unspecified Tank	1957	130539
B	210m SE	Unspecified Tank	1965	130539
B	211m SE	Unspecified Tank	1893	147641
B	212m SE	Gasometer	1893	139247
B	212m E	Unspecified Tank	1891	114954
B	212m SE	Unspecified Tank	1893	129472
B	212m SE	Unspecified Tank	1969	142137
B	212m SE	Unspecified Tank	1953	142137
B	212m SE	Gasometer	1891	141539
B	213m SE	Unspecified Tank	1957	142137
B	213m SE	Unspecified Tank	1965	142137
B	213m SE	Unspecified Tank	1891	129472
B	214m SE	Unspecified Tank	1980	142137
B	214m SE	Unspecified Tank	1980	142137
B	214m SE	Unspecified Tank	1985	142137

ID	Location	Land Use	Date	Group ID
B	214m E	Unspecified Tank	1891	140833
B	215m SE	Gasometer	1893	149968
B	216m SE	Gasometer	1891	152905
B	216m SE	Unspecified Tank	1957	141299
B	216m SE	Unspecified Tank	1965	141299
B	216m SE	Gasometer	1949	142179
B	216m SE	Gasometer	1969	149968
B	216m SE	Unspecified Tank	1953	138289
B	217m SE	Gas Holder	1980	137601
B	217m SE	Gas Holder	1980	137601
B	217m SE	Gas Holder	1985	137601
B	218m SE	Gasometer	1893	130887
B	219m SE	Gasometer	1891	130887
B	220m SE	Unspecified Tank	1957	127332
B	220m SE	Unspecified Tank	1965	127332
B	220m SE	Gasometer	1949	135711
B	220m SE	Unspecified Tank	1953	131749
B	239m SE	Unspecified Tank	1893	149484
B	239m SE	Gasometer	1891	114291
B	242m SE	Unspecified Tank	1893	154854
B	243m SE	Gasometer	1969	114290
B	243m SE	Unspecified Tank	1953	145295
B	244m SE	Unspecified Tank	1957	145295
B	244m SE	Unspecified Tank	1965	145295
B	244m SE	Unspecified Tank	1980	151024
B	244m SE	Unspecified Tank	1985	151024
B	249m SE	Gasometer	1893	156214
B	249m SE	Unspecified Tank	1969	140651

ID	Location	Land Use	Date	Group ID
B	249m SE	Unspecified Tank	1953	137028
B	249m SE	Unspecified Tank	1957	137028
B	249m SE	Unspecified Tank	1949	137028
B	249m SE	Unspecified Tank	1980	140651
B	249m SE	Unspecified Tank	1985	140651
B	249m SE	Unspecified Tank	1987	140651
B	249m SE	Unspecified Tank	1987	140651
B	249m SE	Unspecified Tank	1990	140651
B	250m SE	Unspecified Tank	1998	153520
B	250m SE	Gasometer	1891	156214
B	251m SE	Unspecified Tank	1957	133065
B	251m SE	Unspecified Tank	1965	133065
B	251m SE	Gasometer	1949	136042
B	251m SE	Unspecified Tank	1953	138538
B	277m SE	Unspecified Tank	1987	144190
B	277m SE	Unspecified Tank	1987	144190
B	277m SE	Unspecified Tank	1990	144190
T	278m W	Unspecified Tank	1932	115026
B	282m SE	Unspecified Tank	1893	145005
B	283m SE	Unspecified Tank	1891	145005
B	284m SE	Unspecified Tank	1998	149018
B	284m SE	Unspecified Tank	1969	154747
B	285m SE	Unspecified Tank	1980	126732
B	285m SE	Unspecified Tank	1980	126732
B	285m SE	Unspecified Tank	1985	126732
B	285m SE	Unspecified Tank	1987	126732
B	285m SE	Unspecified Tank	1987	126732
B	285m SE	Unspecified Tank	1990	126732

ID	Location	Land Use	Date	Group ID
Y	314m SE	Unspecified Tank	1969	154955
Y	314m SE	Unspecified Tank	1953	139489
Y	314m SE	Unspecified Tank	1957	139489
Y	314m SE	Unspecified Tank	1949	139489
N	318m N	Unspecified Tank	1986	145853
N	319m N	Unspecified Tank	1988	148102
N	320m N	Unspecified Tank	1996	148102
N	320m N	Unspecified Tank	1995	148102
N	320m N	Unspecified Tank	1994	148102
N	320m N	Unspecified Tank	1999	148102
Y	323m SE	Unspecified Tank	1980	141556
Y	323m SE	Unspecified Tank	1980	141556
Y	323m SE	Unspecified Tank	1985	141556
N	325m N	Unspecified Tank	1986	130493
N	327m N	Unspecified Tank	1988	132824
N	327m N	Unspecified Tank	1996	147875
N	327m N	Unspecified Tank	1995	147875
N	327m N	Unspecified Tank	1994	147875
N	327m N	Unspecified Tank	1999	147875
B	328m SE	Unspecified Tank	1908	114953
B	330m SE	Unspecified Tank	1893	145665
B	330m SE	Unspecified Tank	1922	135180
N	332m N	Unspecified Tank	1986	132999
N	334m N	Unspecified Tank	1988	139530
N	334m N	Unspecified Tank	1996	126977
N	334m N	Unspecified Tank	1995	126977
N	334m N	Unspecified Tank	1994	126977
N	334m N	Unspecified Tank	1999	126977

ID	Location	Land Use	Date	Group ID
N	351m N	Unspecified Tank	1988	148866
N	351m N	Unspecified Tank	1996	148866
N	351m N	Unspecified Tank	1995	148866
N	351m N	Unspecified Tank	1994	148866
N	351m N	Unspecified Tank	1999	148866
B	361m SE	Unspecified Tank	1893	129815
B	361m SE	Unspecified Tank	1922	131267
6	381m N	Unspecified Tank	1891	115172
B	383m E	Unspecified Tank	1893	115711
B	384m E	Gasometer	1891	135547
B	384m E	Gasometer	1908	148893
B	401m E	Tanks	1953	108483
B	401m E	Unspecified Tank	1922	115713
B	404m E	Unspecified Tank	1953	140978
B	404m E	Unspecified Tank	1948	143136
B	404m E	Tanks	1950	108894
B	404m E	Unspecified Tank	1955	155695
B	404m E	Unspecified Tank	1955	155695
B	404m E	Unspecified Tank	1948	142178
B	405m E	Unspecified Tank	1953	156072
B	405m E	Unspecified Tank	1955	152417
8	408m NE	Unspecified Tank	1891	115174
B	409m E	Unspecified Tank	1948	133077
B	410m E	Unspecified Tank	1953	149069
B	410m E	Unspecified Tank	1955	153467
AG	428m SE	Unspecified Tank	1922	115714
AG	448m SE	Unspecified Tank	1980	151969
AG	448m SE	Unspecified Tank	1980	151969

ID	Location	Land Use	Date	Group ID
AG	448m SE	Unspecified Tank	1985	151969
AG	448m SE	Unspecified Tank	1969	151969
AG	448m SE	Unspecified Tank	1953	151969
AG	448m SE	Unspecified Tank	1957	151969
AG	448m SE	Unspecified Tank	1965	151969
AG	448m SE	Unspecified Tank	1949	151969
AB	488m W	Unspecified Tank	1922	115025
AN	493m E	Unspecified Tank	1953	140936
AN	493m E	Unspecified Tank	1955	142095
AO	498m W	Unspecified Tank	1980	134057
AO	498m W	Unspecified Tank	1980	154190
AO	499m W	Unspecified Tank	1965	149868
AO	499m W	Unspecified Tank	1960	147256
AO	499m W	Unspecified Tank	1969	139198

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	**99**

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 33 >**

ID	Location	Land Use	Date	Group ID
B	39m SE	Gas Works	1908	86780
B	42m SE	Gas Works	1893	86780
B	43m SE	Gas Works	1891	73990
B	45m SE	Gas Works	1922	84456
D	60m SE	Gasometer	1908	88154
D	60m SE	Gasometer	1922	88154

ID	Location	Land Use	Date	Group ID
B	137m SE	Gas Works	1949	79857
B	159m SE	Gas Holder Station	1980	74476
B	159m SE	Gas Holder Station	1980	74476
B	159m SE	Disused Gas Holder Station	1985	68843
I	169m S	Electricity Substation	1998	92277
I	169m S	Electricity Transformers	1969	73429
I	170m S	Electricity Transformers	1980	73429
I	170m S	Electricity Transformers	1980	73429
I	170m S	Electricity Transformers	1985	73429
I	181m S	Electricity Substation	1953	70856
I	181m S	Electricity Substation	1957	70856
I	181m S	Electricity Substation	1949	70856
I	182m S	Electricity Substation	1969	90707
I	183m S	Electricity Substation	1980	90707
I	183m S	Electricity Substation	1980	90707
I	183m S	Electricity Substation	1985	90707
I	183m S	Electricity Substation	1987	90707
I	183m S	Electricity Substation	1987	90707
I	183m S	Electricity Substation	1990	90707
B	194m SE	Gasometer	1949	87070
B	195m SE	Gasometer	1969	81639
B	196m SE	Gasometers	1908	79709
B	196m SE	Gasometers	1922	79709
B	197m SE	Gasometer	1893	81639
B	205m SE	Gasometer	1949	74834
B	206m SE	Gasometer	1893	91928
B	212m SE	Gasometer	1893	84792
B	212m SE	Gasometer	1891	77434

ID	Location	Land Use	Date	Group ID
B	215m SE	Gasometer	1893	79524
B	216m SE	Gasometer	1891	77969
B	216m SE	Gasometer	1949	88747
B	216m SE	Gasometer	1969	79524
B	217m SE	Gas Holder	1980	90352
B	217m SE	Gas Holder	1980	90352
B	217m SE	Gas Holder	1985	90352
B	218m SE	Gasometer	1893	86689
B	219m SE	Gasometer	1891	86689
B	220m SE	Gasometer	1949	76936
B	225m SE	Electricity Substation	1998	65849
B	239m SE	Gasometer	1891	68520
B	243m SE	Gasometer	1969	68519
Q	247m S	Electricity Substation	1998	66826
B	249m SE	Gasometer	1893	73168
B	250m SE	Gasometer	1891	73168
B	251m SE	Gasometer	1949	90192
U	281m NE	Electricity Substation	1951	85241
U	281m NE	Electricity Substation	1973	85241
U	281m NE	Electricity Substation	1948	85241
U	281m NE	Electricity Substation	1957	85241
U	281m NE	Electricity Substation	1965	85241
U	281m NE	Electricity Substation	1949	85241
U	282m NE	Electricity Substation	1985	85241
B	286m E	Hydraulic Power Station	1932	87405
B	291m E	Hydraulic Power Station	1951	77593
B	291m E	Hydraulic Power Station	1973	77593
B	291m E	Hydraulic Power Station	1948	88074

ID	Location	Land Use	Date	Group ID
B	291m E	Hydraulic Power Station	1957	83124
B	291m E	Hydraulic Power Station	1949	73635
B	348m E	Electricity Substation	1985	77026
B	349m E	Electricity Substation	1996	70454
B	349m E	Electricity Substation	1995	70454
B	349m E	Electricity Substation	1994	70454
B	349m E	Electricity Substation	1999	70454
B	349m E	Electricity Substation	1951	77026
B	349m E	Electricity Substation	1988	70454
B	349m E	Electricity Substation	1973	77026
B	349m E	Electricity Substation	1948	77026
B	350m E	Electricity Substation	1957	77026
Z	357m S	Electricity Substation	1957	80045
Z	357m S	Electricity Substation	1949	70165
Z	371m S	Electricity Substation	1953	69203
B	384m E	Gasometer	1891	77992
B	384m E	Gasometer	1908	91082
AE	422m NW	Electricity Substation	1957	87242
AE	422m NW	Electricity Substation	1949	87242
AE	422m NW	Electricity Substation	1995	80836
AE	422m NW	Electricity Substation	1994	80836
AE	422m NW	Electricity Substation	1995	80836
AE	422m NW	Electricity Substation	1948	87242
AE	422m NW	Electricity Substation	1981	80836
AE	422m NW	Electricity Substation	1955	87242
AE	423m NW	Electricity Substation	1986	80836
AE	423m NW	Electricity Substation	1990	80836
AH	433m NW	Electricity Substation	1957	76855

ID	Location	Land Use	Date	Group ID
AH	435m NW	Electricity Substation	1995	69187
AH	436m NW	Electricity Substation	1955	72632
AH	439m NW	Electricity Substation	1949	72632
AH	454m NW	Electricity Substation	1948	84176
AH	470m NW	Electricity Substation	1986	81033
AH	470m NW	Electricity Substation	1990	90860
AH	475m NW	Electricity Substation	1995	71919
AH	475m NW	Electricity Substation	1994	71919
AH	475m NW	Electricity Substation	1981	75511

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	**0**

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	**74**

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 33 >**

ID	Location	Land Use	Date	Group ID
D	71m SE	Garage	1957	24325
D	71m SE	Garage	1965	24325
D	71m SE	Garage	1953	24325
G	79m W	Garage	1965	30682

ID	Location	Land Use	Date	Group ID
G	79m W	Garage	1957	30682
G	80m W	Garage	1963	30682
G	80m W	Garage	1981	30682
G	80m W	Garage	1955	30682
G	80m W	Garage	1986	27623
G	80m W	Garage	1990	27623
G	116m W	Garage	1965	28379
G	116m W	Garage	1960	28379
G	116m W	Garage	1969	28379
J	168m NE	Garage	1973	22727
R	231m NW	Garage	1995	27975
R	231m NW	Garage	1994	27975
R	231m NW	Garage	1995	25530
R	231m NW	Garage	1981	28188
R	233m NW	Garage	1986	28188
R	233m NW	Garage	1990	28188
S	246m W	Garage	1980	30971
S	246m W	Garage	1980	30971
S	249m W	Garage	1969	28889
V	280m SW	Garage	1980	28779
V	280m SW	Garage	1980	28779
V	280m SW	Garage	1990	28779
V	283m SW	Garage	1995	26716
V	283m SW	Garage	1997	26716
V	283m SW	Garage	1995	26716
V	283m SW	Garage	1997	26716
4	306m NW	Garage	1981	22730
X	309m S	Garage	1965	24793

ID	Location	Land Use	Date	Group ID
X	310m S	Garage	1957	27182
X	318m S	Garage	1960	24793
X	318m S	Garage	1954	29208
AA	364m SW	Garage	1980	30605
AA	365m SW	Garage	1965	24027
AA	365m SW	Garage	1980	26797
AA	365m SW	Garage	1990	26797
AA	365m SW	Garage	1957	29417
AA	365m SW	Garage	1960	29338
AA	365m SW	Garage	1969	28842
AA	366m SW	Garage	1995	23312
AA	366m SW	Garage	1997	23312
AA	366m SW	Garage	1995	23312
AA	366m SW	Garage	1997	23312
AB	375m W	Garage	1981	30488
AB	376m W	Garage	1986	30488
AB	377m W	Garage	1963	25233
AA	378m SW	Garage	1954	27153
AB	384m W	Garage	1965	29108
AB	413m W	Garage	1981	22731
AB	455m W	Garage	1965	27617
AB	456m W	Garage	1963	27617
AB	456m W	Garage	1981	27617
AB	457m W	Garage	1986	25384
AJ	471m E	Garage	1965	26876
AJ	471m E	Garage	1965	26876
AJ	471m E	Garage	1987	25586
AJ	471m E	Garage	1969	26876

ID	Location	Land Use	Date	Group ID
AJ	471m E	Garage	1962	26876
AJ	471m E	Garage	1970	24700
AJ	472m E	Garage	1985	25586
11	478m N	Garage	1948	22733
AH	480m NW	Garage	1981	23619
AH	480m NW	Garage	1986	23619
AH	480m NW	Garage	1990	23619
AN	495m E	Garage	1995	31003
AN	495m E	Garage	1998	31003
AN	495m E	Garage	1987	31003
AN	495m E	Garage	1969	31003
AN	495m E	Garage	1948	23262
AN	495m E	Garage	1953	23262
AN	495m E	Garage	1962	23262

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



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Site Outline

Search buffers in metres (m)

Historical waste sites

Licensed waste sites

Waste exemptions

3.1 Active or recent landfill

Records within 500m	0

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m	0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	0

Landfill sites identified from Local Authority records and high detail historical mapping.

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m	0

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.5 Historical waste sites

Records within 500m	16

Waste site records derived from Local Authority planning records and high detail historical mapping.

Features are displayed on the Waste and landfill map on **page 60 >**

ID	Location	Address	Further Details	Date
B	149m S	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1987
B	149m S	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1987
B	149m S	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1990

ID	Location	Address	Further Details	Date
B	174m SW	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1990
B	175m SW	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1997
B	175m SW	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1995
B	175m SW	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1995
E	266m NE	Site Address: Manchester Central Convention, Windmill Street, Manchester, Greater Manchester, M2 3GX	Type of Site: Recycling Centre Planning application reference: 103313/FO/2013/C1 Description: Scheme comprises relocation of waste storage facility to allow creation of a business recycling centre and construction of screening. Data source: Historic Planning Application Data Type: Point	12/11/2013
6	347m W	Site Address: N/A	Type of Site: Refuse Destructor Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1948
H	429m W	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1981
H	429m W	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1986

ID	Location	Address	Further Details	Date
J	437m SE	Site Address: N/A	Type of Site: Waste Paper Works Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1932
J	440m SE	Site Address: N/A	Type of Site: Waste Paper Works Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1953
J	440m SE	Site Address: N/A	Type of Site: Waste Paper Works Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1932
J	440m SE	Site Address: N/A	Type of Site: Waste Paper Works Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1955
J	448m E	Site Address: N/A	Type of Site: Waste Paper Works Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1948

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m	1

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

Features are displayed on the Waste and landfill map on **page 60 >**

ID	Location	Details		
8	417m E	Site Name: Terra Vac (uk) Ltd Site Address: Little Ireland Phase B, Great Marlborough Street, Manchester, M1 5NN Correspondence Address: Unit 7a, Whitwood Enterprise Park, Castleford, WF10 5PX	Type of Site: Mobile Plant Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: TER003 EPR reference: - Operator: Terra Vac (uk) Ltd Waste Management licence No: 50191 Annual Tonnage: 0	Issue Date: 17/06/2002 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued

This data is sourced from the Environment Agency and Natural Resources Wales.

3.7 Waste exemptions

Records within 500m	**69**

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 60 >**

ID	Location	Site	Reference	Category	Sub-Category	Description
1	8m SE	Axis Tower, Albion Street, Manchester, M1 5nz	WEX074989	Using waste exemption	Not on a farm	Use of waste in construction
2	82m N	Axis Tower, Albion Street, Manchester, M1 5nz	WEX220537	Using waste exemption	Not on a farm	Use of waste in construction
3	82m SE	Bam Project Office, First Street Plot 9a, Hulme Street, Manchester, M15 4rp	WEX338383	Using waste exemption	Not on a farm	Use of waste in construction
A	134m SW	1, Alpha Place, Manchester, M15 4pp	WEX017965	Storing waste exemption	Not on a farm	Storage of waste in secure containers
A	134m SW	1, Alpha Place, Manchester, M15 4pp	WEX017965	Storing waste exemption	Not on a farm	Storage of waste in a secure place
C	166m E	Eversheds House 70 Great Bridgewater Street Manchester M1 5es	EPR/QE5657AK/A001	Using waste exemption	Non-agricultural waste only	Spreading waste on non-agricultural land to confer benefit
C	166m E	Eversheds House 70 Great Bridgewater Street Manchester M1 5es	EPR/QE5657AK/A001	Treating waste exemption	Non-agricultural waste only	Treatment of kitchen waste in a wormery

ID	Location	Site	Reference	Category	Sub-Category	Description
C	166m E	Eversheds House 70 Great Bridgewater Street Manchester M1 5es	EPR/QE5657AK/A001	Using waste exemption	Non-agricultural waste only	Use of mulch
D	216m N	-	WEX346897	Treating waste exemption	Not on a farm	Screening and blending of waste
D	216m N	-	WEX346897	Treating waste exemption	Not on a farm	Recovery of scrap metal
D	216m N	-	WEX346897	Treating waste exemption	Not on a farm	Sorting mixed waste
D	216m N	-	WEX346897	Treating waste exemption	Not on a farm	Treatment of waste food
D	216m N	-	WEX346897	Treating waste exemption	Not on a farm	Treatment of kitchen waste in a wormery
D	216m N	-	WEX346897	Using waste exemption	Not on a farm	Use of waste in construction
D	216m N	-	WEX346897	Using waste exemption	Not on a farm	Use of waste in the construction of entertainment or educational installations etc
D	216m N	-	WEX346897	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
D	216m N	-	WEX346897	Storing waste exemption	Not on a farm	Storage of waste in secure containers
D	216m N	-	WEX346897	Storing waste exemption	Not on a farm	Storage of waste in a secure place
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX217816	Storing waste exemption	Not on a farm	Storage of waste in a secure place
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX063339	Storing waste exemption	Not on a farm	Storage of waste in a secure place
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX220776	Using waste exemption	Not on a farm	Use of waste in construction
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX220776	Storing waste exemption	Not on a farm	Storage of waste in a secure place
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX220776	Storing waste exemption	Not on a farm	Storage of waste in secure containers
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX220776	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)

ID	Location	Site	Reference	Category	Sub-Category	Description
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX220776	Using waste exemption	Not on a farm	Use of waste in the construction of entertainment or educational installations etc
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX075609	Treating waste exemption	Not on a farm	Sorting mixed waste
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX075609	Treating waste exemption	Not on a farm	Manual treatment of waste
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX075609	Treating waste exemption	Not on a farm	Treatment of waste food
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX075609	Treating waste exemption	Not on a farm	Treatment of kitchen waste in a wormery
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX075609	Treating waste exemption	Not on a farm	Screening and blending of waste
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX075609	Treating waste exemption	Not on a farm	Recovery of scrap metal
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX075609	Storing waste exemption	Not on a farm	Storage of waste in secure containers
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX075609	Storing waste exemption	Not on a farm	Storage of waste in a secure place
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX075609	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX075609	Using waste exemption	Not on a farm	Use of waste in construction
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX075609	Using waste exemption	Not on a farm	Use of waste in the construction of entertainment or educational installations etc
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX220776	Treating waste exemption	Not on a farm	Treatment of kitchen waste in a wormery
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX220776	Treating waste exemption	Not on a farm	Treatment of waste food
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX220776	Treating waste exemption	Not on a farm	Manual treatment of waste
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX220776	Treating waste exemption	Not on a farm	Sorting mixed waste
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX220776	Treating waste exemption	Not on a farm	Recovery of scrap metal

ID	Location	Site	Reference	Category	Sub-Category	Description
D	235m NE	Windmill Street, Manchester, M2 3gx	WEX220776	Treating waste exemption	Not on a farm	Screening and blending of waste
4	243m NW	6, Southern Street, Manchester, M3 4nj	WEX384675	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
5	285m N	The Mews, Great Northern Warehouse 235 Deansgate Manchester M3 4en	EPR/BF0603EU/A001	Using waste exemption	Non-agricultural waste only	Use of waste in the construction of entertainment or educational installations etc
E	292m NE	-	WEX210229	Storing waste exemption	Not on a farm	Storage of waste in a secure place
E	292m NE	Manchester Central Convention Co Petersfield Manchester Greater Manchester M2 3gx	EPR/ZF0434NE/A001	Storing waste exemption	Non-agricultural waste only	Storage of waste in secure containers
E	292m NE	Manchester Central Convention Co Petersfield Manchester Greater Manchester M2 3gx	EPR/ZF0434NE/A001	Storing waste exemption	Non-agricultural waste only	Storage of waste in a secure place
E	292m NE	Manchester Central Convention Co Petersfield Manchester Greater Manchester M2 3gx	EPR/ZF0434NE/A001	Treating waste exemption	Non-agricultural waste only	Preparatory treatments (baling, sorting, shredding etc)
E	292m NE	Manchester Central Convention Co Petersfield Manchester Greater Manchester M2 3gx	EPR/ZF0434NE/A001	Using waste exemption	Non-agricultural waste only	Use of waste in construction
E	292m NE	Manchester Central Convention Co Petersfield Manchester Greater Manchester M2 3gx	EPR/ZF0434NE/A001	Using waste exemption	Non-agricultural waste only	Use of waste in the construction of entertainment or educational installations etc
E	292m NE	Manchester Central Convention Co Petersfield Manchester Greater Manchester M2 3gx	EPR/ZF0434NE/A001	Treating waste exemption	Non-agricultural waste only	Sorting mixed waste
E	292m NE	Manchester Central Convention Co Petersfield Manchester Greater Manchester M2 3gx	EPR/ZF0434NE/A001	Treating waste exemption	Non-agricultural waste only	Manual treatment of waste

ID	Location	Site	Reference	Category	Sub-Category	Description
E	292m NE	Manchester Central Convention Co Petersfield Manchester Greater Manchester M2 3gx	EPR/ZF0434NE/A001	Treating waste exemption	Non-agricultural waste only	Treatment of waste food
E	292m NE	Manchester Central Convention Co Petersfield Manchester Greater Manchester M2 3gx	EPR/ZF0434NE/A001	Treating waste exemption	Non-agricultural waste only	Treatment of kitchen waste in a wormery
E	292m NE	Manchester Central Convention Co Petersfield Manchester Greater Manchester M2 3gx	EPR/ZF0434NE/A001	Treating waste exemption	Non-agricultural waste only	Screening and blending of waste
E	292m NE	Manchester Central Convention Co Petersfield Manchester Greater Manchester M2 3gx	EPR/ZF0434NE/A001	Treating waste exemption	Non-agricultural waste only	Recovery of scrap metal
E	295m NE	Manchester Central Convention Complex Petersfield Manchester M2 3gx	EPR/KE5983NV/A001	Storing waste exemption	Non-agricultural waste only	Storage of waste in a secure place
F	369m W	Bestway Panacea Holdings Limited, Bulk Registration For Bestway Panacea Holdings Limited For 108 Sites, M34lz	NRW-WME005755	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
F	370m W	Bestway National Chemists Ltd, Bestway National Chemists Ltd, Merchants Warehouse, 21 Castle Street, Manchester, M3 4lz	NRW-WME074524	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
F	370m W	Bestway National Chemists Ltd, Bulk Registration For Bestway National Chemists Ltd (107 Sites), M34lz	NRW-WME036650	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
7	381m NE	Windmill Green, 24 Mount Street, Manchester, M2 3nn	WEX105155	Using waste exemption	Not on a farm	Use of waste in construction
G	389m W	-	WEX347217	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
G	389m W	-	WEX347217	Treating waste exemption	Not on a farm	Aerobic composting and associated prior treatment

ID	Location	Site	Reference	Category	Sub-Category	Description
I	430m NW	25 St. John Street Manchester M3 4dt	EPR/DE5245SP/A001	Treating waste exemption	Non-agricultural waste only	Sorting and de-naturing of controlled drugs for disposal
I	431m NW	25, St. John Street, Manchester, M3 4dt	WEX243303	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
I	431m NW	98, Harley Street, London, W1g 7hz	WEX099367	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
I	433m NW	25 St John Street M34dt	EPR/FE5081QV/A001	Treating waste exemption	Non-agricultural waste only	Sorting and de-naturing of controlled drugs for disposal
9	442m NE	Oxford House, 16, Oxford Street, Manchester, M1 5ae	WEX331634	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
10	461m NE	Brazennose House M2 5pb	EPR/ZE5544KA/A001	Storing waste exemption	Non-agricultural waste only	Storage of waste in a secure place

This data is sourced from the Environment Agency and Natural Resources Wales.

4 Current industrial land use



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Site Outline

Search buffers in metres (m)

- Recent industrial land uses
- Current or recent petrol stations
- Part A(1) industrial activities
- Licensed pollutant release (Part A(2)/B)
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m	24

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 70 >**

ID	Location	Company	Address	Activity	Category
1	6m SW	Mancoco	Arch 84, Hewitt Street, Manchester, Greater Manchester, M15 4GB	Food and Beverage Industry Machinery	Industrial Products
A	48m SW	Integra Consulting	14-32, Hewitt Street, Manchester, Greater Manchester, M15 4GB	Structural Engineers	Engineering Services
A	57m W	G T Autos	Arch 88, Hewitt Street, Manchester, Greater Manchester, M15 4GB	Vehicle Repair, Testing and Servicing	Repair and Servicing

ID	Location	Company	Address	Activity	Category
2	75m NE	My P C Fix	Albion Wharf 19, Albion Street, Manchester, Greater Manchester, M1 5LN	Electrical Equipment Repair and Servicing	Repair and Servicing
3	99m NW	Deansgate-Castlefield (Manchester Metrolink)	Greater Manchester, M1	Tram, Metro and Light Railway Stations and Stops	Public Transport, Stations and Infrastructure
4	119m W	Deansgate Rail Station	Greater Manchester, M15	Railway Stations, Junctions and Halts	Public Transport, Stations and Infrastructure
C	128m NE	Electricity Sub Station	Greater Manchester, M1	Electrical Features	Infrastructure and Facilities
B	132m E	Corner House Publications	2, Tony Wilson Place, Manchester, Greater Manchester, M15 4FN	Distribution and Haulage	Transport, Storage and Delivery
D	149m SW	Pest Control Manchester	14, Commercial Street, Manchester, Greater Manchester, M15 4PZ	Pest and Vermin Control	Contract Services
D	149m SW	Adeptus Consulting	14, Commercial Street, Manchester, Greater Manchester, M15 4PZ	Car Ports and Steel Buildings	Industrial Products
5	153m S	Electricity Sub Station	Greater Manchester, M15	Electrical Features	Infrastructure and Facilities
6	163m E	Curtins	17-19, Whitworth Street West, Manchester, Greater Manchester, M1 5WG	Structural Engineers	Engineering Services
E	166m SE	W S P	8, First Street, Manchester, Greater Manchester, M15 4RP	Civil Engineers	Engineering Services
E	166m SE	Gazprom Marketing & Energy	8, First Street, Manchester, Greater Manchester, M15 4RP	Fuel Distributors and Suppliers	Household, Office, Leisure and Garden
F	171m W	Hulley & Kirkwood	2, Commercial Street, Manchester, Greater Manchester, M15 4RQ	Civil Engineers	Engineering Services
7	176m SE	Autotrader	Fourth Floor 1, Tony Wilson Place, Manchester, Greater Manchester, M15 4FN	Secondhand Vehicles	Motoring
G	178m SW	R O C Consulting	Commercial Wharf, 6, Commercial Street, Manchester, Greater Manchester, M15 4PZ	Industrial Engineers	Engineering Services
8	186m N	Duffy Motors Manchester Ltd	Arches 16 and 17, Watson Street, Manchester, Greater Manchester, M3 4LP	Vehicle Repair, Testing and Servicing	Repair and Servicing
G	187m SW	Commercial Wharf	Greater Manchester, M15	Moorings and Unloading Facilities	Water

ID	Location	Company	Address	Activity	Category
10	207m NW	Handpicked Accountants	340, Deansgate, Manchester, Greater Manchester, M3 4LY	Published Goods	Industrial Products
I	212m E	Electricity Sub Station	Greater Manchester, M15	Electrical Features	Infrastructure and Facilities
11	216m NW	Feather & Black Ltd	289-291, Deansgate, Manchester, Greater Manchester, M3 4EW	Beds and Bedding	Consumer Products
J	235m SE	Gas Valve Compound	Greater Manchester, M15	Gas Features	Infrastructure and Facilities
12	250m S	Electricity Sub Station	Greater Manchester, M15	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	**1**

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 70 >**

ID	Location	Company	Address	LPG	Status
16	361m SW	OBSOLETE	14, Great Jackson Street, Castlefield, Manchester, Greater Manchester, M15 4NG	Not Applicable	Obsolete

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	**0**

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	**0**

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	0

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.10 Licensed industrial activities (Part A(1))

Records within 500m	2

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on **page 70 >**

ID	Location	Details	
H	179m NE	Operator: MANCHESTER HEAT NETWORK TRADECO LIMITED Installation Name: Manchester Civic Quarter Energy Centre EPR/JP3700BU Process: TRANCHE A SG PERMITTING DATE 1ST OCTOBER 2019 Permit Number: JP3700BU Original Permit Number: JP3700BU	EPR Reference: EPR/JP3700BU Issue Date: 20/08/2020 Effective Date: 20/08/2020 Last date noted as effective: 06/08/2024 Status: Effective
H	179m NE	Operator: MANCHESTER HEAT NETWORK TRADECO LIMITED Installation Name: Manchester Civic Quarter Energy Centre EPR/JP3700BU Process: NEW MEDIUM COMBUSTION PLANT Permit Number: JP3700BU Original Permit Number: JP3700BU	EPR Reference: EPR/JP3700BU Issue Date: 20/08/2020 Effective Date: 20/08/2020 Last date noted as effective: 06/08/2024 Status: Effective

This data is sourced from the Environment Agency and Natural Resources Wales.

4.11 Licensed pollutant release (Part A(2)/B)

Records within 500m	4

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on **page 70 >**

ID	Location	Address	Details	
14	319m S	Jessop & Baird Ltd, Hulme St, M15 6AL	Process: Coating Processes Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
15	341m SW	Tom Garner Motors, A Branch of Robins & Day Ltd, Chester Rd, Manchester, M15 4GA	Process: Respraying of Road Vehicles Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

ID	Location	Address	Details	
17	361m SE	Dunlop Ltd, Cambridge St, M60 1PD	Process: Rubber Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
18	443m NE	The Laundry Shop, Unit 5, Peter House, Oxford Street, Manchester	Process: Dry Cleaning Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	**0**

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.13 Licensed Discharges to controlled waters

Records within 500m	**26**

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

Features are displayed on the Current industrial land use map on **page 70 >**

ID	Location	Address	Details	
B	104m E	ALBION STREET/HEWITT ST, MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982706 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: SURRENDERED UNDER EPR 2010 Issue date: - Effective Date: 30/09/1994 Revocation Date: 13/11/2019
B	104m E	ALBION STREET/HEWITT ST, MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0251 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: - Effective Date: 01/01/1995 Revocation Date: 01/01/1995

ID	Location	Address	Details	
C	120m E	TRUMPET STREET, SSO, MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 01MAN0168 Permit Version: 1 Receiving Water: RIVER TIB CULVERT-MEDLOCK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 15/09/1993 Revocation Date: 15/09/1993
F	195m W	DEANSGATE, L. PETER ST, MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0157 Permit Version: 2 Receiving Water: TUNNEL TO MEDLOCK	Status: SURRENDERED UNDER EPR 2010 Issue date: 03/09/2010 Effective Date: 03/09/2010 Revocation Date: 18/07/2014
F	195m W	DEANSGATE, L. PETER ST, MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0157 Permit Version: 1 Receiving Water: TUNNEL TO MEDLOCK	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01/01/1995 Revocation Date: 02/09/2010
9	206m NE	GREAT BRIDGEWATER ST CSO (281WI), 80 GREAT BRIDGEWATER STREET, GREAT ANCOATS, MANCHESTER, GREATER MANCHESTER, M1 5JG	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 01MAN0163 Permit Version: 1 Receiving Water: RIVER TIB CULVERT	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 15/09/1993 Revocation Date: 15/09/1993
F	206m W	CHESTER ROAD/GREAT JACKSON ROAD CSO, 371 DEANSGATE, MANCHESTER, GREATER MANCHESTER, M15 4UP	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982719 Permit Version: 3 Receiving Water: RIVER MEDLOCK	Status: VARIED UNDER EPR 2010 Issue date: 29/03/2021 Effective Date: 29/03/2021 Revocation Date: -
F	211m W	CHESTER ROAD/GREAT JACKSON ROAD CSO, 371 DEANSGATE, MANCHESTER, GREATER MANCHESTER, M15 4UP	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0276 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: - Effective Date: 01/01/1995 Revocation Date: 01/12/1999
F	211m W	CHESTER ROAD/GREAT JACKSON ROAD CSO, 371 DEANSGATE, MANCHESTER, GREATER MANCHESTER, M15 4UP	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982719 Permit Version: 2 Receiving Water: RIVER MEDLOCK	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: - Effective Date: 01/12/1999 Revocation Date: 28/03/2021

ID	Location	Address	Details	
I	213m E	GREAT BRIDGEWATER ST CSO (281WI), 80 GREAT BRIDGEWATER STREET, GREAT ANCOATS, MANCHESTER, GREATER MANCHESTER, M1 5JG	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982707 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 30/09/1994 Revocation Date: 19/10/2020
I	213m E	GREAT BRIDGEWATER ST CSO (281WI), 80 GREAT BRIDGEWATER STREET, GREAT ANCOATS, MANCHESTER, GREATER MANCHESTER, M1 5JG	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0252 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: - Effective Date: 01/01/1995 Revocation Date: 01/01/1995
G	219m SW	OWEN STREET, OWEN STREET, MANCHESTER, M15 4PZ	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: EPRFB3091RH Permit Version: 1 Receiving Water: THE RIVER MEDLOCK	Status: SURRENDERED UNDER EPR 2010 Issue date: 04/10/2016 Effective Date: 04/10/2016 Revocation Date: 02/07/2018
I	222m E	GREAT BRIDGEWATER ST CSO (281WI), 80 GREAT BRIDGEWATER STREET, GREAT ANCOATS, MANCHESTER, GREATER MANCHESTER, M1 5JG	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982707 Permit Version: 2 Receiving Water: RIVER MEDLOCK	Status: VARIED UNDER EPR 2010 Issue date: 20/10/2020 Effective Date: 20/10/2020 Revocation Date: -
J	251m SE	WILMOTT ST AT RIVER ST, MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0184 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01/01/1995 Revocation Date: 18/10/1999
J	251m SE	LOWER CAMBRIDGE ST, MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0285 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: - Effective Date: 01/01/1995 Revocation Date: 15/11/1999
J	251m SE	CAMBRIDGE STREET CSO 282D9, 1 CAMBRIDGE STREET, MANCHESTER, GREATER MANCHESTER, M1 5BW	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982721 Permit Version: 3 Receiving Water: RIVER MEDLOCK	Status: VARIED UNDER EPR 2010 Issue date: 11/04/2018 Effective Date: 11/04/2018 Revocation Date: -

ID	Location	Address	Details	
K	256m W	POTATO WHARF, OFF LIVERPOOL RD, MANCHESTER, GREATER MANCHESTER, M3 4LA	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 0175/5 Permit Version: 2 Receiving Water: CROWTON BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/04/1991 Revocation Date: 31/12/1994
K	256m W	POTATO WHARF, OFF LIVERPOOL RD, MANCHESTER, GREATER MANCHESTER, M3 4LA	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 0175/5 Permit Version: 3 Receiving Water: CROWTON BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/01/1995 Revocation Date: 30/06/1995
K	256m W	POTATO WHARF, OFF LIVERPOOL RD, MANCHESTER, GREATER MANCHESTER, M3 4LA	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 0175/5 Permit Version: 4 Receiving Water: CROWTON BROOK	Status: SURRENDERED UNDER EPR 2010 Issue date: - Effective Date: 01/07/1995 Revocation Date: 08/03/2016
K	256m W	POTATO WHARF, OFF LIVERPOOL RD, MANCHESTER, GREATER MANCHESTER, M3 4LA	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 0175/5 Permit Version: 1 Receiving Water: CROWTON BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 20/01/1975 Revocation Date: 31/03/1991
K	256m W	POTATO WHARF, OFF LIVERPOOL RD, MANCHESTER, GREATER MANCHESTER, M3 4LA	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 0175/5 Permit Version: 1 Receiving Water: CROWTON BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 20/01/1975 Revocation Date: 31/03/1991
J	265m E	CAMBRIDGE STREET CSO 282D9, 1 CAMBRIDGE STREET, MANCHESTER, GREATER MANCHESTER, M1 5BW	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982721 Permit Version: 2 Receiving Water: RIVER MEDLOCK	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: - Effective Date: 15/11/1999 Revocation Date: 10/04/2018

ID	Location	Address	Details	
13	302m SE	NEWCASTLE ST/CHESTER ST, MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0361 Permit Version: 1 Receiving Water: -	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01/01/1995 Revocation Date: -
19	466m W	RICE ST NEAR CASTLE ST, MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 01MAN0171 Permit Version: 1 Receiving Water: BRIDGEWATER CANAL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 15/09/1993 Revocation Date: 15/09/1993
L	490m E	LOWER ORMOMD ST/HULME ST, MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0282 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01/01/1995 Revocation Date: 09/08/2019
L	490m E	CHESTER STREET CSO, JUNCTION OF CHESTER STREET/, LOWER OSMOND STREET, MANCHESTER, M1 5QF	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016983278 Permit Version: 2 Receiving Water: THE RIVER MEDLOCK	Status: VARIED UNDER EPR 2010 Issue date: 09/07/2018 Effective Date: 09/07/2018 Revocation Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

4.14 Pollutant release to surface waters (Red List)

Records within 500m	**0**

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.15 Pollutant release to public sewer

Records within 500m	**0**

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.16 List 1 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 2 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 Pollution Incidents (EA/NRW)

Records within 500m	1

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

Features are displayed on the Current industrial land use map on **page 70 >**

ID	Location	Details	
20	498m E	Incident Date: 12/07/2001 Incident Identification: 15886 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution inventory substances

Records within 500m	0

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.20 Pollution inventory waste transfers

Records within 500m	0

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

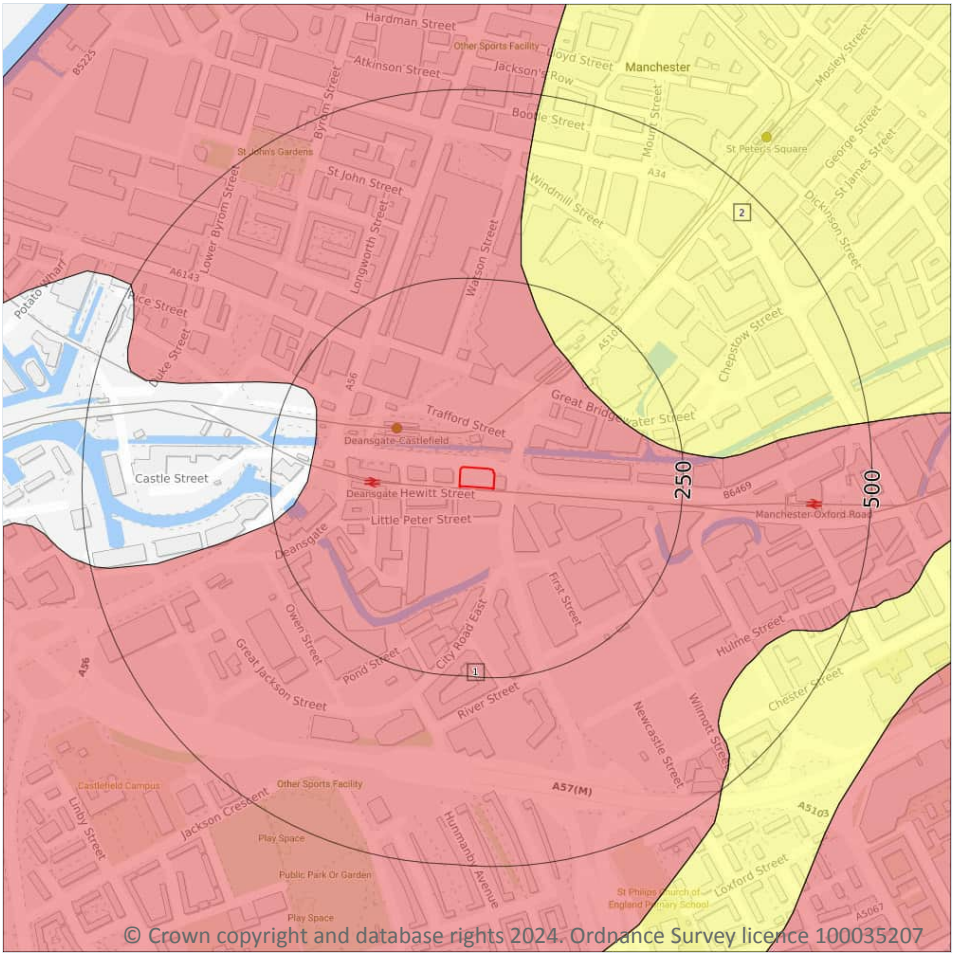
4.21 Pollution inventory radioactive waste

Records within 500m	0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

5 Hydrogeology - Superficial aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive
- Unknown

5.1 Superficial aquifer

Records within 500m	2

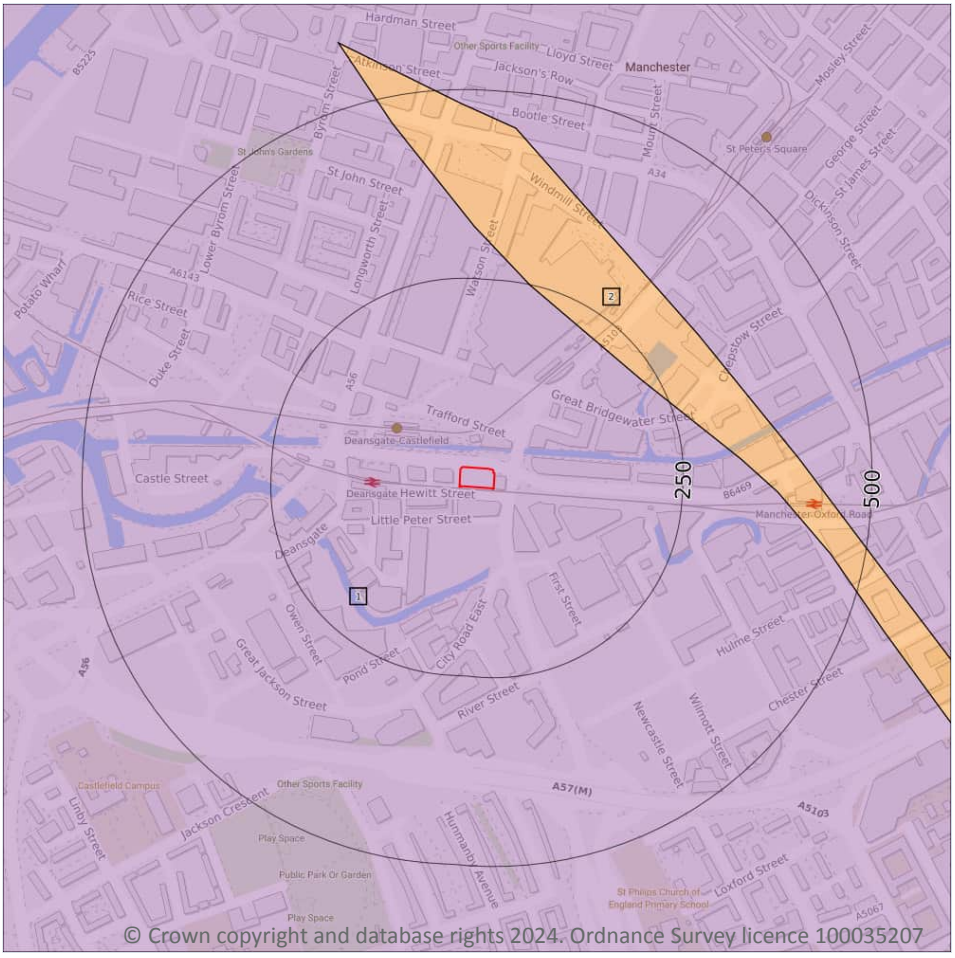
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 82 >**

ID	Location	Designation	Description
1	**On site**	**Secondary A**	**Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers**
2	167m NE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Bedrock aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive

5.2 Bedrock aquifer

Records within 500m	2

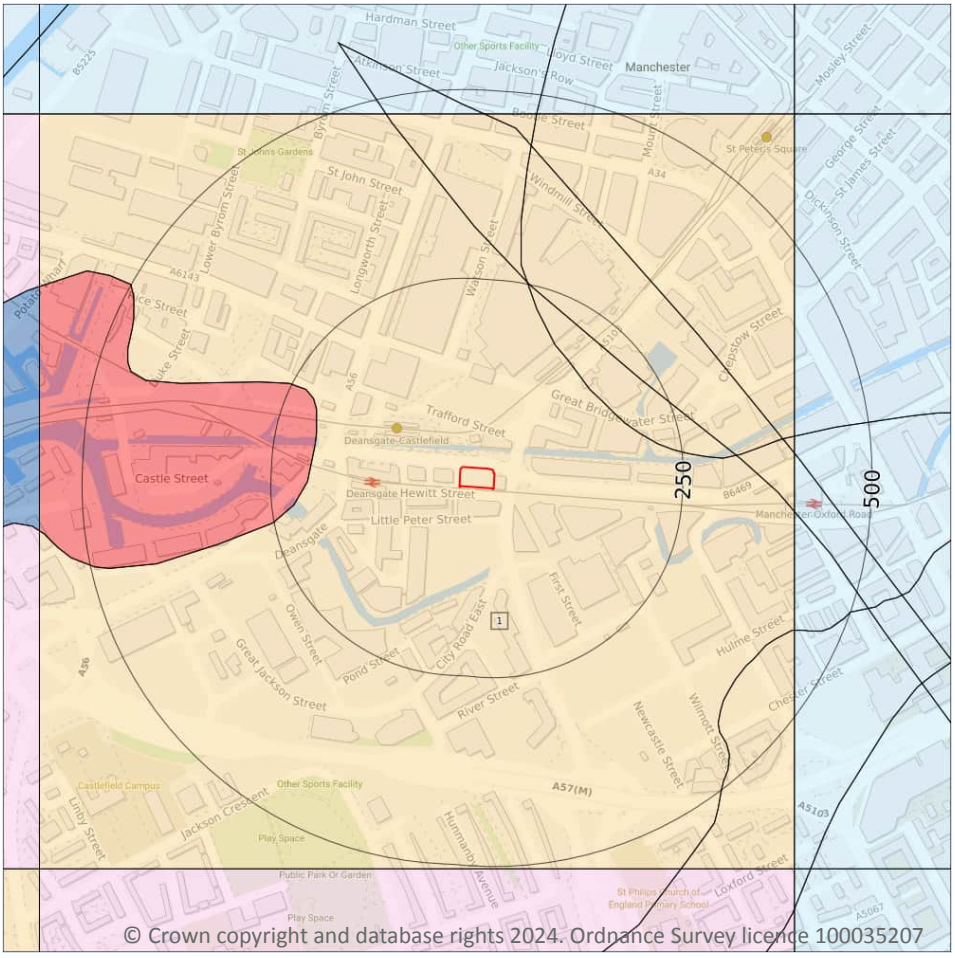
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 84 >**

ID	Location	Designation	Description
1	**On site**	**Principal**	**Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers**
2	219m NE	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering. These are generally the water-bearing parts of the former non-aquifers

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

- Principal superficial aquifer, high vulnerability
- Secondary superficial aquifer, high vulnerability
- Principal superficial aquifer, medium vulnerability
- Secondary superficial aquifer, medium vulnerability
- Principal superficial aquifer, low vulnerability
- Secondary superficial aquifer, low vulnerability

Bedrock vulnerability

- Principal bedrock aquifer, high vulnerability
- Secondary bedrock aquifer, high vulnerability
- Principal bedrock aquifer, medium vulnerability
- Secondary bedrock aquifer, medium vulnerability
- Principal bedrock aquifer, low vulnerability
- Secondary bedrock aquifer, low vulnerability

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	1

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 86 >**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	**Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: High Infiltration value: >70% Dilution value: 300-550mm/year**	**Vulnerability: High Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: High**	**Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures**

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

This data is sourced from the British Geological Survey and the Environment Agency.

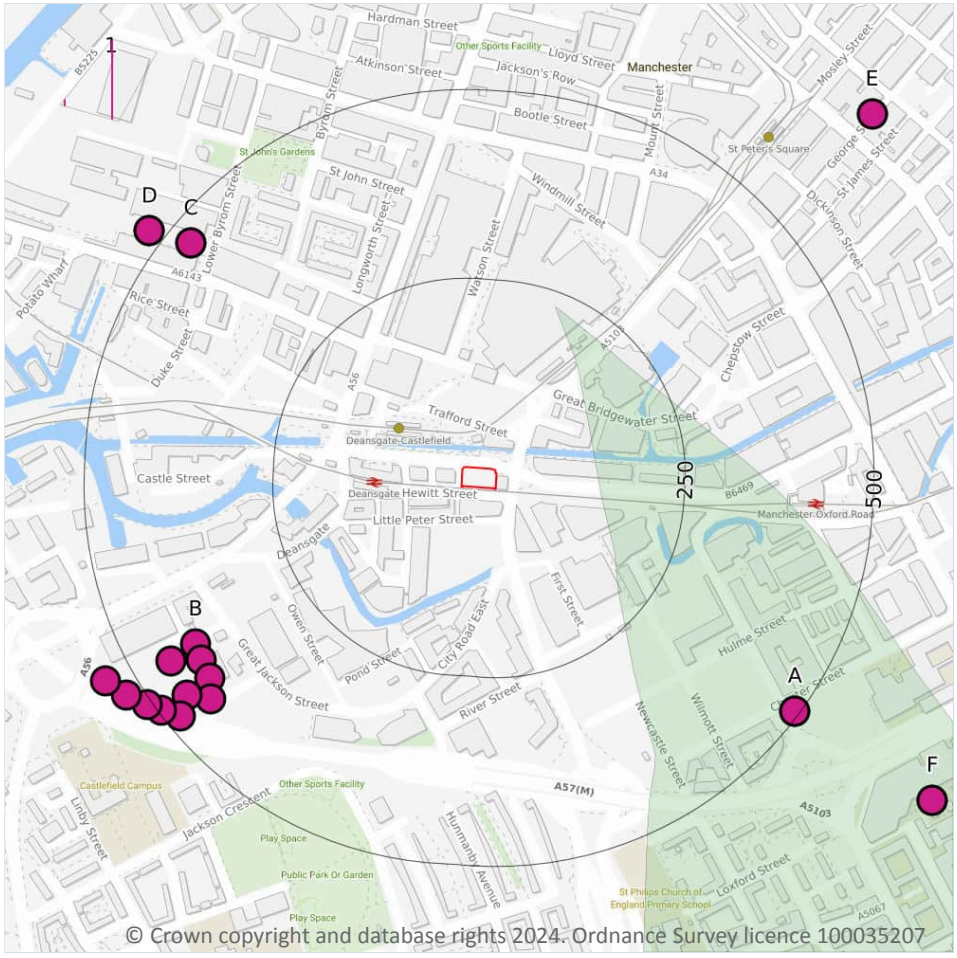
5.5 Groundwater vulnerability- local information

Records on site	0

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk ↗.

This data is sourced from the British Geological Survey and the Environment Agency.

Abstractions and Source Protection Zones



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Site Outline

Search buffers in metres (m)

- Source Protection Zone 1 — Inner catchment
- Source Protection Zone 2 — Outer catchment
- Source Protection Zone 3 — Total catchment
- Source Protection Zone 4 — Zone of Special Interest
- Source Protection Zone 1c — Inner catchment - confined aquifer
- Source Protection Zone 2c — Outer catchment - confined aquifer
- Source Protection Zone 3c — Total catchment - confined aquifer
- Drinking water abstraction licences
- Drinking water abstraction licences — Polygon features
- Drinking water abstraction licences — Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m	65

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 88 >**

ID	Location	Details	
B	409m SW	Status: Historical Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW11 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383204 Northing: 397298	Annual Volume (m^3): 260172 Max Daily Volume (m^3): 712.8 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
B	415m SW	Status: Historical Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW10 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383211 Northing: 397276	Annual Volume (m^3): 260172 Max Daily Volume (m^3): 712.8 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
B	419m SW	Status: Historical Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW9 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383223 Northing: 397253	Annual Volume (m^3): 260172 Max Daily Volume (m^3): 712.8 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
B	435m SW	Status: Historical Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW8 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383224 Northing: 397225	Annual Volume (m^3): 260172 Max Daily Volume (m^3): 712.8 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -

ID	Location	Details	
B	449m SW	Status: Historical Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW6 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383171 Northing: 397275	Annual Volume (m^3): 260172 Max Daily Volume (m^3): 712.8 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
B	456m SW	Status: Historical Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW5 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383193 Northing: 397230	Annual Volume (m^3): 260172 Max Daily Volume (m^3): 712.8 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
C	468m NW	Status: Historical Licence No: NW/069/0004/021 Details: Heat Pump Direct Source: Ground Water - North West Region Point: CHESTER FORMATION AT SCIENCE MUSEUM (A) Data Type: Point Name: Science Museum Group Easting: 383198 Northing: 397829	Annual Volume (m^3): 346000 Max Daily Volume (m^3): 1728 Original Application No: NPS/WR/035329 Original Start Date: 31/03/2023 Expiry Date: 31/03/2024 Issue No: 1 Version Start Date: 31/03/2023 Version End Date: -
C	468m NW	Status: Active Licence No: NW/069/0004/021/R01 Details: Heat Pump Direct Source: Ground Water - North West Region Point: CHESTER FORMATION AT SCIENCE MUSEUM (A) Data Type: Point Name: Science Museum Group Easting: 383198 Northing: 397829	Annual Volume (m^3): 346000 Max Daily Volume (m^3): 1728 Original Application No: NPS/WR/040753 Original Start Date: 04/04/2024 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 04/04/2024 Version End Date: -
B	480m SW	Status: Historical Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW7 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383184 Northing: 397203	Annual Volume (m^3): 260172 Max Daily Volume (m^3): 712.8 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -

ID	Location	Details	
A	494m SE	Status: Active Licence No: NW/069/0006/009 Details: Heat Pump Direct Source: Ground Water - North West Region Point: BH1, SCIENCE AND ENGINEERING BUILDING Data Type: Point Name: Manchester Metropolitan University Easting: 383998 Northing: 397209	Annual Volume (m^3): 176000 Max Daily Volume (m^3): 908 Original Application No: NPS/WR/033653 Original Start Date: 22/05/2024 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 22/05/2024 Version End Date: -
A	494m SE	Status: Active Licence No: NW/069/0006/009 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BH1, SCIENCE AND ENGINEERING BUILDING Data Type: Point Name: Manchester Metropolitan University Easting: 383998 Northing: 397209	Annual Volume (m^3): 176000 Max Daily Volume (m^3): 908 Original Application No: NPS/WR/033653 Original Start Date: 22/05/2024 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 22/05/2024 Version End Date: -
B	496m SW	Status: Historical Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW4 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383159 Northing: 397210	Annual Volume (m^3): 260172 Max Daily Volume (m^3): 712.8 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
B	507m SW	Status: Historical Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW3 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383140 Northing: 397217	Annual Volume (m^3): 260172 Max Daily Volume (m^3): 712.8 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
D	521m NW	Status: Historical Licence No: NW/069/0004/021 Details: Heat Pump Direct Source: Ground Water - North West Region Point: CHESTER FORMATION AT SCIENCE MUSEUM (B) Data Type: Point Name: Science Museum Group Easting: 383143 Northing: 397845	Annual Volume (m^3): 346000 Max Daily Volume (m^3): 1728 Original Application No: NPS/WR/035329 Original Start Date: 31/03/2023 Expiry Date: 31/03/2024 Issue No: 1 Version Start Date: 31/03/2023 Version End Date: -

ID	Location	Details	
D	521m NW	Status: Active Licence No: NW/069/0004/021/R01 Details: Heat Pump Direct Source: Ground Water - North West Region Point: CHESTER FORMATION AT SCIENCE MUSEUM (B) Data Type: Point Name: Science Museum Group Easting: 383143 Northing: 397845	Annual Volume (m^3): 346000 Max Daily Volume (m^3): 1728 Original Application No: NPS/WR/040753 Original Start Date: 04/04/2024 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 04/04/2024 Version End Date: -
B	522m SW	Status: Historical Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW2 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383113 Northing: 397230	Annual Volume (m^3): 260172 Max Daily Volume (m^3): 712.8 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
B	537m SW	Status: Historical Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW1 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383085 Northing: 397249	Annual Volume (m^3): 260172 Max Daily Volume (m^3): 712.8 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
1	648m NW	Status: Historical Licence No: NW/069/0004/019 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: Ground Water - North West Region Point: ST JOHNS MANCHESTER Data Type: Poly4 Name: Manchester Quays Development (MGY) Ltd Easting: 383094 Northing: 398099	Annual Volume (m^3): 543120 Max Daily Volume (m^3): 1488 Original Application No: - Original Start Date: 13/09/2019 Expiry Date: 31/12/2020 Issue No: 1 Version Start Date: 13/09/2019 Version End Date: -

ID	Location	Details	
E	687m NE	Status: Historical Licence No: 2569007069 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT GEORGE ST, MANCHESTER" Data Type: Point Name: BRITISH TELECOM Easting: 384100 Northing: 398000	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 27/01/1971 Expiry Date: - Issue No: 100 Version Start Date: 27/01/1971 Version End Date: -
E	687m NE	Status: Historical Licence No: 2569007069 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT GEORGE ST, MANCHESTER Data Type: Point Name: BRITISH TELECOMMUNICATIONS PLC Easting: 384100 Northing: 398000	Annual Volume (m^3): 1100 Max Daily Volume (m^3): 860 Original Application No: - Original Start Date: 01/04/1984 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2007 Version End Date: -
-	693m NW	Status: Historical Licence No: 2569007089 Details: Non-Evaporative Cooling Direct Source: Ground Water - North West Region Point: 2 BOREHOLES AT GARTSIDE STREET MANCHESTER Data Type: Line Name: HER MAJESTY'S COURT SERVICE Easting: 383335 Northing: 398310	Annual Volume (m^3): 200000 Max Daily Volume (m^3): 1179 Original Application No: - Original Start Date: 26/01/2005 Expiry Date: 31/03/2011 Issue No: 2 Version Start Date: 10/07/2008 Version End Date: -
F	710m SE	Status: Active Licence No: NW/069/0006/003 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE 1 AT LOWER CHATHAM STREET Data Type: Point Name: Manchester Metropolitan University Easting: 384180 Northing: 397091	Annual Volume (m^3): 283240 Max Daily Volume (m^3): 1532 Original Application No: NPS/WR/015264 Original Start Date: 04/04/2014 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 04/04/2014 Version End Date: -

ID	Location	Details	
F	710m SE	Status: Active Licence No: NW/069/0006/003 Details: Heat Pump Direct Source: Ground Water - North West Region Point: BOREHOLE 1 AT LOWER CHATHAM STREET Data Type: Point Name: Manchester Metropolitan University Easting: 384180 Northing: 397091	Annual Volume (m^3): 283240 Max Daily Volume (m^3): 1532 Original Application No: NPS/WR/015264 Original Start Date: 04/04/2014 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 04/04/2014 Version End Date: -
-	766m S	Status: Active Licence No: NW/069/0004/003 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT MANCHESTER METROPOLITAN UNIVERSITY Data Type: Point Name: Manchester Metropolitan University Easting: 383715 Northing: 396746	Annual Volume (m^3): 274115 Max Daily Volume (m^3): 751 Original Application No: NPS/WR/008077 Original Start Date: 20/09/2013 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/01/2015 Version End Date: -
-	766m S	Status: Active Licence No: NW/069/0004/003 Details: Heat Pump Direct Source: Ground Water - North West Region Point: BOREHOLE AT MANCHESTER METROPOLITAN UNIVERSITY Data Type: Point Name: Manchester Metropolitan University Easting: 383715 Northing: 396746	Annual Volume (m^3): 274115 Max Daily Volume (m^3): 751 Original Application No: NPS/WR/008077 Original Start Date: 20/09/2013 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/01/2015 Version End Date: -
-	803m E	Status: Historical Licence No: NW0690006001 Details: Non-Evaporative Cooling Direct Source: Ground Water - North West Region Point: BOREHOLES AT ORIGIN DEVELOPMENTS, MANCHESTER Data Type: Point Name: West Contracting Easting: 384378 Northing: 397733	Annual Volume (m^3): 139128 Max Daily Volume (m^3): 1010 Original Application No: - Original Start Date: 19/01/2009 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 19/01/2009 Version End Date: -

ID	Location	Details	
-	803m E	Status: Historical Licence No: NW/069/0006/001 Details: Non-Evaporative Cooling Direct Source: Ground Water - North West Region Point: BOREHOLES AT ORIGIN DEVELOPMENTS, MANCHESTER Data Type: Point Name: West Contracting Easting: 384378 Northing: 397733	Annual Volume (m^3): 139128 Max Daily Volume (m^3): 1010 Original Application No: - Original Start Date: 19/01/2009 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 19/01/2009 Version End Date: -
-	840m W	Status: Active Licence No: NW/069/0004/022 Details: Dewatering Direct Source: Ground Water - North West Region Point: ABSTRACTION AREA AT TRINITY ISLANDS, MANCHESTER Data Type: Poly4 Name: Renaker Build Ltd Easting: 382705 Northing: 397822	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: NPS/WR/036441 Original Start Date: 05/09/2023 Expiry Date: 31/10/2024 Issue No: 1 Version Start Date: 05/09/2023 Version End Date: -
-	1175m N	Status: Active Licence No: 2569007070 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT DIAL HOUSE CHAPEL STREET SALFORD Data Type: Point Name: BRITISH TELECOMMUNICATIONS PLC Easting: 383700 Northing: 398700	Annual Volume (m^3): 45 Max Daily Volume (m^3): 30 Original Application No: 2333 Original Start Date: 27/01/1971 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2007 Version End Date: -
-	1175m N	Status: Historical Licence No: 2569007070 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT DIAL HOUSE, CHAPEL ST, SALFORD" Data Type: Point Name: BRITISH TELECOM Easting: 383700 Northing: 398700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 27/01/1971 Expiry Date: - Issue No: 100 Version Start Date: 27/01/1971 Version End Date: -

ID	Location	Details	
-	1175m N	Status: Historical Licence No: 2569007070 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT DIAL HOUSE, CHAPEL ST, SALFORD Data Type: Point Name: BRITISH TELECOMMUNICATIONS PLC Easting: 383700 Northing: 398700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 27/01/1971 Expiry Date: - Issue No: 101 Version Start Date: 01/04/1984 Version End Date: -
-	1585m NW	Status: Active Licence No: 2569007085 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE AT HOPE STREET, SALFORD, MANCHESTER Data Type: Point Name: CEMEX UK MATERIALS LTD Easting: 382190 Northing: 398330	Annual Volume (m^3): 23000 Max Daily Volume (m^3): 115 Original Application No: NPS/WR/030716 Original Start Date: 01/11/2000 Expiry Date: - Issue No: 4 Version Start Date: 21/12/2018 Version End Date: -
-	1585m NW	Status: Historical Licence No: 2569007085 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE AT HOPE STREET, SALFORD, MANCHESTER" Data Type: Point Name: READY MIXED CONCRETE (NORTH WEST) LIMITED Easting: 382190 Northing: 398330	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 01/11/2000 Expiry Date: - Issue No: 1 Version Start Date: 01/11/2000 Version End Date: -
-	1616m S	Status: Active Licence No: 2569007007 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES MOSS SIDE MANCHESTER Data Type: Point Name: Heineken UK Ltd Easting: 383865 Northing: 395909	Annual Volume (m^3): 227000 Max Daily Volume (m^3): 900 Original Application No: NPS/WR/015793 Original Start Date: 15/02/1966 Expiry Date: - Issue No: 103 Version Start Date: 08/05/2014 Version End Date: -

ID	Location	Details	
-	1616m S	Status: Active Licence No: 2569007007 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES MOSS SIDE MANCHESTER Data Type: Point Name: Heineken UK Ltd Easting: 383865 Northing: 395909	Annual Volume (m^3): 227000 Max Daily Volume (m^3): 900 Original Application No: NPS/WR/015793 Original Start Date: 15/02/1966 Expiry Date: - Issue No: 103 Version Start Date: 08/05/2014 Version End Date: -
-	1631m S	Status: Historical Licence No: 2569007007 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, MOSS SIDE, MANCHESTER" Data Type: Point Name: SCOTTISH COURAGE BREWING LTD Easting: 383900 Northing: 395900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/08/1995 Version End Date: -
-	1631m S	Status: Historical Licence No: 2569007007 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, MOSS SIDE, MANCHESTER" Data Type: Point Name: SCOTTISH COURAGE BREWING LTD Easting: 383900 Northing: 395900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/08/1995 Version End Date: -
-	1631m S	Status: Historical Licence No: 2569007007 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, MOSS SIDE, MANCHESTER Data Type: Point Name: SCOTTISH COURAGE BREWING LTD Easting: 383900 Northing: 395900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 31/12/2003 Version End Date: -

ID	Location	Details	
-	1631m S	Status: Historical Licence No: 2569007007 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, MOSS SIDE, MANCHESTER Data Type: Point Name: SCOTTISH COURAGE BREWING LTD Easting: 383900 Northing: 395900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 31/12/2003 Version End Date: -
-	1631m S	Status: Historical Licence No: 2569007007 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES MOSS SIDE MANCHESTER Data Type: Point Name: Heineken UK Ltd Easting: 383900 Northing: 395900	Annual Volume (m^3): 227000 Max Daily Volume (m^3): 900 Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 23/11/2009 Version End Date: -
-	1631m S	Status: Historical Licence No: 2569007007 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES MOSS SIDE MANCHESTER Data Type: Point Name: Heineken UK Ltd Easting: 383900 Northing: 395900	Annual Volume (m^3): 227000 Max Daily Volume (m^3): 900 Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 23/11/2009 Version End Date: -
-	1637m E	Status: Historical Licence No: 2569006001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, BROADIE ST, ARDWICK, MANCHESTER" Data Type: Point Name: MOSELEY RUBBER CO LTD Easting: 385240 Northing: 397540	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 08/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 08/02/1966 Version End Date: -

ID	Location	Details	
-	1637m E	Status: Historical Licence No: 2569006001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, BROADIE ST, ARDWICK, MANCHESTER Data Type: Point Name: MOSELEY RUBBER CO LTD Easting: 385240 Northing: 397540	Annual Volume (m^3): 331858 Max Daily Volume (m^3): 909.2 Original Application No: - Original Start Date: 08/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 08/02/1966 Version End Date: -
-	1675m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 2) AT PREMISES, STRANGEWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1675m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 2) AT PREMISES, STRANGEWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1675m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 2) AT PREMISES, STRANGEWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -

ID	Location	Details	
-	1675m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 2) AT PREMISES, STRANGEWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1675m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 2 AT PREMISES STRANGEWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1675m N	Status: Historical Licence No: 2569004023 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 2 AT PREMISES STRANGEWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1690m S	Status: Historical Licence No: 2569007009 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, MOSS LANE WEST MANCHESTER" Data Type: Point Name: HYDES BREWERY LTD Easting: 383220 Northing: 395850	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 07/10/2000 Version End Date: -

ID	Location	Details	
-	1690m S	Status: Historical Licence No: 2569007009 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, MOSS LANE WEST MANCHESTER" Data Type: Point Name: HYDES BREWERY LTD Easting: 383220 Northing: 395850	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 07/10/2000 Version End Date: -
-	1690m S	Status: Historical Licence No: 2569007009 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, MOSS LANE WEST MANCHESTER Data Type: Point Name: HYDES BREWERY LTD Easting: 383220 Northing: 395850	Annual Volume (m^3): 66826.2 Max Daily Volume (m^3): 372.772 Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 07/10/2000 Version End Date: -
-	1690m S	Status: Historical Licence No: 2569007009 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, MOSS LANE WEST MANCHESTER Data Type: Point Name: HYDES BREWERY LTD Easting: 383220 Northing: 395850	Annual Volume (m^3): 66826.2 Max Daily Volume (m^3): 372.772 Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 103 Version Start Date: 19/07/2018 Version End Date: -
-	1706m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 3) AT PREMISES, STRANGEWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -

ID	Location	Details	
-	1706m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 3) AT PREMISES, STRANGEWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1706m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 3) AT PREMISES, STRANGEWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1706m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 3) AT PREMISES, STRANGEWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1706m N	Status: Historical Licence No: 2569004023 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 3 AT PREMISES STRANGEWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -

ID	Location	Details	
-	1706m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 3 AT PREMISES STRANGEWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1739m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 1) AT PREMISES, STRANGEWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1739m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 1) AT PREMISES, STRANGEWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1739m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 1) AT PREMISES, STRANGEWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -

ID	Location	Details	
-	1739m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 1) AT PREMISES, STRANGEWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1739m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 1 AT PREMISES STRANGEWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1739m N	Status: Historical Licence No: 2569004023 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 1 AT PREMISES STRANGEWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

Records within 2000m	**2**

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 88 >**

ID	Location	Details	
-	1062m W	Status: Historical Licence No: 2569007053 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: "Surface, Non-Tidal - North West Region" Point: "R IRWELL AT IRWELL WORKS, ORDSALL LANE, SALFORD" Data Type: Point Name: CDS COMPUTER DESIGN SYSTEMS LTD Easting: 382500 Northing: 397400	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 22/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1987 Version End Date: -
-	1062m W	Status: Historical Licence No: 2569007053 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: R IRWELL AT IRWELL WORKS, ORDSALL LANE, SALFORD Data Type: Point Name: CDS COMPUTER DESIGN SYSTEMS LTD Easting: 382500 Northing: 397400	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 22/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1987 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

Records within 2000m	**9**

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 88 >**

ID	Location	Details	
-	1675m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 2) AT PREMISES, STRANGEWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -

ID	Location	Details	
-	1675m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 2) AT PREMISES, STRANGEWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1675m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 2 AT PREMISES STRANGEWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1706m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 3) AT PREMISES, STRANGEWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1706m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 3) AT PREMISES, STRANGEWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -

ID	Location	Details	
-	1706m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 3 AT PREMISES STRANGEWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1739m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 1) AT PREMISES, STRANGEWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1739m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 1) AT PREMISES, STRANGEWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1739m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 1 AT PREMISES STRANGEWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m	1

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

Features are displayed on the Abstractions and Source Protection Zones map on **page 88 >**

ID	Location	Type	Description
A	132m E	3	Total catchment

This data is sourced from the Environment Agency and Natural Resources Wales.

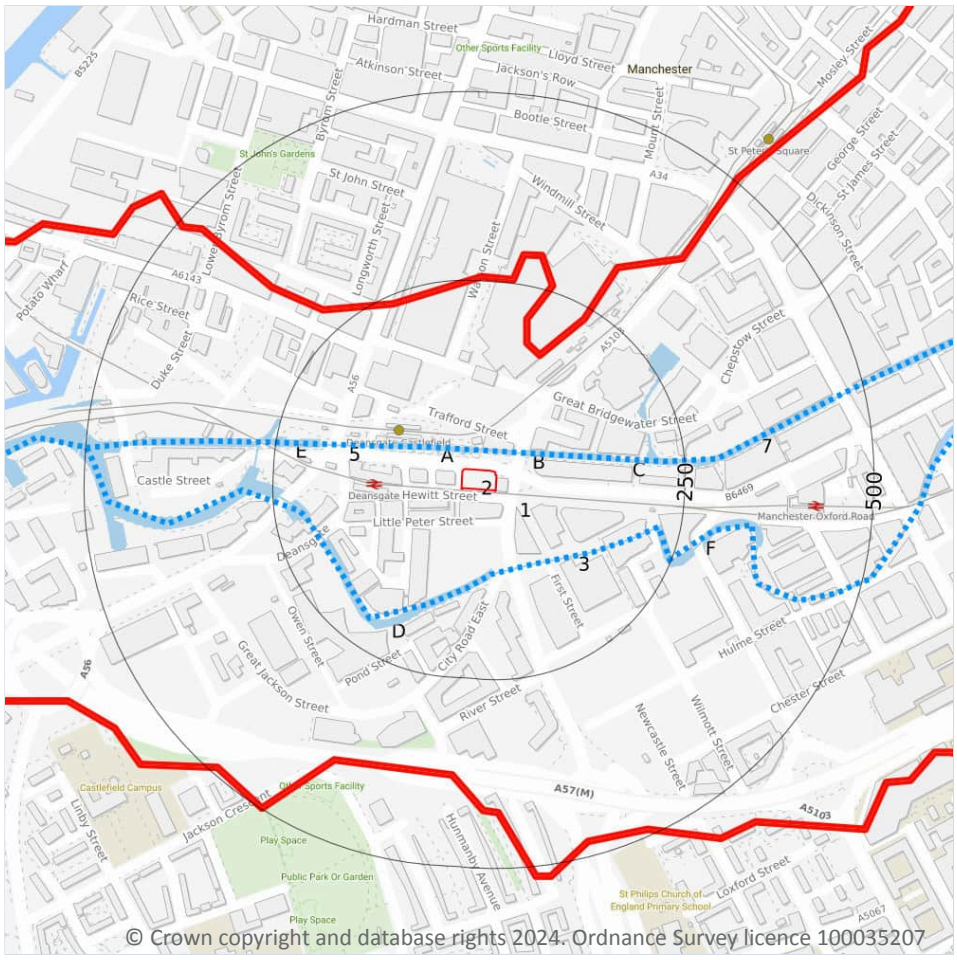
5.10 Source Protection Zones (confined aquifer)

Records within 500m	0

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.

6 Hydrology



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Site Outline

Search buffers in metres (m)

Water Network (OS MasterMap)

Surface water features (wider than 5m)

Surface water features (narrower than 5m)

WFD River, canal and surface water transfer water bodies

WFD Lake water bodies

WFD Transitional and coastal water bodies

WFD Surface water body catchments boundaries

WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m	18

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

Features are displayed on the Hydrology map on **page 109 >**

ID	Location	Type of water feature	Ground level	Permanence	Name
B	25m N	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal

ID	Location	Type of water feature	Ground level	Permanence	Name
A	42m NW	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
A	46m NW	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
A	84m NW	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
A	84m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
3	106m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Medlock
D	110m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Medlock
5	123m W	Canal. A manmade watercourse for inland navigation.	Underground	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
C	166m E	Lock or flight of locks. An enclosure in a canal or navigable river with gates and sluices at either end.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
C	191m E	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
E	191m W	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
E	194m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Medlock
7	206m E	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
C	206m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
E	209m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Medlock
F	221m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Medlock
E	226m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	River Medlock
E	242m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Medlock

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	**8**

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

Features are displayed on the Hydrology map on **page 109 >**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	**1**

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on **page 109 >**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	**On site**	**River**	**Medlock (Lumb Brook to Irwell)**	**GB112069061152**	**Roch Irk Medlock**	**Irwell**

This data is sourced from the Environment Agency and Natural Resources Wales.

6.4 WFD Surface water bodies

Records identified	2

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on **page 109 >**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
B	26m N	Canal	Rochdale Canal, western section	GB71210517 ↗	Moderate	Fail	Moderate	2019
4	106m S	River	Medlock (Lumb Brook to Irwell)	GB112069061152 ↗	Moderate	Fail	Moderate	2019

This data is sourced from the Environment Agency and Natural Resources Wales.

6.5 WFD Groundwater bodies

Records on site	1

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 109 >**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
2	**On site**	**Manchester and East Cheshire Permo-Triassic Sandstone Aquifers**	GB41201G101100 ↗	**Poor**	**Poor**	**Poor**	**2019**

This data is sourced from the Environment Agency and Natural Resources Wales.

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m	0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m	0

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m	0

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.4 Areas Benefiting from Flood Defences

Records within 250m	0

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

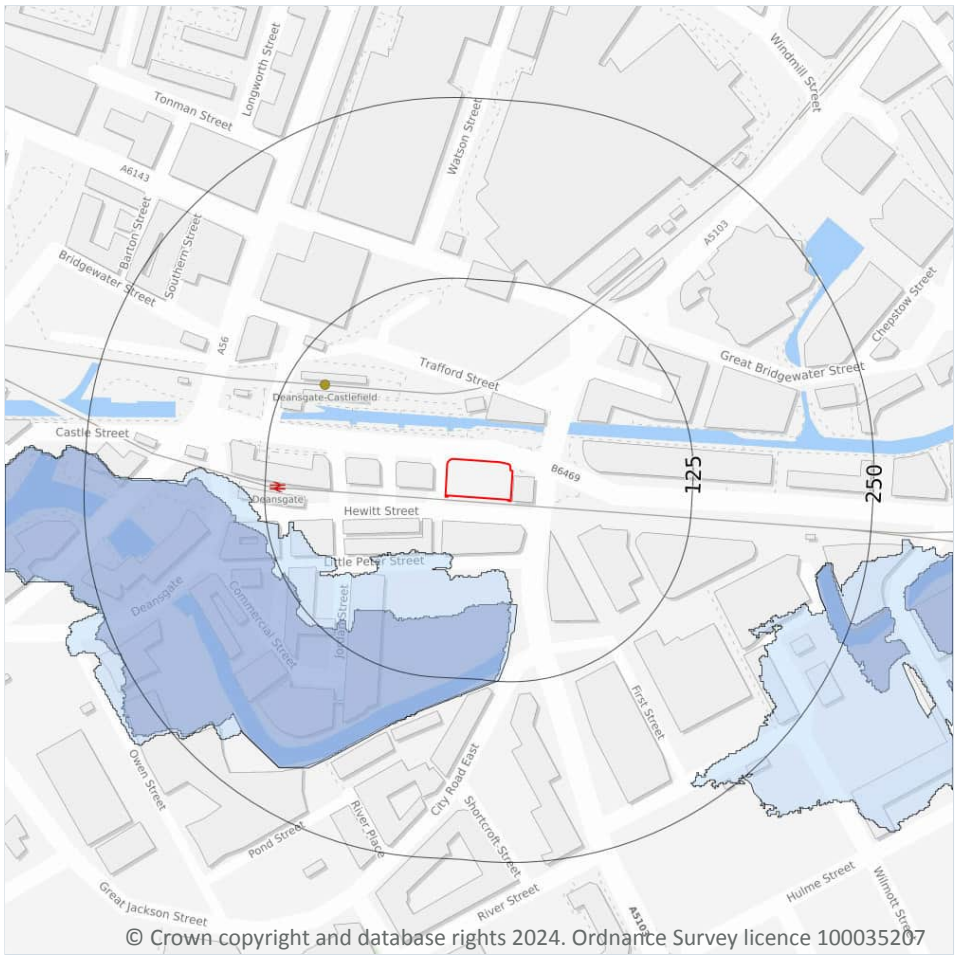
7.5 Flood Storage Areas

Records within 250m	0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.

River and coastal flooding - Flood Zones



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7.6 Flood Zone 2

Records within 50m	1

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

Features are displayed on the River and coastal flooding map on **page 113 >**

Location	Type
39m SW	Zone 2 - (Fluvial /Tidal Models)

This data is sourced from the Environment Agency and Natural Resources Wales.

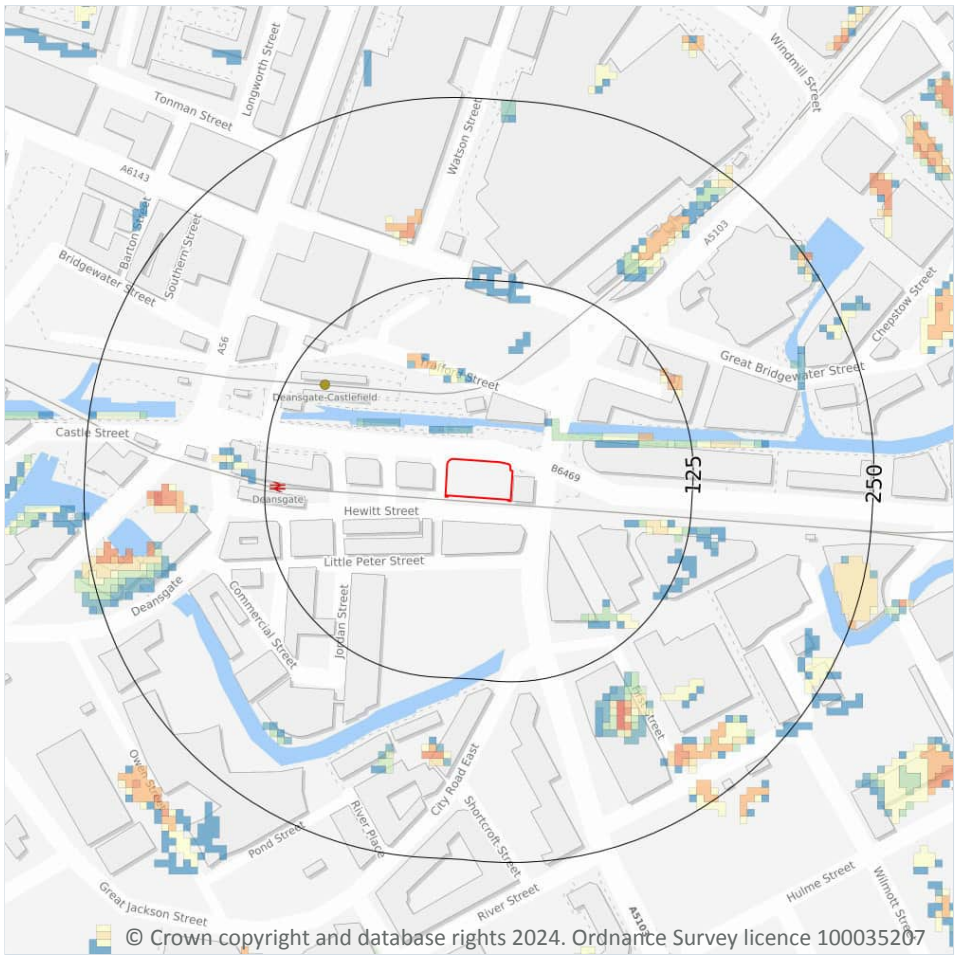
7.7 Flood Zone 3

Records within 50m	0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

8 Surface water flooding



Site Outline

Search buffers in metres (m)

1 in 1000 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site	**Negligible**
Highest risk within 50m	**1 in 250 year, 0.1m - 0.3m**

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on **page 117 >**

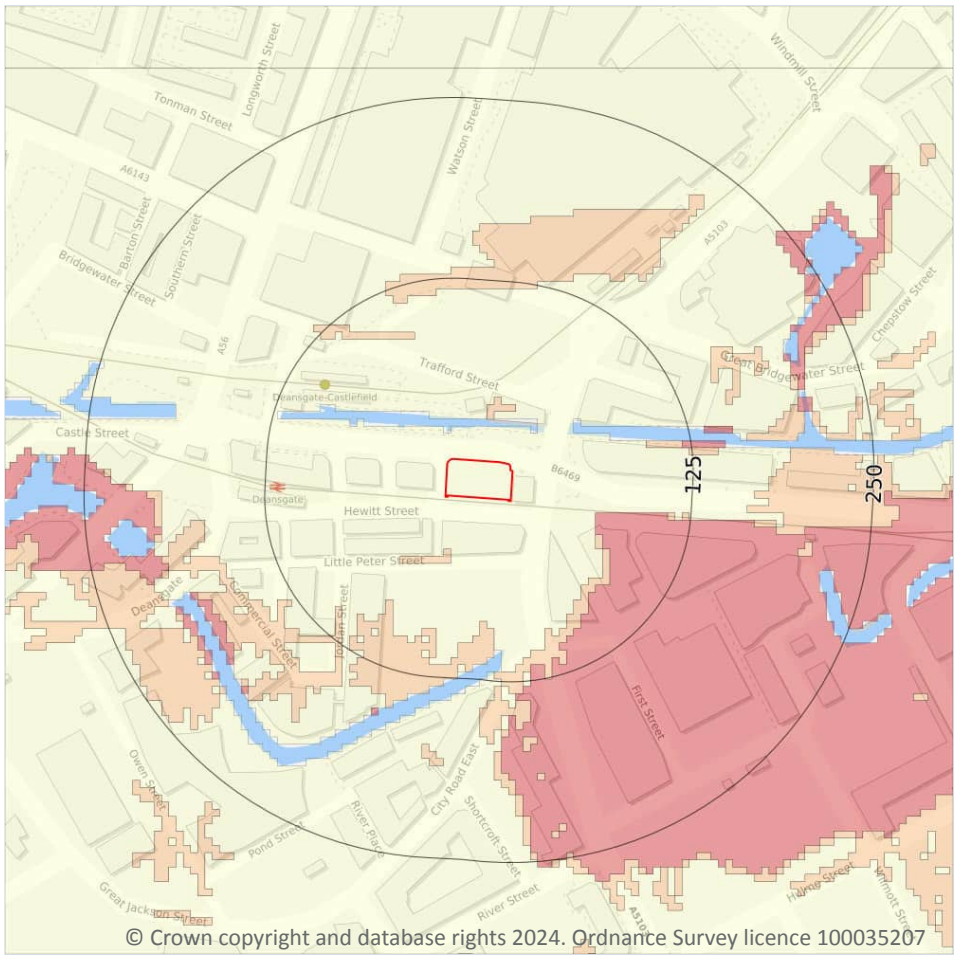
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Negligible
1 in 250 year	Negligible
1 in 100 year	Negligible
1 in 30 year	Negligible

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



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Site Outline

Search buffers in metres (m)

- High
- Moderate - High
- Moderate
- Low
- Negligible

9.1 Groundwater flooding

Highest risk on site	**Moderate**
Highest risk within 50m	**Moderate-High**

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on **page 119 >**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	0

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

Records within 2000m	0

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m	0

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.6 Local Nature Reserves (LNR)

Records within 2000m	0

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.7 Designated Ancient Woodland

Records within 2000m	0

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.8 Biosphere Reserves

Records within 2000m	0

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.9 Forest Parks

Records within 2000m	0

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.11 Green Belt

Records within 2000m	0

Areas designated to prevent urban sprawl by keeping land permanently open.

This data is sourced from the Ministry of Housing, Communities and Local Government.

10.12 Proposed Ramsar sites

Records within 2000m	0

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

Special Protection Areas (SPAs) are areas designated (or 'classified') under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

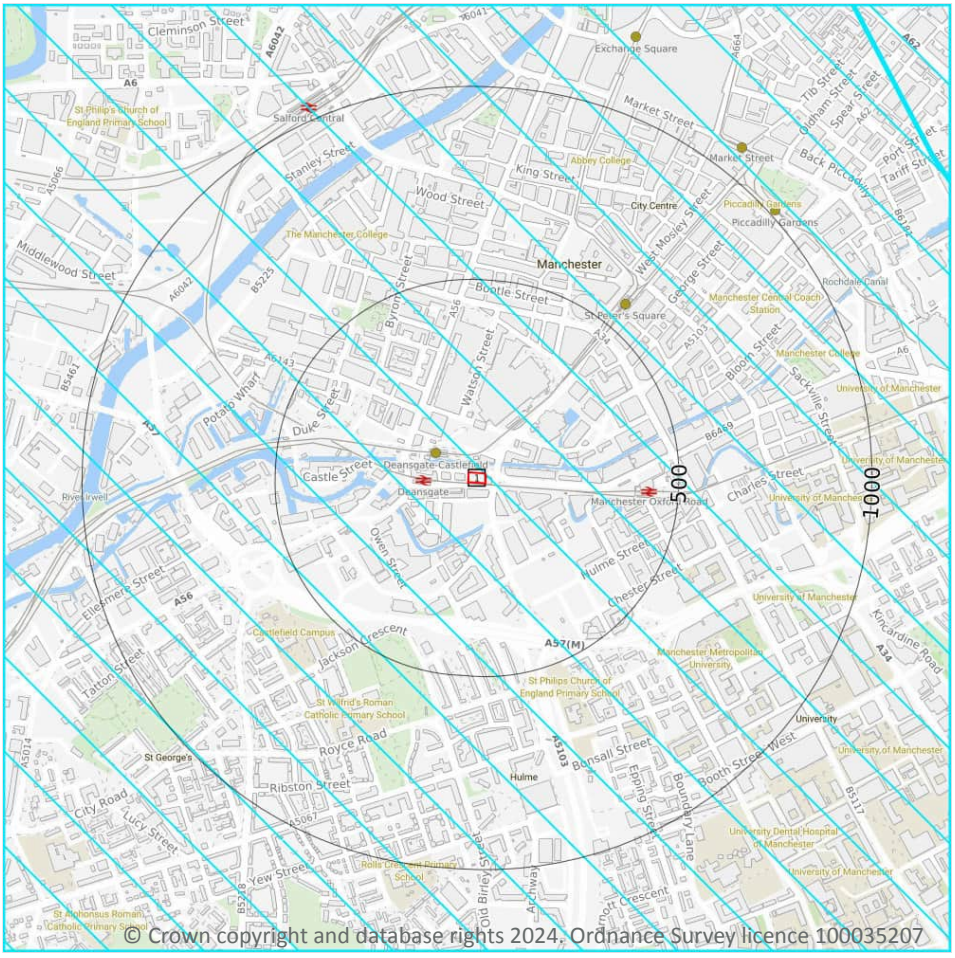
Records within 2000m	3

Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
1118m NE	River Irk (Moston Brook to River Irwell) NVZ	Surface Water	638	Existing
1162m NE	River Irk (Moston Brook to River Irwell) NVZ	Surface Water	638	Existing
1222m NW	Irwell / Man. Ship Canal (Kearsley to Irlam Locks) NVZ	Surface Water	643	Existing

This data is sourced from Natural England and Natural Resources Wales.

SSSI Impact Zones and Units



Site Outline

Search buffers in metres (m)

SSSI Impact Risk Zones

SSSI Units

- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site	1

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on **page 124 >**

ID	Location	Type of developments requiring consultation
1	On site	**Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 4000m². Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.**

This data is sourced from Natural England.

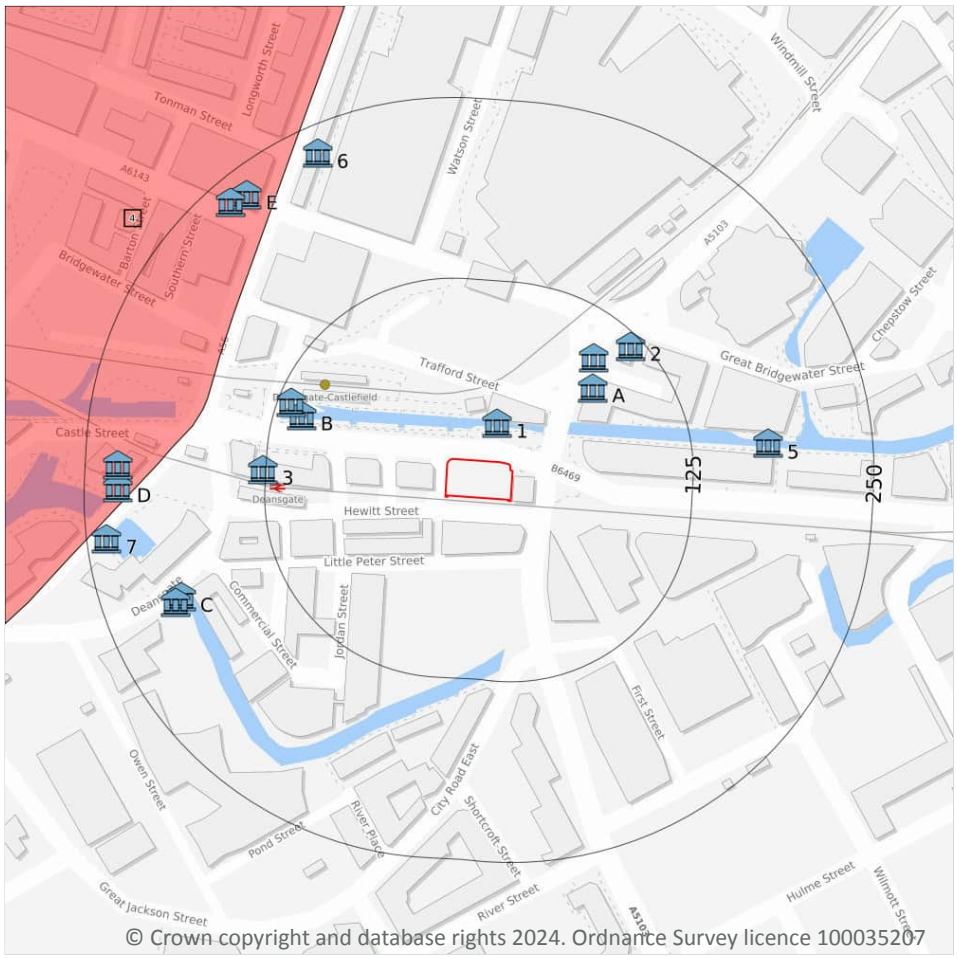
10.18 SSSI Units

Records within 2000m	0

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

This data is sourced from Natural England and Natural Resources Wales.

11 Visual and cultural designations



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Site Outline

Search buffers in metres (m)

Listed buildings

Conservation areas

Conservation areas - no data

National Parks

Areas of Outstanding Natural Beauty

Registered parks and gardens

Scheduled Monuments

World Heritage Sites

11.1 World Heritage Sites

Records within 250m	0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m	0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m	16

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.

Features are displayed on the Visual and cultural designations map on **page 126 >**

ID	Location	Name	Grade	Reference Number	Listed date
1	27m N	Rochdale Canal Lock Number 90, Approximately 30 Metres West Of Albion Bridge	II	1247482	06/06/1994
A	79m NE	13-17, Albion Street	II	1279694	03/10/1974
A	94m NE	Manchester South Junction And Altrincham Railway Viaduct	II	1200837	06/06/1994
B	106m W	Rochdale Canal Lock Number 91 At East End Of Gaythorn Tunnel	II	1247483	29/01/1986

ID	Location	Name	Grade	Reference Number	Listed date
B	116m W	Rochdale Canal Lock Keepers Cottage At Lock Number 91, Next To Gaythorn Tunnel	II	1247597	29/01/1986
2	117m NE	The Britons Protection Ph The Britons Protection Public House	II	1292050	16/03/1990
3	127m W	Deansgate Station	II	1376146	20/08/1998
5	178m E	Rochdale Canal Lock Number 89 (Tib Lock), On South Side Of Havelock Mills	II	1247596	06/06/1994
C	195m W	Boundary Stone On Knott Mill Bridge	II	1282975	06/06/1994
C	200m W	Floodgate On East Side Of Knott Mill Bridge	II	1210156	06/06/1994
D	227m W	Electricity Junction Box In Castlefield Canal Basin, Manchester	II	1475255	29/09/2021
D	227m W	Former Congregational Chapel	II	1292311	20/06/1988
6	231m NW	235-291, Deansgate	II	1210103	28/02/1989
E	231m NW	Castlefield Information Centre	II	1200853	17/05/1974
E	234m NW	K6 Telephone Kiosk Beside South West Corner Of Number 330 Deansgate	II	1219441	29/10/1987
7	236m W	Electricity Junction Box In Castlefield Canal Basin, Manchester	II	1475459	29/09/2021

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.5 Conservation Areas

Records within 250m	**1**

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

Features are displayed on the Visual and cultural designations map on **page 126 >**

ID	Location	Name	District	Date of designation
4	172m W	Castlefield	Manchester	13/10/1979

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m	0

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.7 Registered Parks and Gardens

Records within 250m	0

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

12 Agricultural designations



- Site Outline

Search buffers in metres (m)

- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m	1

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on **page 130 >**

ID	Location	Classification	Description
1	**On site**	**Urban**	**Non-agricultural/no quality assigned**

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m	0

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	0

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

This data is sourced from Natural England.

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m	0

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m	0

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m	1

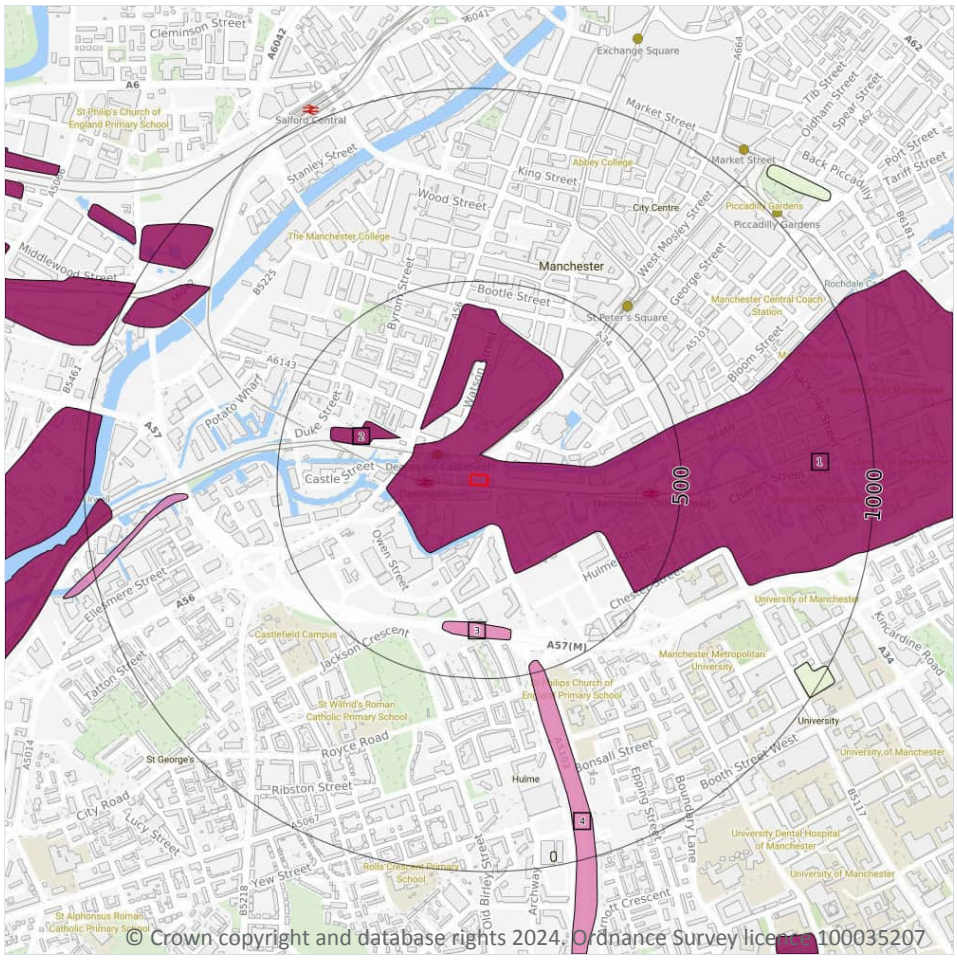
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 133 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**No coverage**	**SJ89NW**

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Artificial and made ground



14.2 Artificial and made ground (10k)

Records within 500m	4

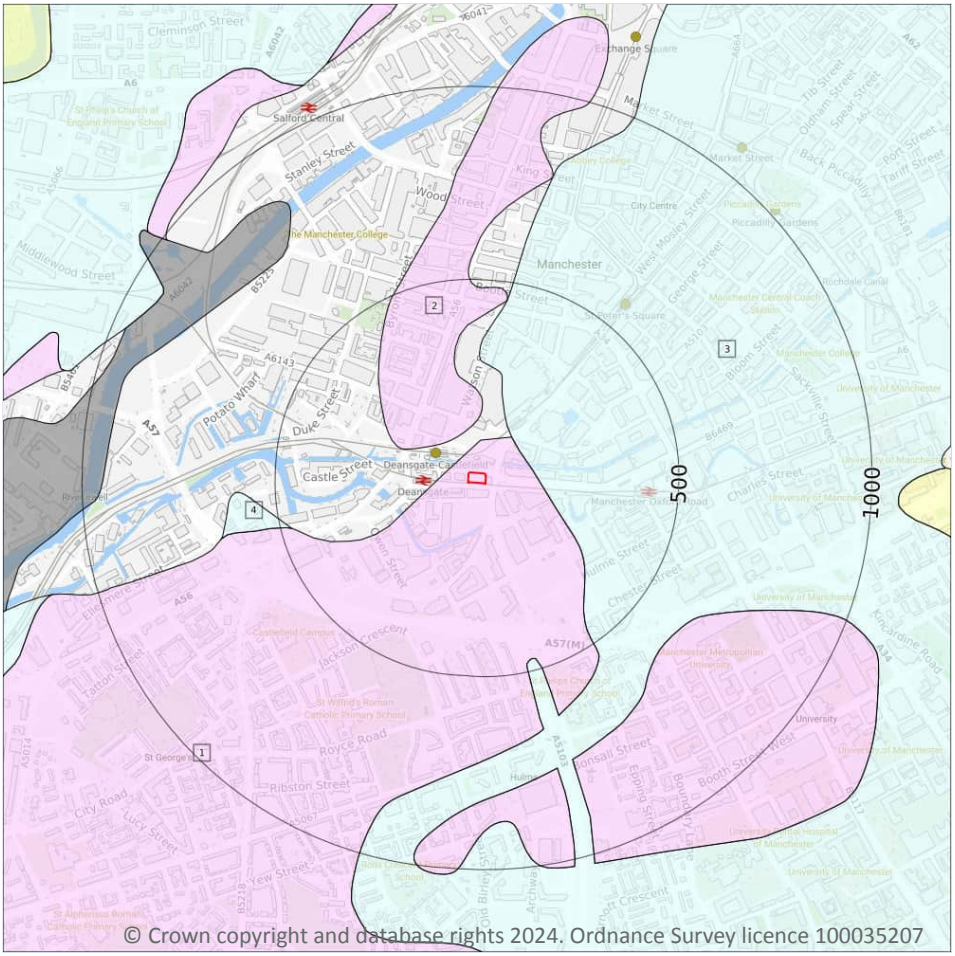
Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 134 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**MGR-ARTDP**	**Made Ground (Undivided)**	**Artificial Deposit**
2	207m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	356m S	WGR-VOID	Worked Ground (Undivided)	Void
4	469m S	WGR-VOID	Worked Ground (Undivided)	Void

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

Superficial geology (10k)
Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m **4**

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 136 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**GFSDD-XSV**	**Glaciofluvial Sheet Deposits, Devensian - Sand And Gravel**	**Sand And Gravel**
2	96m NW	GFSDD-XSV	Glaciofluvial Sheet Deposits, Devensian - Sand And Gravel	Sand And Gravel
3	107m NE	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
4	472m W	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m	2

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 138 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**CPB-SDST**	**Chester Pebble Beds Formation - Sandstone**	**Early Triassic Epoch**
3	240m NE	MM-MDST	Manchester Marls Formation - Mudstone	Late Permian Epoch [Obsolete name]

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	3

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 138 >**

ID	Location	Category	Description
2	86m NW	LANDFORM	Buried channel or valley margin
4	330m NE	FAULT	Normal fault, inferred; crossmarks on downthrow side
5	348m N	FAULT	Normal fault, inferred; crossmarks on downthrow side

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	1

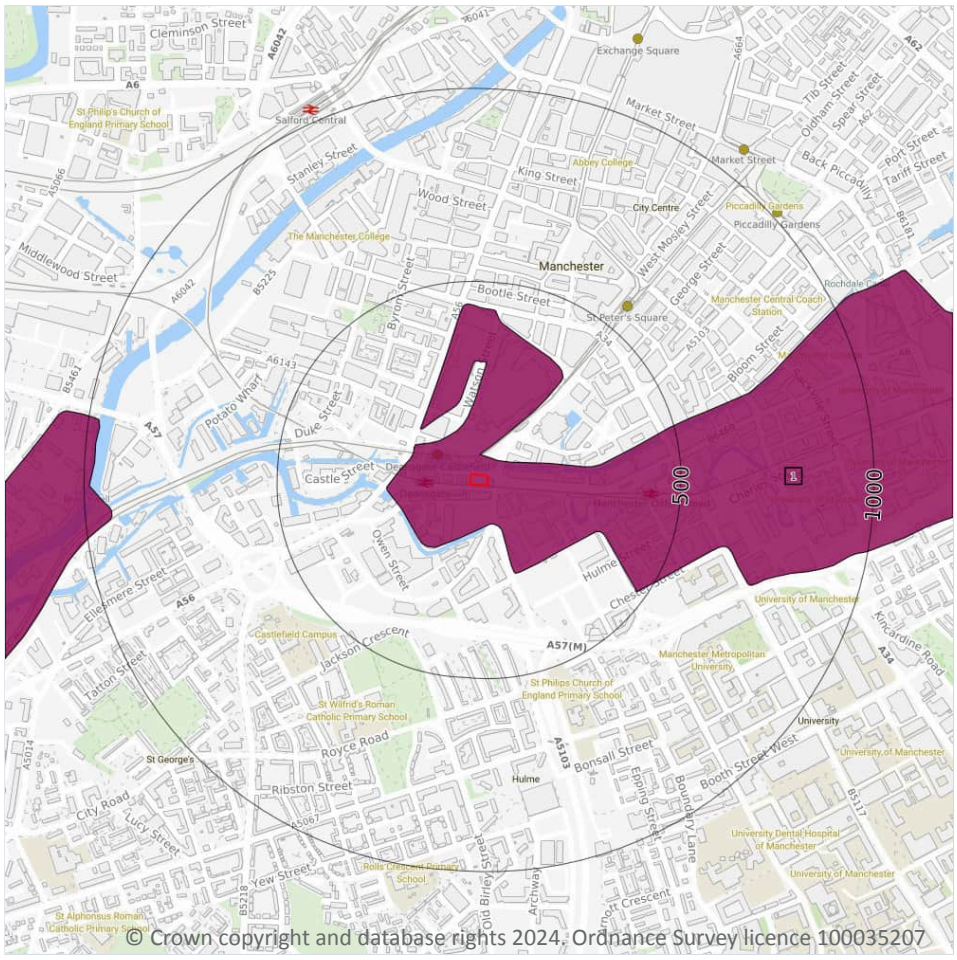
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 140 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**No coverage**	**EW085_manchester_v4**

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Artificial and made ground



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15.2 Artificial and made ground (50k)

Records within 500m	1

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 141 >**

ID	Location	LEX Code	Description	Rock description
1	On site	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

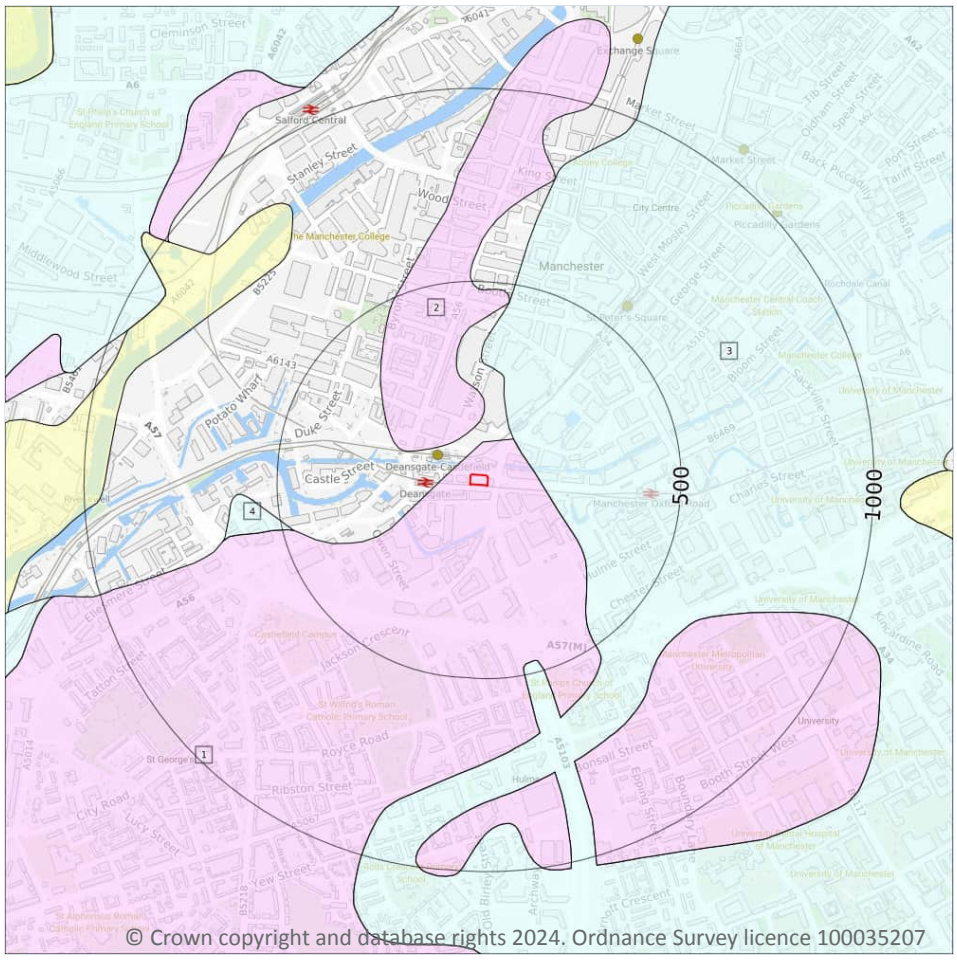
Records within 50m	1

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**Very High**	**Low**

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



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Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m **4**

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 143 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**GFSDD-XSV**	**GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN**	**SAND AND GRAVEL**
2	96m NW	GFSDD-XSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL
3	107m NE	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
4	472m W	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	1

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Intergranular**	**Very High**	**High**

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

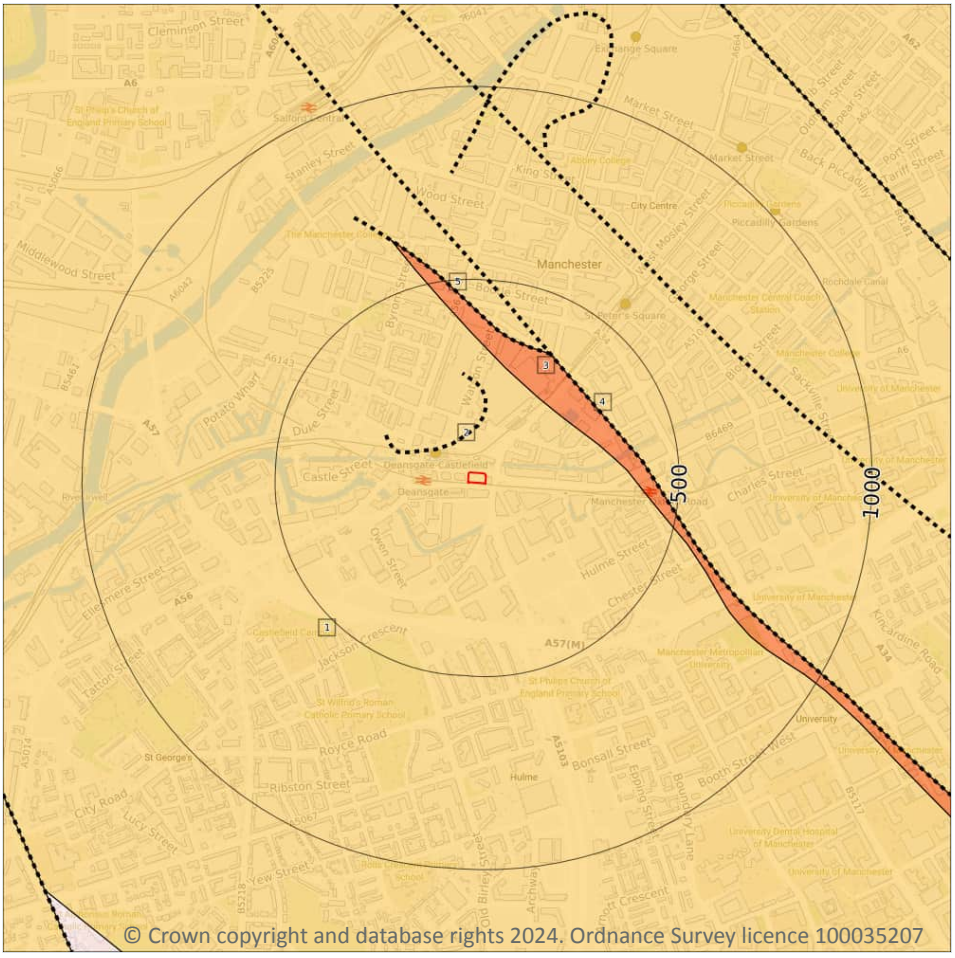
15.7 Landslip permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m **2**

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 145 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**CHES-SDST**	**CHESTER FORMATION - SANDSTONE**	**OLENEKIAN**
3	240m NE	MM-MDST	MANCHESTER MARLS FORMATION - MUDSTONE	-

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	1

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**High**	**Moderate**

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	3

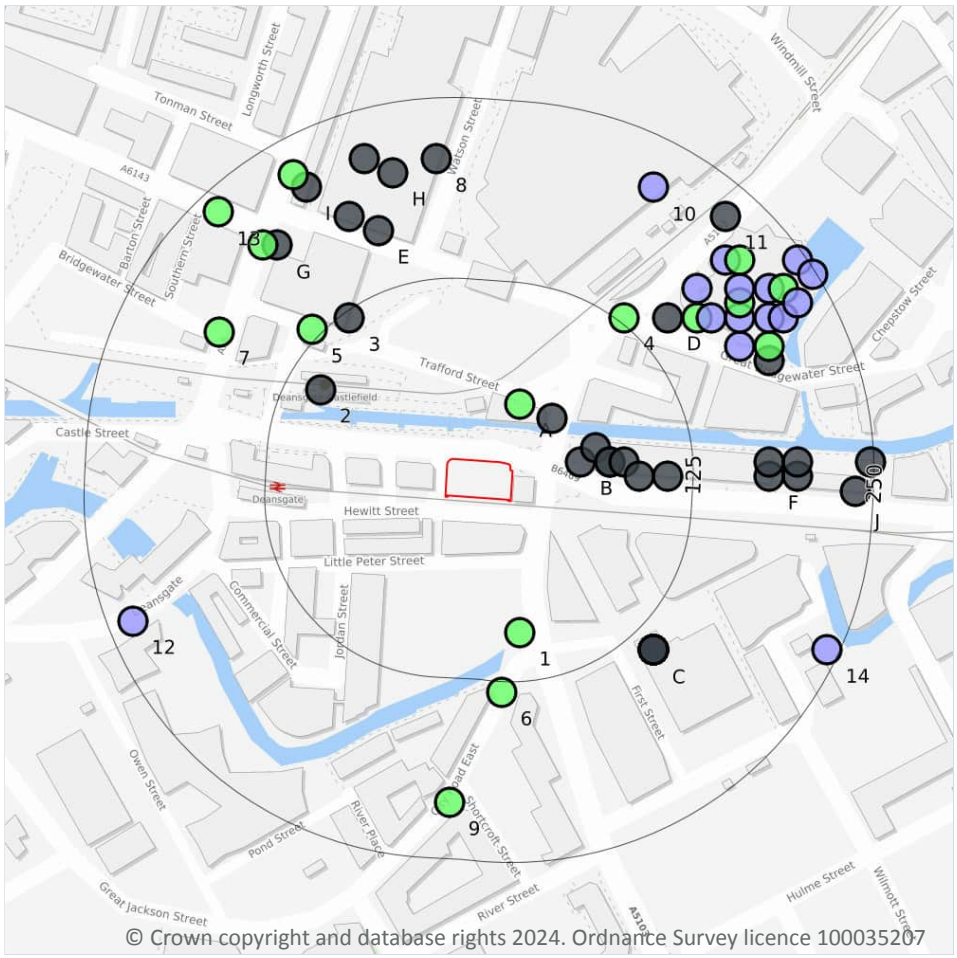
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 145 >**

ID	Location	Category	Description
2	87m NW	LANDFORM	Approximate margin of buried (superficial deposit-filled) channel or valley
4	331m NE	FAULT	Fault, inferred
5	348m N	FAULT	Fault, inferred

This data is sourced from the British Geological Survey.

16 Boreholes



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16.1 BGS Boreholes

Records within 250m	80

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

Features are displayed on the Boreholes map on **page 147 >**

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	42m NE	383608 397570	MANCHESTER CORP. B.SEWER	14.02	N	1042261 ↗
A	43m NE	383630 397560	GREAT BRIDGEWATER STREET 1	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
B	48m E	383650 397530	HACIENDA SITE WHITWORTH STREET MANCHESTER WS01	-	Y	N/A
B	60m E	383660 397540	HACIENDA SITE WHITWORTH STREET MANCHESTER WS02	-	Y	N/A
B	68m E	383670 397530	HACIENDA SITE WHITWORTH STREET MANCHESTER WS03	-	Y	N/A
B	68m E	383670 397530	HACIENDA SITE WHITWORTH STREET MANCHESTER WS04	-	Y	N/A
B	78m E	383680 397530	HACIENDA SITE WHITWORTH STREET MANCHESTER WS05	-	Y	N/A
B	87m E	383690 397520	HACIENDA SITE WHITWORTH STREET MANCHESTER WS06	-	Y	N/A
1	91m S	383608 397412	MANCHESTER CORP. B.SEWER	11.28	N	1042260 ↗
2	101m NW	383470 397580	FESTIVAL MARKETPLACE 3/1	-	Y	N/A
B	107m E	383710 397520	HACIENDA SITE WHITWORTH STREET MANCHESTER WS07	-	Y	N/A
3	121m NW	383490 397630	FESTIVAL MARKETPLACE 3/2	-	Y	N/A
4	129m NE	383680 397630	LOWER MOSLEY STREET PHASE 2 A	14.5	N	13469181 ↗
5	132m NW	383464 397622	MANCHESTER CORP. B.SEWER	12.5	N	1042262 ↗
6	132m S	383595 397371	MANCHESTER CORP. B.SEWER	11.28	N	1042259 ↗
C	143m SE	383700 397400	GAYTHORN GASWORKS M16	-	Y	N/A
C	143m SE	383700 397400	GAYTHORN GASWORKS M18	-	Y	N/A
C	143m SE	383700 397400	GAYTHORN GASWORKS M2	-	Y	N/A
C	143m SE	383700 397400	GAYTHORN GASWORKS M5	-	Y	N/A
C	143m SE	383700 397400	GAYTHORN GASWORKS R2	-	Y	N/A
C	143m SE	383700 397400	GAYTHORN GASWORKS R2	-	Y	N/A
C	143m SE	383700 397400	GAYTHORN GASWORKS M15	-	Y	N/A
C	143m SE	383700 397400	GAYTHORN GASWORKS M1	-	Y	N/A
C	143m SE	383700 397400	GAYTHORN GASWORKS M7	-	Y	N/A

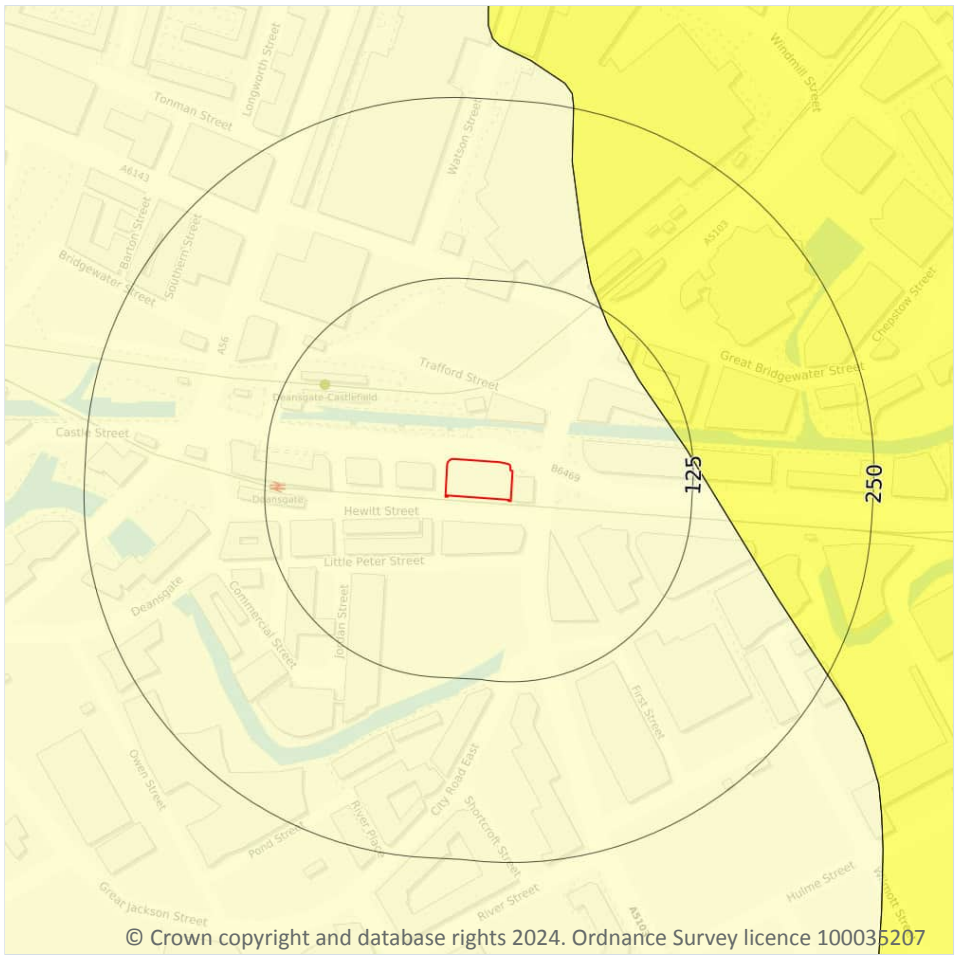
ID	Location	Grid reference	Name	Length	Confidential	Web link
C	143m SE	383700 397400	GAYTHORN GASWORKS M6	-	Y	N/A
C	143m SE	383700 397400	GAYTHORN GASWORKS M11	-	Y	N/A
C	143m SE	383700 397400	GAYTHORN GASWORKS M12A	-	Y	N/A
C	143m SE	383700 397400	GAYTHORN GASWORKS M13	-	Y	N/A
C	143m SE	383700 397400	GAYTHORN GASWORKS M14	-	Y	N/A
C	143m SE	383700 397400	GAYTHORN GASWORKS M3	-	Y	N/A
C	143m SE	383700 397400	GAYTHORN GASWORKS M7A	-	Y	N/A
C	143m SE	383700 397400	GAYTHORN GASWORKS M8	-	Y	N/A
C	143m SE	383700 397400	GAYTHORN GASWORKS M9	-	Y	N/A
C	143m SE	383700 397400	GAYTHORN GASWORKS M17	-	Y	N/A
C	143m SE	383700 397400	GAYTHORN GASWORKS R1	-	Y	N/A
C	143m SE	383700 397400	GAYTHORN GASWORKS M4	-	Y	N/A
C	143m SE	383700 397400	GAYTHORN GASWORKS M10	-	Y	N/A
C	143m SE	383700 397400	GAYTHORN GASWORKS R1	-	Y	N/A
C	143m SE	383700 397400	GAYTHORN GASWORKS M12	-	Y	N/A
D	149m NE	383710 397630	GREAT BRIDGEWATER STREET 2	-	Y	N/A
D	165m NE	383730 397630	GT BRIDGEWATER ST 109	30.0	N	1042749 ↗
E	166m N	383510 397690	FESTIVAL MARKETPLACE 1/8	-	Y	N/A
D	173m NE	383740 397630	GT BRIDGEWATER ST TP 103	2.0	N	1042758 ↗
F	177m E	383780 397520	WHITWORTH STREET WEST MANCHESTER 1	-	Y	N/A
F	177m E	383780 397530	WHITWORTH STREET WEST MANCHESTER 2	-	Y	N/A
D	178m NE	383730 397650	GT BRIDGEWATER ST TP 101	2.0	N	1042756 ↗
D	179m NE	383760 397610	GT BRIDGEWATER ST TP 106	3.0	N	1042761 ↗
7	182m NW	383400 397620	BRIDGEWATER STREET / RICE STREET MAIN DRAINAGE 1	12.0	N	1045617 ↗
E	182m NW	383490 397700	FESTIVAL MARKETPLACE TP 1/8	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
D	189m NE	383760 397630	GT BRIDGEWATER ST TP 105	3.0	N	1042760 ↗
G	191m NW	383440 397680	FESTIVAL MARKETPLACE TP 3/1	-	Y	N/A
D	193m E	383780 397600	GREAT BRIDGEWATER STREET 4/4A	-	Y	N/A
D	195m NE	383760 397640	GT BRIDGEWATER ST 108	30.0	N	1042748 ↗
D	197m NE	383780 397610	GT BRIDGEWATER ST 111	21.0	N	1042751 ↗
G	197m NW	383430 397680	CITY CENTRE - PHASE 2 29	12.5	N	1043527 ↗
F	197m E	383800 397520	WHITWORTH STREET WEST MANCHESTER 4	-	Y	N/A
F	197m E	383800 397530	WHITWORTH STREET WEST MANCHESTER 3	-	Y	N/A
D	201m NE	383760 397650	GT BRIDGEWATER ST TP 104	3.0	N	1042759 ↗
H	202m N	383520 397730	FESTIVAL MARKETPLACE TP 1/6	-	Y	N/A
D	206m NE	383750 397670	GT BRIDGEWATER ST TP 102	2.0	N	1042757 ↗
D	206m NE	383780 397630	GT BRIDGEWATER ST TP 107	4.0	N	1042762 ↗
8	208m N	383550 397740	FESTIVAL MARKETPLACE 1/6	-	Y	N/A
9	211m S	383559 397295	MANCHESTER CORP. B.SEWER	11.28	N	1042258 ↗
I	213m NW	383460 397720	FESTIVAL MARKETPLACE 1/7	-	Y	N/A
D	213m NE	383760 397670	GT BRIDGEWATER ST 106	30.0	N	1042746 ↗
D	215m NE	383790 397630	GT BRIDGEWATER ST TP 125	3.0	N	1042780 ↗
10	216m NE	383700 397720	LOWER MOSLEY STREET PHASE 2 B	5.0	N	13469182 ↗
H	217m N	383500 397740	FESTIVAL MARKETPLACE TP 1/7	-	Y	N/A
D	217m NE	383780 397650	GT BRIDGEWATER ST TP 108	4.0	N	1042763 ↗
D	225m NE	383790 397650	GT BRIDGEWATER ST 107	30.0	N	1042747 ↗

ID	Location	Grid reference	Name	Length	Confidential	Web link
I	225m NW	383451 397729	MANCHESTER CORP. DEANSGATE	10.67	N	1042210 ↗
11	228m NE	383750 397700	GREAT BRIDGEWATER STREET 3	-	Y	N/A
D	229m NE	383800 397640	GT BRIDGEWATER ST TP 109	3.0	N	1042764 ↗
12	233m W	383340 397420	LOWER MEDLOCK UCSO'S CONTRACT 1 MAN 0276 304	9.1	N	1043415 ↗
13	235m NW	383399 397703	MANCHESTER CORP. E.SEWER	12.5	N	1042233 ↗
J	238m E	383840 397510	WHITWORTH STREET WEST MANCHESTER 5	-	Y	N/A
14	242m SE	383820 397400	LOWER MEDLOCK UCSO'S CONTRACT 1 MAN 0285 503/503A	8.0	N	1043423 ↗
D	245m NE	383800 397670	GT BRIDGEWATER ST TP 110	2.0	N	1042765 ↗
D	247m NE	383810 397660	GT BRIDGEWATER ST TP 111	3.0	N	1042766 ↗
J	247m E	383850 397530	WHITWORTH STREET WEST MANCHESTER 6	-	Y	N/A

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.1 Shrink swell clays

Records within 50m	1

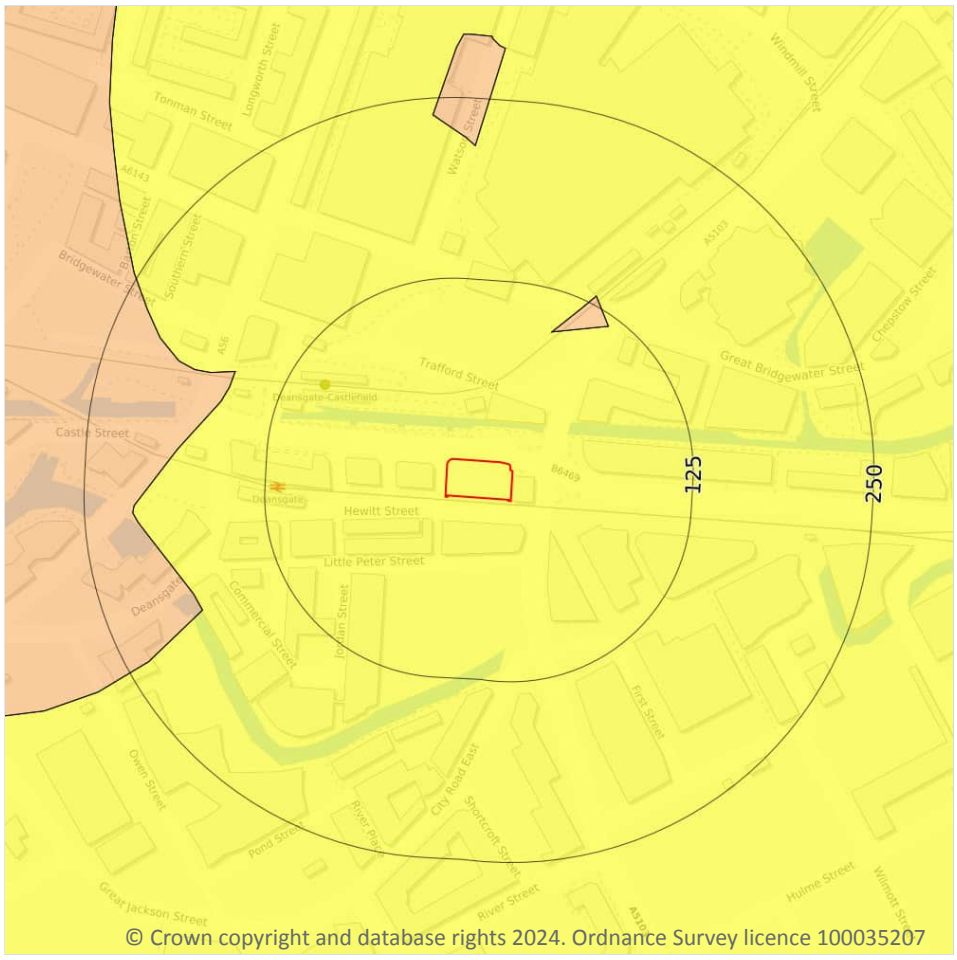
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 152 >**

Location	Hazard rating	Details
On site	**Negligible**	**Ground conditions predominantly non-plastic.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.2 Running sands

Records within 50m	1

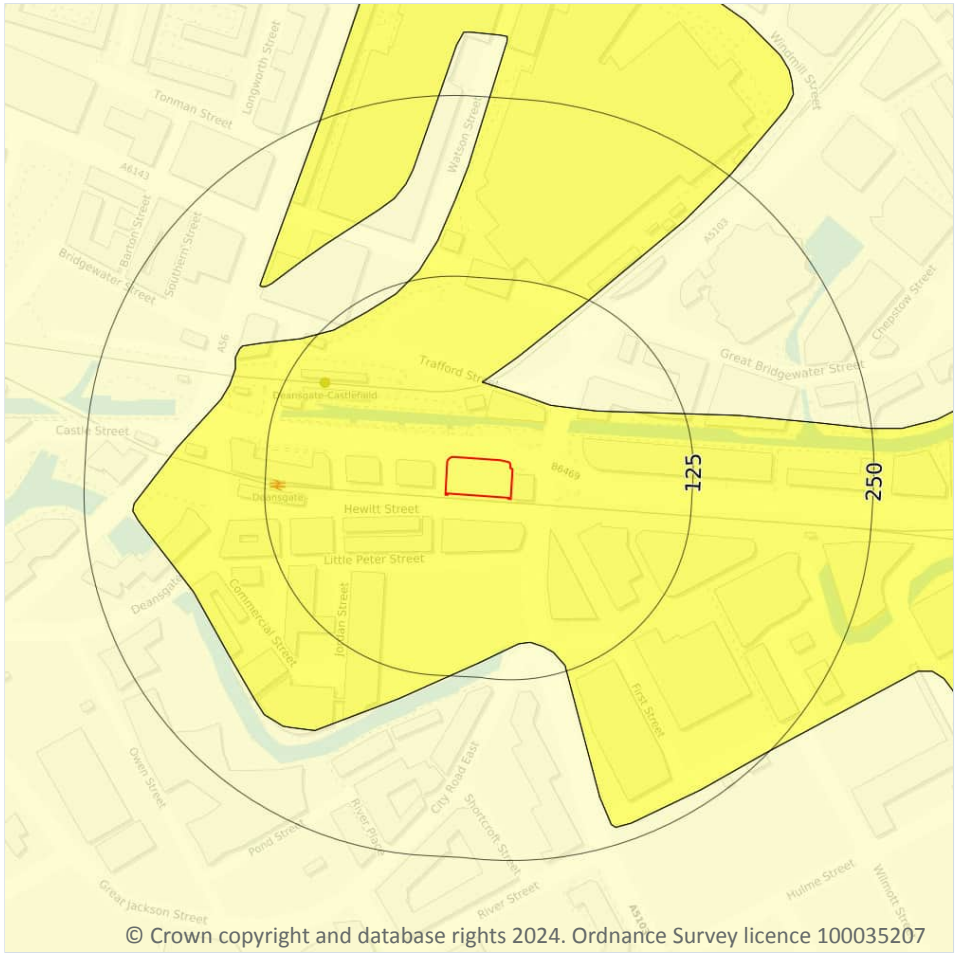
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 153 >**

Location	Hazard rating	Details
On site	**Very low**	**Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



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Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.3 Compressible deposits

Records within 50m	2

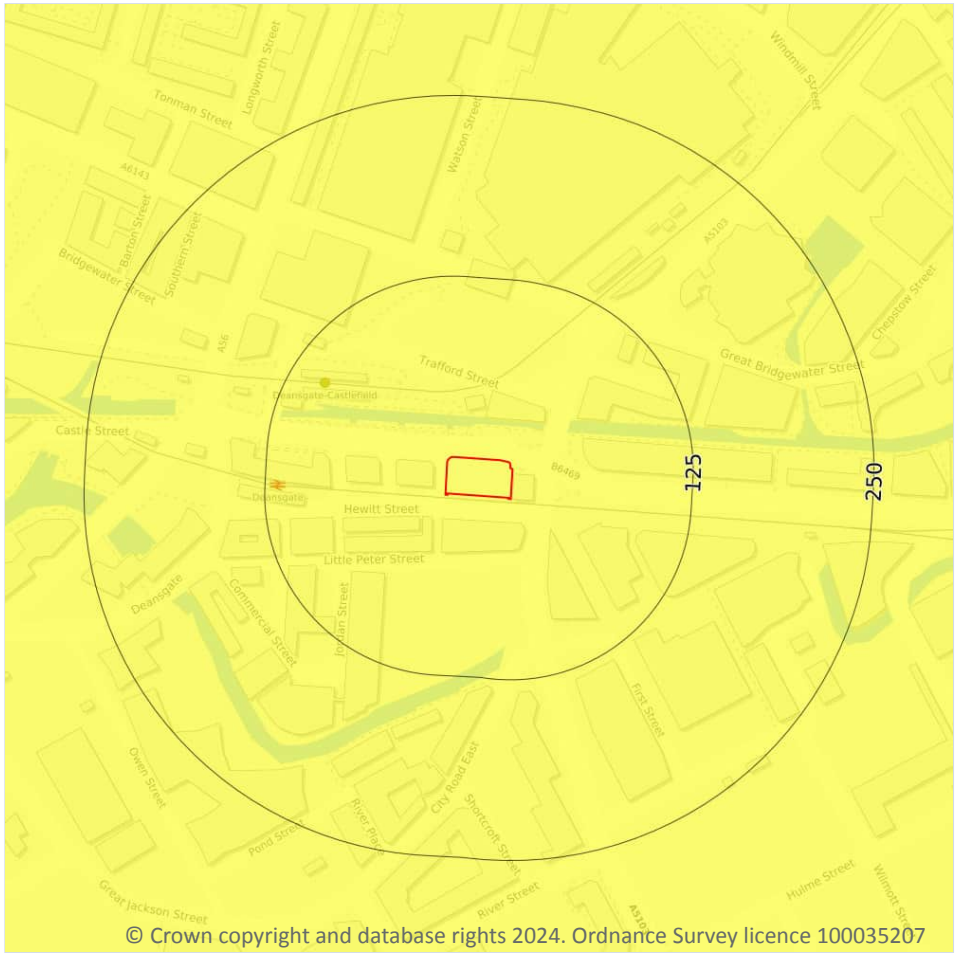
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 154 >**

Location	Hazard rating	Details
On site	**Very low**	**Compressibility and uneven settlement problems are not likely to be significant on the site for most land uses.**
47m NE	Negligible	Compressible strata are not thought to occur.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.4 Collapsible deposits

Records within 50m	1

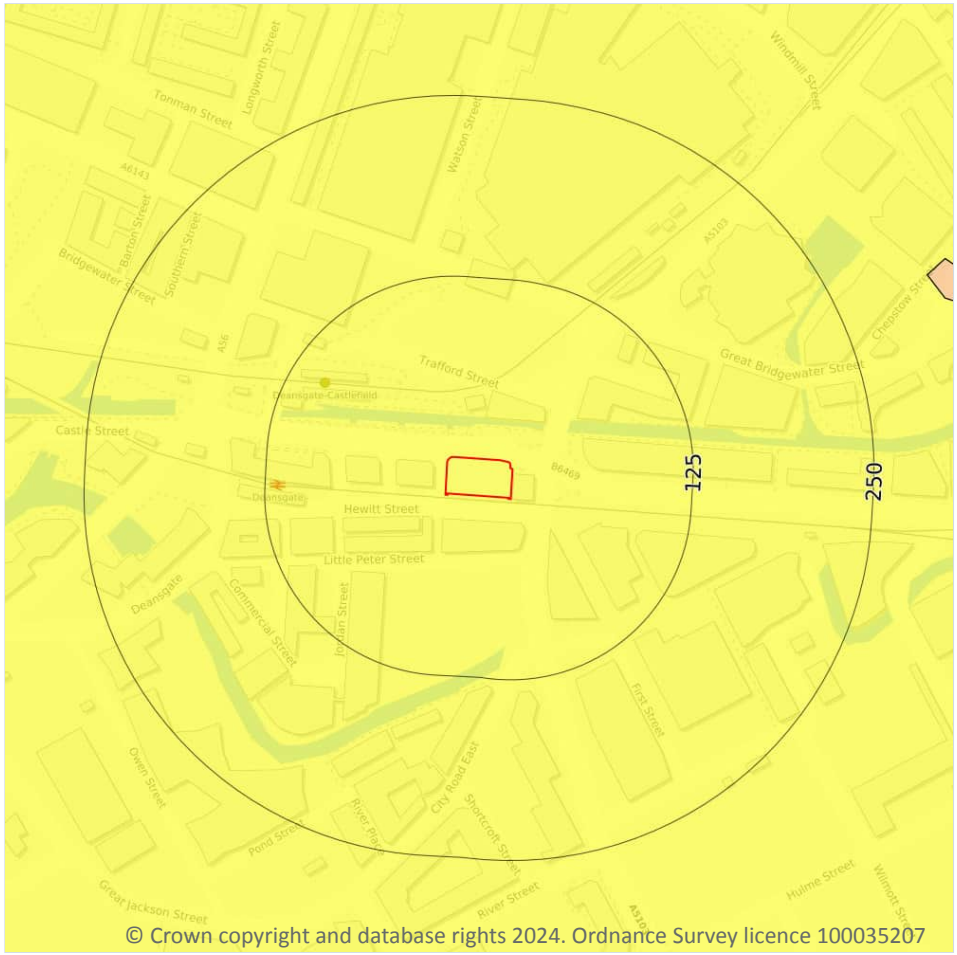
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 156 >**

Location	Hazard rating	Details
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



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Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.5 Landslides

Records within 50m	1

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 157 >**

Location	Hazard rating	Details
On site	**Very low**	**Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.6 Ground dissolution of soluble rocks

Records within 50m	1

The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 158 >**

Location	Hazard rating	Details
On site	**Negligible**	**Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.**

This data is sourced from the British Geological Survey.

18 Mining and ground workings



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Site Outline

Search buffers in metres (m)

- BritPits
- Surface ground workings
- Underground workings
- Underground mining extents
- Historical mineral planning areas
- TCA non-coal mining

Non Coal Mining

- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m	0

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	20

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining and ground workings map on **page 160 >**

ID	Location	Land Use	Year of mapping	Mapping scale
A	13m NW	Canal	1938	1:10560
A	13m NW	Canal	1932	1:10560
A	13m NW	Canal	1916	1:10560
A	13m NW	Canal	1905	1:10560
A	13m NW	Canal	1923	1:10560
1	16m NW	Canal	1988	1:10000
A	18m NW	Canal	1896	1:10560
2	21m NW	Canal	1956	1:10560
B	102m S	Canal	1972	1:10000
B	102m S	Canal	1980	1:10000
B	102m S	Canal	1985	1:10000
B	102m S	Canal	1994	1:10000
3	158m E	Pond	1848	1:10560
4	205m S	Pond	1848	1:10560
B	207m W	Quay	1938	1:10560
B	207m W	Quay	1932	1:10560
B	207m W	Quay	1916	1:10560
B	207m W	Quay	1905	1:10560
B	207m W	Quay	1923	1:10560
5	213m SW	Pond	1848	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m	0

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m	0

This data identifies underground mine workings that could present a potential risk, including adits and seam workings. These features have been identified from BGS Geological mapping and mine plans sourced from the BGS and various collections and sources.

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	0

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	0

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site	1

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

Location	Details
On site	**In addition to being located inside an area where The Coal Authority have information on coal mining activities, Johnson Poole & Bloomer (JPB) have information such as mining plans and maps held within their archive of mining activities that have occurred within 1km of this property which may supplement this information. Please note, the plans held by JPB may also relate to non-mining records. Further details and a quote for services (if appropriate) can be obtained by emailing this report to enquiries.gs@jpb.co.uk ↗.**

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m	**0**

This data provides an indication of the potential zone of influence of recorded underground non-coal mining workings. Any and all analysis and interpretation of Coal Authority Data in this report is made by Groundsure, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be the copyright of the Coal Authority and permission should be sought from Groundsure prior to any re-use.

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m	**0**

This data indicates areas of potential mining identified from alternative or archival sources, including; BGS Geological paper maps, Lidar data, aerial photographs (from World War II onwards), archaeological data services, websites, Tithe maps, and various text/plans from collected books and reports. Some of this data is approximate and Groundsure have interpreted the resultant risk area and, where possible, specific areas of risk have been captured.

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m	**0**

This dataset is representative of Mining Record Office and/or plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m	0

This dataset is representative of BGS mine plans held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.12 Coal mining

Records on site	1

Areas which could be affected by past, current or future coal mining.

Location	Details
On site	**The site is located within a coal mining area as defined by the Coal Authority. A Consultants Coal Mining Report is recommended to further assess coal mining issues at the site. This can be ordered directly through Groundsure or your preferred search provider.**

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site	0

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.14 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

Records on site	0

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).

19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m	0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m	0

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m	0

This data identifies sinkhole information gathered from media reports and Groundsure's own records. This data goes back to 2014 and includes relative accuracy ratings for each event and links to the original data sources. The data is updated on a regular basis and should not be considered a comprehensive catalogue of all sinkhole events. The absence of data in this database does not mean a sinkhole definitely has not occurred during this time.

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m	0

This dataset comprises an extract of 1:10,560, 1:10,000, 1:2,500 and 1:1,250 scale historical Ordnance Survey maps held by Groundsure, dating back to the 1840s. It shows shakeholes, deneholes and other 'holes' as noted on these maps. Dene holes are medieval chalk extraction pits, usually comprising a narrow shaft with a number of chambers at the base of the shaft. Shakeholes are an alternative name for suffusion sinkholes, most commonly found in the limestone landscapes of North Yorkshire but also extensively noted around the Brecon Beacons National Park.

Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.

This data is sourced from Groundsure.

19.5 National karst database

Records within 500m	0

This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over 800 caves, 1300 stream sinks, 5600 springs, 10,000 sinkholes.

The database is not yet complete, and not all records have been verified. The absence of data does not mean that karst features are not present at a site. A reliability rating is included with each record.

This data is sourced from the British Geological Survey.

20 Radon



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Site Outline

Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

20.1 Radon

Records on site	1

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on **page 168 >**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Less than 1%**	**None**

This data is sourced from the British Geological Survey and UK Health Security Agency.

21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m	2

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km^2. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km^2; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 - 25 mg/kg**	**No data**	**100 - 200 mg/kg**	**60 - 120 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 mg/kg**
3m SE	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m	4

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km^2).

Location	Arsenic (mg/kg)	Bioaccessible Arsenic (mg/kg)	Lead (mg/kg)	Bioaccessible Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Tin (mg/kg)
On site	**16**	**2.8**	**53**	**36**	**0.3**	**63**	**28**	**23**	**6**
On site	**16**	**2.8**	**61**	**42**	**0.5**	**66**	**26**	**22**	**5**
3m SE	18	3.2	67	46	0.5	75	29	24	5
3m SE	18	3.2	47	32	0.3	70	29	24	6

This data is sourced from the British Geological Survey.

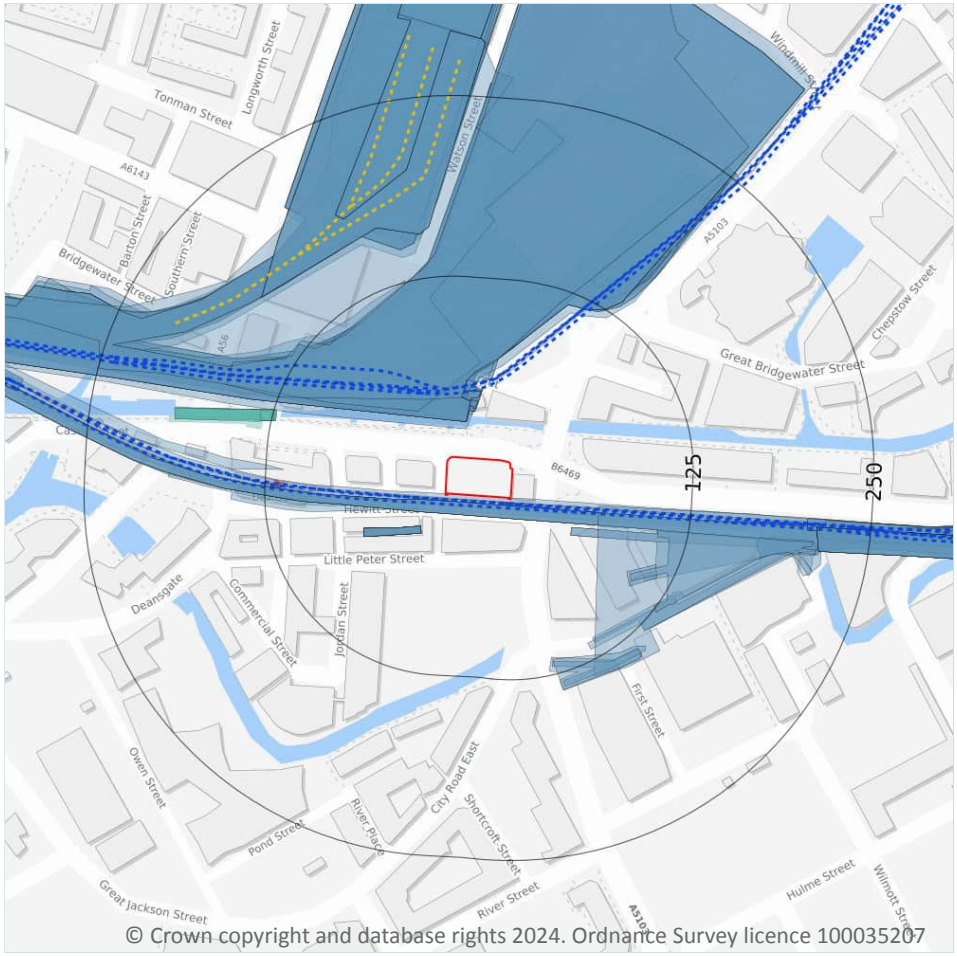
21.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km^2.

This data is sourced from the British Geological Survey.

22 Railway infrastructure and projects



Site Outline

Search buffers in metres (m)

- Crossrail 1 Stations
- Crossrail 1 Route
- Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

22.1 Underground railways (London)

Records within 250m	0

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m	0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m	87

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

Features are displayed on the Railway infrastructure and projects map on **page 172 >**

Location	Land Use	Year of mapping	Mapping scale
On site	**Railway**	**1932**	**-**
2m SE	Railway	1922	-
4m SW	Railway Sidings	1893	2500
4m SW	Railway Sidings	1908	2500
4m SW	Railway Sidings	1922	2500
4m SW	Railway Sidings	1932	2500
20m N	Railway Sidings	1923	10560
25m N	Railway Sidings	1938	10560
25m N	Railway Sidings	1932	10560
25m N	Railway Sidings	1916	10560
25m N	Railway Sidings	1905	10560
28m SW	Railway Sidings	1980	1250
28m SW	Railway Sidings	1985	1250
28m SW	Railway Sidings	1987	1250
28m SW	Railway Sidings	1990	1250
32m N	Railway Sidings	1949	2500
32m N	Railway Sidings	1957	2500

Location	Land Use	Year of mapping	Mapping scale
32m N	Railway Sidings	1965	2500
34m NW	Railway Sidings	1891	500
35m N	Railway Sidings	1951	1250
35m N	Railway Sidings	1948	1250
39m NW	Railway Sidings	1956	10560
41m N	Railway Sidings	1896	10560
54m NW	Railways	1893	-
61m E	Railways	1893	-
63m NW	Railway Sidings	1891	500
71m NW	Railway Sidings	1955	-
72m NW	Railway Sidings	1891	500
87m NW	Railway Sidings	1891	500
95m SE	Railway Sidings	1893	2500
97m SE	Railway Sidings	1891	500
106m NW	Railway Sidings	1948	1250
107m NW	Railway Sidings	1955	1250
108m NW	Railway Sidings	1955	-
113m S	Railway Sidings	1893	2500
114m S	Railway Sidings	1896	10560
116m S	Railway Sidings	1891	500
121m NE	Railway Sidings	1891	500
122m W	Tunnel	1949	2500
122m W	Tunnel	1957	2500
122m W	Tunnel	1965	2500
122m W	Tunnel	1995	1250
122m W	Tunnel	1994	1250
122m W	Tunnel	1955	-
123m W	Tunnel	1932	-

Location	Land Use	Year of mapping	Mapping scale
123m W	Tunnel	1948	1250
123m W	Tunnel	1963	1250
123m W	Tunnel	1955	1250
123m W	Tunnel	1981	1250
124m N	Railway Sidings	1891	500
126m N	Railway Sidings	1891	500
127m N	Railway Sidings	1891	500
128m N	Railway Sidings	1891	500
130m NE	Railway Sidings	1951	1250
130m NE	Railway Sidings	1948	1250
131m W	Tunnel	1932	2500
131m NE	Railway Sidings	1965	2500
132m W	Tunnel	1986	1250
132m W	Tunnel	1990	1250
136m NE	Railway Sidings	1891	500
156m N	Railway Sidings	1972	10000
156m N	Railway Sidings	1980	10000
156m N	Railway Sidings	1985	10000
158m N	Railway Sidings	1965	2500
159m N	Railway Sidings	1951	1250
159m N	Railway Sidings	1948	1250
166m NW	Railway Sidings	1948	1250
176m NW	Railway Sidings	1963	1250
177m N	Railway	1933	-
178m NW	Railway Sidings	1955	1250
178m NW	Railway Sidings	1955	-
188m N	Railway Sidings	1973	1250
206m E	Railway Sidings	1949	2500

Location	Land Use	Year of mapping	Mapping scale
206m E	Railway Sidings	1957	2500
213m E	Railway Sidings	1938	10560
213m E	Railway Sidings	1932	10560
213m E	Railway Sidings	1916	10560
213m E	Railway Sidings	1905	10560
213m E	Railway Sidings	1923	10560
218m E	Railway Sidings	1965	2500
224m E	Railway Sidings	1969	1250
224m E	Railway Sidings	1953	1250
225m E	Railway Sidings	1980	1250
227m N	Railway	1893	-
230m NW	Railway Sidings	1955	-
238m N	Railway Sidings	1973	1250
248m NW	Railway Sidings	1955	1250

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m	0

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m	3

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

Features are displayed on the Railway infrastructure and projects map on **page 172 >**

Location	Description
174m NW	Dismantled
175m NW	Dismantled
186m NW	Dismantled

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m	**26**

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

Features are displayed on the Railway infrastructure and projects map on **page 172 >**

Location	Name	Type
3m SE	Manchester and Ordsall Lane Junction Branch	rail
3m SE		rail
4m SW	Not given	Multi Track
4m SW	Not given	Multi Track
6m SE	Manchester and Ordsall Lane Junction Branch	rail
44m N		light_rail
46m NW	Not given	Multi Track
48m N		light_rail
48m N		light_rail
48m N		light_rail
48m NW		light_rail
56m N	Not given	Multi Track
63m NW		light_rail
92m NW		light_rail
149m E		rail
166m W	Not given	Multi Track
192m W	Not given	Multi Track
207m W	Metrolink	light_rail

Location	Name	Type
207m W	Metrolink	light_rail
227m E	Manchester and Ordsall Lane Junction Branch	rail
228m E		rail
233m NE	Not given	Multi Track
235m E	Not given	Multi Track
235m E	Not given	Multi Track
241m W		light_rail
241m W		light_rail

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m	0

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m	0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m	0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

This data is sourced from HS2 ltd.

Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see https://www.groundsure.com/sources-reference ↗.

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: www.groundsure.com/terms-and-conditions-april-2023/ ↗.

APPENDIX D

BGS Exploratory Hole Records

British Geological Survey

BGS ID: 1042261 : BGS Reference: SJ89NW119
British National Grid (27700) : 383608,397570

62 G.S.M. Nos. 122-126

SJ89NW 21-125

(B11887) Wt. 17852—S154—5,000 12/26 Gp. 180. O.A.

SECTION OF Bores & Shafts at Irwell Storm Relief Overflow Sewer, Cornbrook, Manchester.

Maps: One-inch 82. Six-inch 104 S.W.E. County Lancs.

Height above O.D. Latitude Longitude

SJ89NW 116-120

) Wt. 5993—S.33 2000 6/22 Gp. 147 [illegible]

SECTION OF manholes in B. Sewer at Manchester contd.

Maps: One-inch Six-inch 104 S.W.E. County

Height above O.D. Latitude Longitude

Communicated by Date of sinking

Made by Dip of Strata

	Thickness.			Depth from Surface.		
	M	ft		M	ft	
No. 110 / No. 13. 116 Junction of City Road & Shot St.						
Stone, clay & sand	3·66	12	–	3·66	12	–
Sand & ballast	3·05	10	–	6·71	22	–
Sandstone.	4·57	15	–	11·28	37	–
No. 114. 117 South side of Medlock Bridge, City Road.						
Sand, clay, & stones	3·66	12	–	3·66	12	–
Sand & ballast.	3·35	11	–	7·01	23	–
Sandstone.	4·27	14	–	11·28	37	–
No. 118 / No. 14. 118 North side of Medlock Bridge, City Road.						
Sand, clay & stones	3·66	12	–	3·66	12	–
Sand & ballast	3·35	11	–	7·01	23	–
Sandstone.	4·27	14	–	11·28	37	–
No. 119 / No. 17. 119 Traff. Street, off Albion St.						
Clay, sand & stones	4·57	15	–	4·57	15	–
Sand & ballast	4·88	16	–	9·45	31	–
Sandstone.	4·57	15	–	14·02	46	–
No. 114 / No. 19. 120 Trafford St. off Deansgate.						
Sand, clay & stones	4·57	15	–	4·57	15	–
Ballast & sand.	4·57	15	–	9·14	30	–
Sandstone.	3·35	11	–	12·50	41	–

Contact BGS: ngdc@bgs.ac.uk

APPENDIX E

Mining Search Report

Groundsure
LOCATION INTELLIGENCE

CON29M
OFFICIAL COAL MINING SEARCH

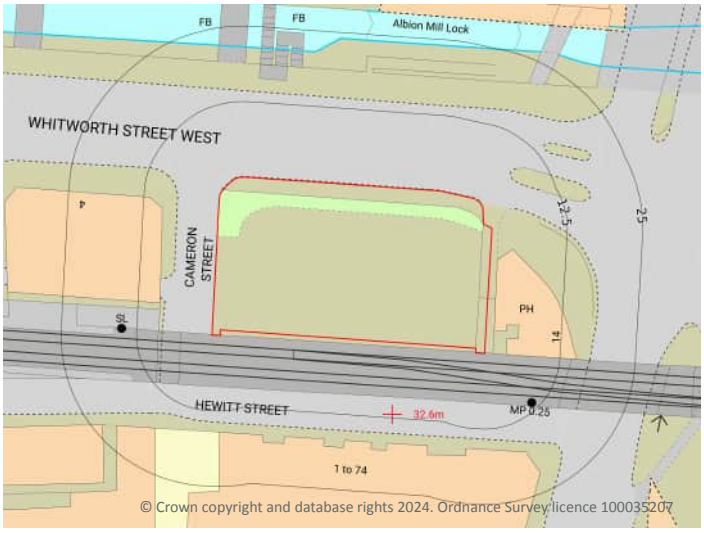
Whitworth Street West, Manchester, M1 5NZ

Professional opinion

Inc. integrated mine entry interpretive assessment

PASS

Site plan



Search results

1. Past underground coal mining
Not identified

2. Present underground coal mining
Not identified

3. Future underground coal mining
Not identified

4. Mine entries
Not identified

5. Coal mining geology
Not identified

6. Past opencast coal mining
Not identified

7. Present opencast coal mining
Not identified

8. Future opencast coal mining
Not identified

9. Coal mining subsidence claims
Not identified

10. Mine gas emissions
Not identified

11. Emergency Call Out incidents
Not identified

12. Withdrawal of support
Not identified

13. Working facilities orders
Not identified

14. Payments to copyhold owners
Not identified

Cheshire Brine
Not identified

Contact us with any questions at:
info@groundsure.com
01273 257 755

Ref: BRO-LL5-39B-N6L-JW3
Your ref: C5504-5783-SD
Grid ref: 383579 397518
Date: 21 October 2024

Certified B Corporation

Coal mining (CON29M) assessment

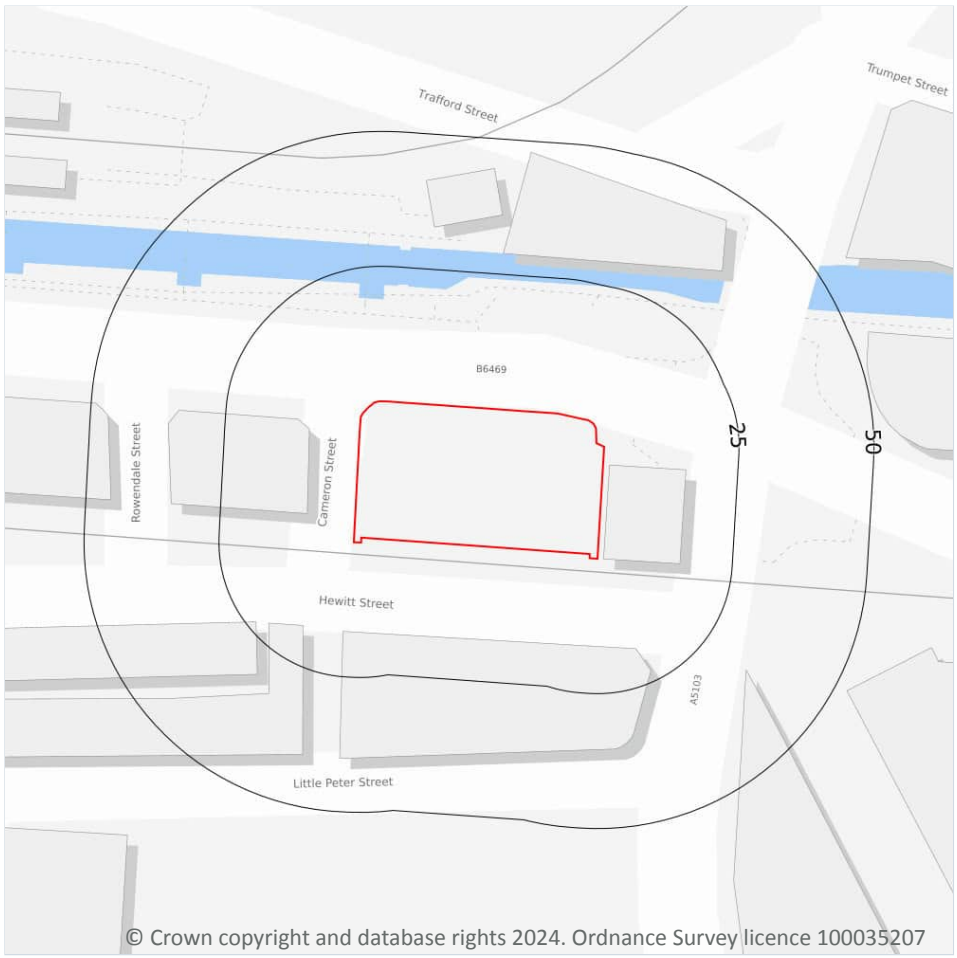
We consider the property to be acceptably free from coal mining related risk. No further action is required with regards to past coal mining.

Coal mining

CON29M reports are a requirement for conveyancing and are recommended throughout the official Coal Mining Reporting Area. This is the area within which it is deemed prudent to clarify the risk presented by coal mining, using the questions laid out in the Law Society's CON29M form. The need for a CON29M does not always translate to an identification of risk, and reports will often be assessed as free from risk or 'Passed' even though they are within the official Coal Mining Reporting Area.

Contact us with any questions at:
info@groundsure.com
01273 257 755

Coal mining (CON29M)



Site Outline

Search buffers in metres (m)

Mine entries

- Adits
- Shafts
- Calculated 'zone of influence'

Subsidence claims

- Awaiting decision
- Rejected
- Admitted
- Deferred
- Settled
- Withdrawn

- Probable shallow coal mine workings
- Coal outcrops
- Past shallow coal mine workings

Coal mining (CON29M)

The map above shows relevant, mappable hazards identified that could constitute a risk to the property. It does not necessarily show all features or potential issues identified in this report. Further details of any features shown indicating the location of Mine Entries or Subsidence Claims can be found in the relevant sections of this report (4 and 9 respectively).

Responses to the Law Society CON29M Coal Mining search enquiries are produced using official Coal Authority data and the expert interpretation of Groundsure. This report is prepared in accordance with The Law Society CON29M (2018) Guidance Notes. Additional interpretation and calculation of mine entry zones of influence has also been carried out by Groundsure using Coal Authority and British Geological Survey data.

Please read this report carefully, and in particular any sections flagged with an amber 'i'.

Contact us with any questions at:
info@groundsure.com
01273 257 755

The Law Society

These enquiries are The Law Society CON29M (2018) Coal Mining search enquiries and are used with permission of The Law Society. The Law Society CON29M Coal Mining search enquiries are protected by copyright owned by The Law Society of 113 Chancery Lane, London WC2A 1PL. The Law Society has no responsibility for information provided in response to CON29M (2018) Coal Mining search enquiries within this report or otherwise.

1. Past underground coal mining

Is the property within the zone of likely physical influence on the surface of past underground coal workings?

- **The property does not lie within the potential zone of influence of any recorded underground coal workings.**

2. Present underground coal mining

Is the property within the zone of likely physical influence on the surface of present underground coal workings?

- **The property does not lie within the boundary of an underground site from which coal is being removed by underground methods.**

3. Future underground coal mining

(a) Is the property within any geographical area for which the Coal Authority is determining whether to grant a licence to remove coal by underground methods?

- **The property does not lie within the boundary of an underground site for which the Coal Authority is determining whether to grant a licence to remove coal by underground methods.**

(b) Is the property within any geographical area for which a licence to remove coal by underground methods has been granted?

- **The property does not lie within the boundary of an underground site for which a licence to remove coal by underground methods has been granted.**

(c) Is the property within the zone of likely physical influence on the surface of planned future underground coal workings?

- **The property does not lie within the zone of likely physical influence on the surface of planned future underground workings.**

(d) Has any notice of proposals relating to underground coal mining operations been given under section 46 of

the Coal Mining Subsidence Act 1991?

- **No notices have been given under Section 46 of the Coal Mining Subsidence Act 1991 stating that the land is at risk of subsidence.**

4. Mine entries

Are there any shafts and adits or other entries to underground coal mine workings within the property or within 20 metres of the boundary of the property?

- **No coal mine entries are recorded to lie within 20 metres of the property.**

5. Coal mining geology

Is there any record of any fault or other line of weakness due to coal mining at the surface within the boundary of the property that has made the property unstable?

- **No damage arising from geological faults or other lines of weakness activated by coal mining are recorded within the property.**

6. Past opencast coal mining

Is the property situated within the geographical boundary of an opencast site from which coal has been removed in the past by opencast methods?

- **The property does not lie within the boundary of an opencast site from which coal was removed by opencast methods.**

7. Present opencast coal mining

Is the property within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods?

- **The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.**

8. Future opencast coal mining

(a) Is the property within 800 metres of the boundary of an opencast site for which the Coal Authority are determining whether to grant a licence to remove coal by opencast methods?

- **The property does not lie within 800 metres of the boundary of an opencast site for which the Coal Authority are determining whether to grant a licence to remove coal by opencast methods.**

(b) Is the property within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted?

- **The property does not lie within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.**

9. Coal mining subsidence claims

(a) Has any damage notice or claim for alleged coal mining subsidence damage to the property been given, made or pursued since 31st October 1994?

- **We have no evidence of a damage notice or subsidence claim for the property or within 50m of the property since 31st October 1994.**

(b) In respect of any such notice or claim has the responsible person given notice agreeing that there is a remedial obligation or otherwise accepted that a claim would lie against them?

- **Not applicable.**

(c) In respect of any such notice or acceptance has the remedial obligation or claim been discharged?

- **Not applicable.**

(d) Does any current "Stop Notice" delaying the start of remedial works or repairs affect the property?

- **There are no current Stop Notices delaying the start of remedial works or repairs to the property.**

(e) Has any request been made under Section 33 of the 1991 Act to execute preventive works before coal is worked, which would prevent the occurrence or reduce the extent of subsidence damage to any buildings, structures or works and, if yes, has any person withheld consent or failed to comply with any such request to execute preventive works?

- **There is no record of a request that has been made to carry out preventive works before coal is worked under Section 33 of the Coal Mining Subsidence Act 1991.**

NB. Records of damage notices or subsidence claims before 31st October 1994 are excluded from The Coal Authority data from which this search is compiled.

10. Mine gas emissions

Does the Coal Authority have record of any mine gas emission within the boundary of the property being reported that subsequently required action by the Authority to mitigate the effects of the mine gas emission?

- **No mine gas emissions are recorded within the boundary of the property.**

11. Emergency Surface Hazard Call Out incidents

Have the Coal Authority carried out any work on or within the boundaries of the property following a report of an alleged hazard related to coal mining under the Authority's Emergency Surface Hazard Call Out procedures?

- **No Emergency Surface Hazard Call Out procedures are recorded against the property.**

12. Withdrawal of support

(a) Does the land lie within a geographical area in respect of which a notice of entitlement to withdraw support has been published?

- **The property does not lie in an area where the right to withdraw support has been granted.**

(b) Does the land lie within a geographical area in respect of which a revocation notice has been given under section 41 of the Coal Industry Act 1994?

- **The property does not lie within a geographical area in which a revocation notice has been given under section 41 of the Coal Industry Act 1994.**

13. Working facilities orders

Is the property within a geographical area subject to an order in respect of the working of coal under the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof?

- **The property is not in an area where a court order has been issued.**

14. Payments to owners of former copyhold land

(a) Has any relevant notice, which may affect the property, been given?

- **The property does not lie within former copyholder land.**

(b) If yes, has any notice of retained interests in coal and coal mines been given?

- **No notices of retained interests in coal and coal mines been given.**

(c) If yes, has any acceptance notice or rejection notice been served?

- **No acceptance or rejection notices have been served.**

(d) If any such acceptance notice has been served, has any compensation been paid to a claimant?

- **No compensation has been paid to a claimant.**

Methodologies and limitations

Groundsure's methodologies and limitations are available here: knowledge.groundsure.com/methodologies-and-limitations ↗.

Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information in your report. To find out who they are and their areas of expertise see www.groundsure.com/sources-reference ↗.

Conveyancing Information Executive and our terms & conditions

IMPORTANT CONSUMER PROTECTION INFORMATION

This search has been produced by Groundsure Ltd. Groundsure adheres to the Conveyancing Information Executive Standards.

In addition to The Property Ombudsman (TPO) redress scheme covering consumers, TPO will also provide redress to small businesses (including Charities and Trusts) and where the customer meets the following criteria:

- a small business (or group of companies) with an annual turnover of less than £3 million;
- a charity with an annual income of less than £3 million;
- a Trust with a net asset value of less than £3 million.

Complaints Advice

If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure.

If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award up to £5,000 to you if the Ombudsman finds that you have suffered actual financial loss and/or aggravation, distress or inconvenience as a result of your search provider failing to keep to the Standards.

Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs.

COMPLAINTS PROCEDURE: If you want to make a complaint, we will:

- acknowledge it within 5 working days of receipt
- normally deal with it fully and provide a final response, in writing, within 20 working days of receipt
- liaise, at your request, with anyone acting formally on your behalf

Complaints should be sent to:
Operations Director, Groundsure Ltd, Nile House, Nile Street, Brighton, BN1 1HW. Tel: 01273 257 755. Email: info@groundsure.com ↗ If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman scheme (TPOs): Tel: 01722 333306, E-mail: admin@tpos.co.uk ↗ We will co-operate fully with the Ombudsman during an investigation and comply with their final decision.

Groundsure's Terms and Conditions can be viewed here: www.groundsure.com/terms-and-conditions-april-2023/ ↗

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Coal Mining Report Insurance Policy

ZURICH

Coal Mining Report Insurance Policy

The Schedule

Policy Number: The Reference contained in the **Coal Mining Search Report**

Premium: £1.20 inclusive of Insurance Premium Tax at 12%

Property: The property which is the subject of the **Coal Mining Search Report**

Limit of Indemnity: £100,000 increasing by 10% compound per annum on each anniversary of and for the first 10 years following the **Commencement Date**

Commencement Date: The date of the **Coal Mining Search Report**

You/Your:
1. A purchaser of the **Property**
2. A lender providing a **Mortgage** in connection with a purchase of the **Property**
3. A lender providing a **Mortgage** by way of a re-mortgage of the **Property**

Definitions

Where a word is defined below or in the schedule it shall carry the same meaning wherever it appears in bold text in this policy

Insured Use: The continued use of the **Property** as a single house or flat or a single commercial premises

Market Value: The value as determined by a surveyor appointed by agreement between **You** and **Us** or (in default of agreement) the President for the time being of the Royal Institution of Chartered Surveyors

Mortgage: A mortgage or charge secured on the **Property** by an institutional mortgage lender

Coal Mining Search Report: The coal mining search report attached to this policy

Search: An official search comprising a search in form CON29M (2018) being mining searches relating to coal and brine in the area in which the **Property** is situated

We/Our/Us:
Zurich Insurance plc. A public limited company incorporated in Ireland. Registration No. 13460. Registered Office: Zurich House, Ballsbridge Park, Dublin 4, Ireland. UK Branch registered in England and Wales Registration No. BR7985. UK Branch Head Office: The Zurich Centre, 3000 Parkway, Whiteley, Fareham, Hampshire PO15 7JZ.

Zurich Insurance plc is authorised by the Central Bank of Ireland and authorised and subject to limited regulation by the Financial Conduct Authority. Details about the extent of our authorisation by the Financial Conduct Authority are available from us on request. Our FCA Firm Reference Number is 203093.

Communications may be monitored or recorded to improve our service and for security and regulatory purposes.

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Your Policy

This is a legal document and should be kept in a safe place.

This policy is an agreement between **You** and **Us** and cover is provided subject to the payment of the **Premium**.

You must read this policy and its conditions, exclusions, schedule and any endorsements as one contract. Please read all of them to make sure that they provide the cover **You** require. If they do not, please contact **Us** or **Your** insurance adviser who arranged the policy for **You**.

When **You** take out and make changes to the cover provided by this policy, **You** must take reasonable care to ensure that **You** accurately answer any questions which **We** ask of **You** and that any information **You** give **Us** is accurate. If **You** are taking out this policy for purposes which are mainly related to **Your** trade, business or profession, **You** must also let **Us** know about all facts which are material to **Our** decision to provide **You** with insurance. Failure to meet these obligations could result in this policy being invalidated, a claim not being paid, or an additional premium being charged.

Fair presentation of the risk

a) At inception of this policy and also whenever changes are made to it at **Your** request You must:

i) where **You** have taken out this policy for purposes which are wholly or mainly related to **Your** trade, business or profession, disclose to **Us** all material facts in a clear and accessible manner and not misrepresent any material facts, and
ii) where **You** have taken out this policy for purposes which are wholly or mainly unrelated to **Your** trade, business or profession, take reasonable care not to misrepresent any material facts.

b) If **You** do not comply with clause a) of this condition **We** may:

i) avoid this policy which means that **We** will treat it as if it had never existed and refuse all claims where any non-disclosure or misrepresentation by **You** is proven by **Us** to be deliberate or reckless in which case **We** will not return the premium paid by **You**; and
ii) recover from **You** any amount **We** have already paid for any claims including costs or expenses **We** have incurred.

c) If You do not comply with clause a) of this condition and the non-disclosure or misrepresentation is not deliberate or reckless this policy may be affected in one or more of the following ways depending on what **We** would have done if **We** had known about the facts which **You** failed to disclose or misrepresented:

i) if **We** would not have provided **You** with any cover **We** will have the option to:
1. avoid the policy which means that **We** will treat it as if it had never existed and repay the premium paid; and
2. recover from **You** any amount **We** have already paid for any claims including costs or expenses **We** have incurred
ii) if **We** would have applied different terms to the cover **We** will have the option to treat this policy as if those different terms apply. **We** may recover any payments made by **Us** on claims which have already been paid to the extent that such claims would not have been payable had such additional terms been applied
iii) if **We** would have charged **You** a higher premium for providing the cover **We** will charge **You** the additional premium which **You** must pay in full.

d) If any insured person, other than **You**, is responsible for a misrepresentation or failure to make a fair presentation of the risk, **We** will invoke the remedies available to **Us** under this condition as against that particular person as if a separate insurance contract had been issued to them leaving the remainder of the policy unaffected.

NB: For the purposes of the duty of disclosure stated in paragraphs a) i) and ii) above the content of the **Coal Mining Search Report** will be deemed to satisfy **Your** disclosure obligations.

Cover

1. **You** are in the process of purchasing the **Property** relying on the **Coal Mining Search Report** and/or
2. **You** (being a lender) have agreed to provide a **Mortgage** in connection with **Your** borrower's purchase or re-mortgage of the **Property** relying on the **Coal Mining Search Report**.

We will pay the following losses sustained by **You** arising out of the **Property** being affected by any matter which would have been revealed by a **Search** had one been carried out on the date of the **Coal Mining Search Report** but which was not revealed by the **Coal Mining Search Report**:

1. any reduction in **Market Value** of the **Property** calculated at the date **You** become aware of the matter(s) and/or loss in connection with a **Mortgage** as a result of such reduction.
2. all other costs and expenses including out of court settlement costs incurred by **Us** or by **You** with **Our** prior written agreement.

Waiver of Breach of Policy Condition

We will not exercise **Our** right to avoid **Our** liability to **You** in respect of loss where **You** have inadvertently breached any term or condition of the policy provided that such breach does not prejudice **Our** rights and remedies under the policy or otherwise directly or indirectly result in or increase the amount of any loss.

Protection for Mortgagees and Successors in Title

We will not avoid **Our** liability to make a payment to **You** solely because another person breaches the terms and conditions of this policy, provided such breach was not committed on **Your** behalf or with **Your** agreement, and **We** will invoke the remedies available to **Us** under the Policy as against that other person as if a separate insurance contract had been issued to them leaving the remainder of the policy unaffected.

Joint Insured

Any party insured under this policy standing in the relation of parent company, subsidiary company, associated company, branch office or joint venture partner to each other will be deemed to be joint insured for the purposes of this policy and jointly liable and responsible for any breach of any terms and conditions of this policy. If there is any inconsistency between this clause and any other term of this policy, this clause shall prevail.

Exclusions

We will not pay for any:

1. amount in excess of the **Limit of Indemnity**.
2. loss which would be recoverable under a household buildings insurance policy.
3. loss arising from any matter that **You** were aware of at the **Commencement Date**.
4. loss if the **Property** is used for any purpose other than the **Insured Use**.

Claims Conditions and How to Claim

1. **You** must:

i) give **Us** written notice as soon as possible of any potential or actual claim or any circumstances likely to result in a claim. Please provide the policy number, **Your** name, the full address of the **Property** and a brief description of the incident that has occurred. Notifications should be sent to: Speciality Lines Claims Team, Zurich Insurance, 8th Floor, 70 Mark Lane, London, EC3R 7NQ. Email: claims@uk.zurich.com ↗, Enquiry line: telephone 0207 648 3523
ii) pass all court documents and/or other communications to **Us** as soon as possible after receipt
iii) not deal with, make any admission of liability or attempt to settle a claim without **Our** prior written agreement.
iv) agree to and carry out at **Our** expense all things necessary to minimise any loss.
v) provide all information and assistance that **We** may require to help defend and settle the claim.

2. **We** are entitled to:

i) decide how to settle or defend a claim and may carry out proceedings in the name of any person insured under this policy, including proceedings for recovering any claim.
ii) pay to **You** at any time, an amount equal to the **Limit of Indemnity** or any lower amount for which the claim can be settled, after deduction of any sum already paid. **We** may then give up control of and have no further liability in connection with the claim.

3. If **We** admit liability for a claim but there is a dispute as to the amount to be paid the dispute will be referred to an arbitrator. The arbitrator will be appointed jointly by **You** and **Us** in accordance with the law at the time. **You** may not take any legal action against **Us** over the dispute before the arbitrator has reached a decision.

4. If **You** or anyone acting on Your behalf:

a) makes a fraudulent or exaggerated claim under this policy; or
b) uses fraudulent means or devices including the submission of false or forged documents in support of a claim whether or not the claim is itself genuine; or
c) makes a false statement in support of a claim whether or not the claim is itself genuine; or
d) submits a claim under this policy for loss or damage which **You** or anyone acting on **Your** behalf or in connivance with **You** deliberately caused; or
e) realises after submitting what **You** reasonably believed was a genuine claim under this policy and then fails to tell **Us** that **You** have not suffered any loss or damage; or
f) suppresses information which **You** know would otherwise enable **Us** to refuse to pay a claim under this policy

We will be entitled to refuse to pay the whole of the claim and recover any sums that **We** have already paid in respect of the claim.

If any fraud is perpetrated by or on behalf of an insured person and not on behalf of **You** this condition should be read as if it applies only to that insured person's claim and references to this policy should be read as if they were references to the cover effected for that person alone and not to the policy as a whole.

5. If any claim is covered by any other insurance, **We** will not pay for more than **Our** share of that claim.

6. The most **We** will pay for any loss (or all losses in the aggregate), including costs and expenses agreed by **Us** is the **Limit of Indemnity**. Once **We** have paid a loss or losses equal to the amount of the **Limit of Indemnity, We** will have no further liability under this policy.

General Conditions

1. Neither **You** (nor anyone acting on **Your** behalf) must disclose the existence of this policy to any other party except **Your** legal and other professional advisers, prospective purchasers, lessees and tenants of the **Property**, their respective mortgagees, legal and other professional advisers.

2. In the UK the law allows both **You** and **Us** to choose the law applicable to the contract. This contract will be subject to the relevant law of England and Wales, Scotland, Northern Ireland, the Isle of Man or the Channel Islands depending upon the Property address stated in the Schedule. If there is any dispute as to which law applies it will be English law. The parties agree to submit to the exclusive jurisdiction of the English courts.

3. Notwithstanding any other terms of this policy **We** will be deemed not to provide cover nor will **We** make any payment or provide any service or benefit to **You** or any other party to the extent that such cover, payment, service, benefit and/or any business or activity of **Yours** would violate any applicable trade or economic sanctions law or regulation.

Cancellation Clause

If **You** have taken out this policy for purposes which are wholly or mainly unrelated to **Your** trade, business or profession, **You** may cancel this policy within 14 days of receiving the policy by writing to **Us** and in such event **We** may, at **Our** discretion, charge **You** for the time that **You** have been on cover. Any refund will be made to the party who paid the premium. If **You** do cancel, **You** may be in breach of the terms of **Your** mortgage or the terms of the contract for the sale of **Your** property. If **You** are in doubt, **You** may wish to seek legal advice prior to cancellation.

Fair Processing and Complaints Procedure
Our Complaints Procedure

Our commitment to customer service

We are committed to providing a high level of customer service. If you feel we have not delivered this, we would welcome the opportunity to put things right for you.

Who to contact in the first instance

Many concerns can be resolved straight away. Therefore in the first instance, please get in touch with your usual contact at Zurich or your broker or insurance intermediary, as they will generally be able to provide you with a prompt response to your satisfaction.

Contact details will be provided on correspondence that we or our representatives have sent you.

Many complaints can be resolved within a few days of receipt

If we can resolve your complaint to your satisfaction within the first few days of receipt, we will do so. Otherwise, we will keep you

updated with progress and will provide you with our decision as quickly as possible.

Next steps if you are still unhappy

If you are not happy with the outcome of your complaint, you may be able to ask the Financial Ombudsman Service to review your case.

We will let you know if we believe the ombudsman service can consider your complaint when we provide you with our decision. The service they provide is free and impartial, but you would need to contact them within 6 months of the date of our decision.

More information about the ombudsman and the type of complaints they can review is available via their website www.financial-ombudsman.org.uk ↗.

You can also contact them as follows:

Post: Financial Ombudsman Service, Exchange Tower, London, E14 9SR
Telephone: 08000 234567 (free on mobile phones and landlines)
Email: complaint.info@financial-ombudsman.org.uk ↗

If the Financial Ombudsman Service is unable to consider your complaint, you may wish to obtain advice from the Citizens Advice Bureau or seek legal advice.

The Financial Services Compensation Scheme (FSCS)

We are covered by the Financial Services Compensation Scheme (FSCS) which means that you may be entitled to compensation if we are unable to meet our obligations to you. Further information is available on www.fscs.org.uk ↗ or by contacting the FSCS directly on 0800 678 1100.

How we use your information

Who controls your personal information

This notice tells you how Zurich Insurance plc ('Zurich'), as data controller, will deal with your personal information. Where Zurich introduces you to a company outside the group, that company will tell you how your personal information will be used.

You can ask for further information about our use of your personal information or complain about its use in the first instance, by contacting our Data Protection Officer at: Zurich Insurance Group, Tri-centre 1, Newbridge Square, Swindon, SN1 1HN or by emailing the Data Protection Officer at GBZ.General.Data.Protection@uk.zurich.com ↗.

If you have any concerns regarding our processing of your personal information, or are not satisfied with our handling of any request by you in relation to your rights, you also have the right to make a complaint to the Information Commissioner's Office. Their address is: First Contact Team, Information Commissioner's Office, Wycliffe House, Water Lane, Wilmslow, SK9 5AF.

What personal information we collect about you

We will collect and process the personal information that you give us by phone, e-mail, filling in forms, including on our website, and when you report a problem with our website. We also collect personal information from your appointed agent such as your trustee, broker, intermediary or financial adviser in order to provide you with the services you have requested and from other sources, such as credit reference agencies and other insurance companies, for verification purposes. We will also collect information you have volunteered to be in the public domain and other industry-wide sources. We will only collect personal information that we require to fulfil our contractual or legal requirements unless you consent to provide additional information. The type of personal information we will collect includes; basic personal information (i.e. name, address and date of birth), occupation and financial details, health and family information, claims and convictions information and where you have requested other individuals be included in the arrangement, personal information about those individuals.

If you give us personal information on other individuals, this will be used to provide you with a quotation and/or contract of insurance and/or provision of financial services. You agree you have their permission to do so. Except where you are managing the contract on another's behalf, please ensure that the individual knows how their personal information will be used by Zurich. More information about this can be found in the 'How we use your personal information' section.

How we use your personal information

We and our selected third parties will only collect and use your personal information (i) where the processing is necessary in connection with providing you with a quotation and/or contract of insurance and/or provision of financial services that you have requested; (ii) to meet our legal or regulatory obligations; or (iii) for our 'legitimate interests'. It is in our legitimate interests to collect

your personal information as it provides us with the information that we need to provide our services to you more effectively including providing you with information about our products and services. We will always ensure that we keep the amount of information collected and the extent of any processing to the absolute minimum to meet this legitimate interest. Examples of the purposes for which we will collect and use your personal information are:

1. to provide you with a quotation and/or contract of insurance;
2. to identify you when you contact us;
3. to deal with administration and assess claims;
4. to make and receive payments;
5. to obtain feedback on the service we provide to you;
6. to administer our site and for internal operations including troubleshooting, data analysis, testing, research, statistical and survey purposes;
7. for fraud prevention and detection purposes.

We will contact you to obtain consent prior to processing your personal information for any other purpose, including for the purposes of targeted marketing unless we already have consent to do so.

Who we share your personal information with

Where necessary, we will share the personal information you gave us for the purposes of providing you with the goods and services you requested with the types of organisations described below:

associated companies including reinsurers, suppliers and service providers;
introducers and professional advisers;
regulatory and legal bodies;
survey and research organisations;
credit reference agencies;
healthcare professionals, social and welfare organisations; and
other insurance companies

Or, in order to meet our legal or regulatory requirements, with the types of organisations described below:

regulatory and legal bodies;
central government or local councils;
law enforcement bodies, including investigators;
credit reference agencies; and
other insurance companies

How we use your personal information for websites and email communications

When you visit one of our websites we may collect information from you such as your email address or IP address. This helps us to track unique visits and monitor patterns of customer website traffic, such as who visits and why they visit.

We use cookies and/or pixel tags on some pages of our website. A cookie is a small text file sent to your computer. A pixel tag is an invisible tag placed on certain pages of our website but not on your computer. Pixel tags usually work together with cookies to assist us to provide you with a more tailored service. This allows us to monitor and improve our email communications and website. Useful information about cookies, including how to remove them, can be found on our websites.

How we transfer your personal information to other countries

Where we transfer your personal information to countries that are outside of the UK and the European Union (EU) we will ensure that it is protected and that the transfer is lawful. We will do this by ensuring that the personal information is given adequate safeguards by using 'standard contractual clauses' which have been adopted or approved by the UK and the EU, or other solutions that are in line with the requirements of European data protection laws.

A copy of our security measures for personal information transfers can be obtained from our Data Protection Officer at: Zurich Insurance Group, Tri-centre 1, Newbridge Square, Swindon, SN1 1HN, or by emailing the Data Protection Officer at GBZ.General.Data.Protection@uk.zurich.com ↗.

How long we keep your personal information for

We will retain and process your personal information for as long as necessary to meet the purposes for which it was originally

collected. These periods of time are subject to legal, tax and regulatory requirements or to enable us to manage our business.

Your data protection rights

You have a number of rights under the data protection laws, namely:

to access your data (by way of a subject access request);
to have your data rectified if it is inaccurate or incomplete;
in certain circumstances, to have your data deleted or removed;
in certain circumstances, to restrict the processing of your data;
a right of data portability, namely to obtain and reuse your data for your own purposes across different services;
to object to direct marketing;
not to be subject to automated decision making (including profiling), where it produces a legal effect or a similarly significant effect on you;
to claim compensation for damages caused by a breach of the data protection legislation.
if we are processing your personal information with your consent, you have the right to withdraw your consent at any time.

We will, for the purposes of providing you with a contract of insurance, processing claims, reinsurance and targeted marketing, process your personal information by means of automated decision making and profiling where we have a legitimate interest or you have consented to this.

What happens if you fail to provide your personal information to us

If you do not provide us with your personal information, we will not be able to provide you with a contract or assess future claims for the service you have requested.

Fraud prevention and detection

In order to prevent and detect fraud we may at any time:

check your personal data against counter fraud systems
use your information to search against various publicly available and third party resources
use industry fraud tools including undertaking credit searches and to review your claims history
share information about you with other organisations including but not limited to the police, the Insurance Fraud Bureau (IFB), other insurers and other interested parties.

If you provide false or inaccurate information and fraud is identified, the matter will be investigated and appropriate action taken. This may result in your case being referred to the Insurance Fraud Enforcement Department (IFED) or other police forces and fraud prevention agencies. You may face fines or criminal prosecution. In addition, Zurich may register your name on the Insurance Fraud Register, an industry-wide fraud database.

Claims history

We may pass information relating to claims or potential claims to any relevant database. We and other insurers may search these databases when you apply for insurance, when claims or potential claims are notified to us or at time of renewal to validate your claims history or that of any other person or property likely to be involved in the policy or claim.

This helps to check information provided and prevent fraudulent claims.

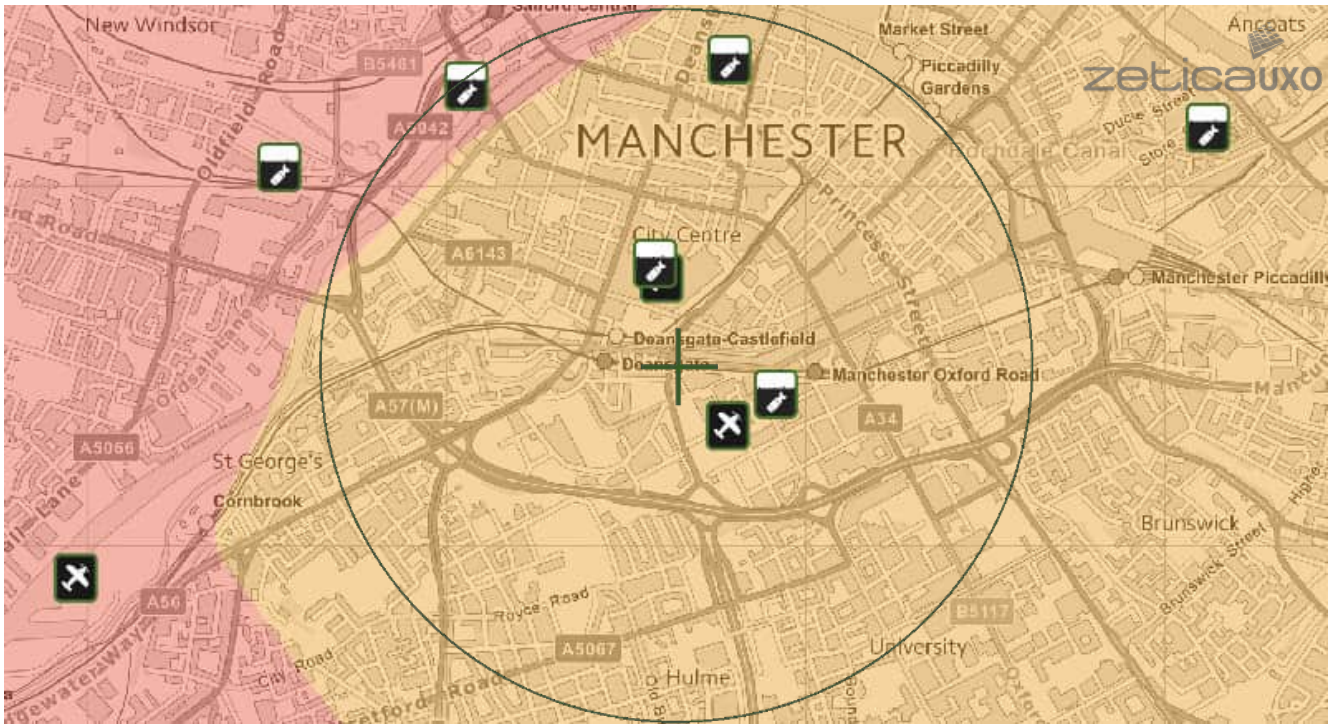
APPENDIX F

UXO Screening Map

UNEXPLODED BOMB RISK MAP

SITE LOCATION

Location: M1 5NZ,
Map Centre: 383610,397505



This map principally indicates a hazard from Unexploded Bombs (UXB) due to WWII bombardment. Other sources of Unexploded Ordnance (UXO) may be present. It should be noted that this map does not represent UXO risk and should not be reported as such when reproduced.

LEGEND

- **High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- **Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- **Low:** Areas indicated as having 15 bombs per 1000acre or less.

Miltary | **Industry** | **UXO find** | **Other**
Transport | **Docks** | **Luftwaffe targets**
Utilities | **Bombing decoy** | **Airfields**

How to use your Unexploded Bomb (UXB) risk map?

This map indicates the potential for UXBs to be present because of World War Two (WWII) bombing. It can be incorporated into a technical report, such as a Phase 1 Desk Study, or similar document as an indication of the potential for UXO encounter on a Site. Other sources of UXO may also be indicated, although note that these are not comprehensive and more detailed research is required to confirm their presence.

What if my Site is in a moderate or high density area?

We typically recommend that a detailed UXO desk study and risk assessment is undertaken for sites in an area with a moderate or high bombing density.
Additionally, if your site is in close proximity to a strategic target, military establishment, airfield or bombing decoy, then additional detailed research is recommended.

If my site is in a low risk area, do I need to do anything?

If both the map and other research confirm that there is a low potential for UXO to be present on your site, then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

If you are unsure whether other sources of UXO may be present, you can request one of our pre-desk study assessments (PDSA) by emailing a site boundary and location to pdsa@zetica.com.

You should never plan site work or undertake a risk assessment using these maps alone. More detail is required, to include an assessment of the likelihood of a source of UXO hazard from other military activity not reflected on these maps.

If I have any questions, who do I contact?

tel: +44 (0) 1993 886682 **email:** uxo@zetica.com **web:** www.zeticauxo.com

The information in this UXB risk map is derived from a range of sources and should be used with the accompanying notes on our website.

Zetica cannot guarantee the accuracy or completeness of the information or data used and cannot accept any liability for any use of the maps. These maps can be used as part of a technical report or similar publication, subject to acknowledgement. The copyright remains with Zetica Ltd.

North

William Smith House
173 – 183 Witton Street
Northwich
Cheshire
CW9 5LP

Tel: 01606 334 844

South

Unit 5, Alfred Court
Saxon Business Park
Stoke Prior
Bromsgrove
Worcestershire
B60 4AD

Tel: 01215 729 014

www.brownfield-solutions.com



Appendix E

Phase II Geo-Environmental Assessment Report

BROWNFIELD SOLUTIONS LTD

GEO-ENVIRONMENTAL ENGINEERING EXCELLENCE

ATRI7 6 LTD

Vision, Whitworth Street West, Manchester

Phase II Geo-Environmental Assessment Report

AH/C5504/13745

December 2024

EXECUTIVE SUMMARY	
Location and Brief Site Description	The site is located along Whitworth Street West, Manchester, M1 5NZ. The site comprises a parcel of land currently used for storage and parking surfaced in made ground across the majority of the site with concrete across the centre and an access road along the western part of the site.
Ground Conditions	Generalised ground conditions from the ground investigation comprise (top down): • Made ground encountered from ground level to between 0.90m and 3.70m bgl. • Natural strata encountered from 0.90m bgl to between 2.20m and 3.90m bgl. • Solid geology encountered from 3.60m bgl to 32.00m bgl. • Groundwater recorded between 9.02m and 9.27m bgl.
Human Health - Soils Contamination	• Two minor exceedances of PAHs were identified within one sample (TP208). • As no soft landscaping is proposed, the risk is considered to be low and no remedial measures in respect to human health are required.
Controlled Waters – Surface and Groundwater Contamination	• The risk to controlled waters is considered to be low.
Ground Gas	Based on the monitoring to date, the site is classified as CS1 – No protection is required. Ground gas monitoring is ongoing, and a full assessment will be undertaken on completion of the scheduled monitoring.
Outline Remedial Strategy	• No remedial actions required at this stage due to proposed development not including soft landscaping and POS.
Waste	Made ground – majority is classified as non-hazardous. Some soils acceptable at an inert landfill and some at a non-hazardous landfill. Natural – classified as non-hazardous.
Foundations and Floor Slabs	Piled foundations are considered the most suitable foundation option. A 350mm diameter, 9m long pile embedded 5m into bedrock have an allowable load of 2.4MN increasing to 4.1MN for a 19m long pile embedded 15m into bedrock. A 600mm diameter, 9m long pile embedded 5m into bedrock have an allowable load of 4.8MN increasing to 7.6MN for a 19m long pile embedded 15m into bedrock. A 750mm diameter, 9m long pile embedded 5m into bedrock have an allowable load of 6.4MN increasing to 9.9MN for a 19m long pile embedded 15m into bedrock. Pile supported floor slabs may be adopted.
Concrete Classification	DS-1 AC-1 conditions are indicated within the natural superficial and bedrock stratums, while DS-2 AC-1 conditions are indicated within the made ground strata.
Highways Design	Made Ground CBR – 20% Superficial Strata CBR – cohesive/fine soils– 4% Superficial Strata CBR – granular/coarse soils– 20% The above should be confirmed by in-situ testing at formation level by a specialist geotechnical engineer during construction.
Site Drainage	Drainage to soakaways is considered potentially suitable for this site. SuDS are indicated to be feasible with rates between $2.99x10^{-3}$ and $8.67x10^{-6}$.
Further Work	The following further works will be required to progress to the construction phase: • Completion of ground gas monitoring programme. • Update gas assessment within this report. Tree survey by qualified arboriculturist. • Detailed foundation design by a structural engineer. • Design of Remedial Strategy and confirmation with the Local Authority /EA / warranty provider (if required). • Production of Ground Gas Protection Measures Verification Plan (if required). • Production of Materials Management Plan (MMP) under the CL:AIRE DoWCo (if required). • Implementation of the Remedial Strategy and verification of the remedial works (if required).

This executive summary should be read in conjunction with the full report, reference AH/C5504/13745 and not as a standalone document. Report template version 4.5.

PROJECT QUALITY CONTROL DATA SHEET

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Document Name:	Phase II Geo-Environmental Assessment Report		
Reference:	AH/C5504/13745		
Status:	-	19/12/2024	Final.

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CONTENTS

1.0 INTRODUCTION 1

1.1 Context 1
1.2 Proposed Development 1
1.3 Previous Reports 1
1.4 Objectives and Scope 1
1.5 Limitations 1

2.0 THE SITE 4

2.1 Location 4
2.2 Site Description 4

3.0 SUMMARY OF PREVIOUS REPORTS 5

4.0 METHOD OF INVESTIGATION 6

4.1 Objectives 6
4.2 Site Works 6
4.3 Sampling Strategy 7
4.4 Laboratory Testing 7
4.5 Monitoring 8

5.0 GROUND CONDITIONS 9

5.1 Summary 9
5.2 Made Ground 9
5.3 Natural Superficial Strata 9
5.4 Solid Geology 9
5.5 Groundwater 10
5.6 Observations 10

6.0 TEST RESULTS 12

6.1 Geotechnical Laboratory Testing 12
6.2 Aggressive Ground Conditions – Geotechnical Chemical Testing 12
6.3 In Situ Geotechnical Testing 12
6.4 Geo-Environmental Testing 13

7.0 GEOTECHNICAL ASSESSMENT 14

7.1 Ground Model 14
7.2 Design Soil Parameters 14
7.3 Foundations 16
7.4 Floor Slabs 18
7.5 Site Preparation and Construction 19
7.6 Concrete Classification 20
7.7 Highways 20
7.8 Site Drainage 20

8.0 GEO-ENVIRONMENTAL RISK ASSESSMENT 22

8.1 Introduction 22
8.2 Soils Test Results and Risk Assessment – Human Health 22
8.3 Summary – Human Health Risk Assessment 23
8.4 Soil, Water and Leachate Test Results – Controlled Waters 24
8.5 Controlled Waters Risk Assessment 24
8.6 Permanent Ground Gas and Vapours Results 24
8.7 Ground Gas Risk Assessment 24
8.8 Qualitative Risk Assessment 25
8.9 Outline Remedial Measures 28

CONTENTS

8.10 HEALTH AND SAFETY ISSUES 28
9.0 WASTE SOIL CLASSIFICATION & ASSESSMENT 29
9.1 SUMMARY 29
9.2 SOILS WASTE CLASSIFICATION PROCEDURE 29
9.3 WASTE CLASSIFICATION AND WASTE ACCEPTANCE CRITERIA (WAC) 30
9.4 RE-USE OF SOILS 31
10.0 CONCLUSIONS 33
10.1 GEO-ENVIRONMENTAL 33
10.2 GEOTECHNICAL 33
10.3 FURTHER WORK 34
11.0 ABBREVIATIONS AND DEFINITIONS 35
12.0 REFERENCES 38

DRAWINGS

Drawing Number	Rev	Title
22987-2095-00	P01	Proposed Development Layout Plan
C5504/01	-	Site Location Plan
C5504/04	-	Site Features Plan
C5504/02	-	Exploratory Hole Location Plan
C5504/03		Foundation Pit Drawings

APPENDICIES

Appendix	Title
Appendix A	BSL Methodology and Guidance
Appendix B	Exploratory Hole Logs
Appendix C	Chemical Testing Results
Appendix D	Geotechnical Testing Results
Appendix E	Monitoring Results
Appendix F	Waste Assessment Report

1.0 INTRODUCTION

1.1 Context

This report describes a Phase II Geo-Environmental Assessment carried out by Brownfield Solutions Limited (BSL) for Atri7 6 Ltd on a site off Whitworth Street West, Manchester and has been completed in general accordance with the following guidance:

- Environment Agency guidance - Land Contamination: Risk Management (LCRM).
- BS 10175:2011+A2:2017 Investigation of Potentially Contaminated Sites.
- BS5930: 2015+A1:2020 Code of Practice for Ground Investigations.
- BS EN 1997-1:2004+A1:2013 Eurocode 7. Geotechnical design. General rules plus UK National Annex.
- BS EN 1997-2:2007 Eurocode 7 Geotechnical design. Ground investigation and testing plus UK National Annex.

Definitions of terms and acronyms used within this report are presented in Section 11.0.

1.2 Proposed Development

The proposed development is for a residential end use of a 38-storey residential apartment block with associated soft landscaping, drawing No. 22987-2095-00 P01 provided to BSL by the client.

1.3 Previous Reports

The following report, Desk Study completed by BSL (reference OH/C5504/13646), has been produced for the site and should be read in conjunction with this assessment.

1.4 Objectives and Scope

The objectives of this report are to determine the geo-environmental setting and ground conditions of the site, highlighting potential risks and areas of concern that may govern the development under the current planning regime.

The factual and interpretive Phase II sections of this report are produced in general accordance with the recommendations for a Tier 2 Generic Quantitative Risk Assessment as described in LCRM guidance. This assessment is also intended to fulfil the requirements of a Ground Investigation Report (GIR) as detailed in BS EN 1997-2:2007.

Following the Desk Study, an exploratory intrusive investigation was undertaken to confirm the findings of the preliminary CSM and risk assessment and meet any objectives that had not been satisfied. The exploratory investigation was undertaken using trial pitting, window sampling, cable percussive drilling, rotary drilling, ground gas and groundwater monitoring, laboratory chemical and geotechnical testing, with reporting on the findings.

1.5 Limitations

This assessment has been prepared in accordance with the relevant current legislative framework, guidance and risk assessment methodology as outlined in Appendix A. BSL is not liable for any subsequent changes in the guidance and legislation.

The findings and opinions conveyed via this report are based on information obtained from a number of sources as detailed within this report, BSL have assumed this information is correct and reliable.

Nevertheless, BSL cannot and does not guarantee the authenticity or reliability of the information it has relied upon.

BSL have used reasonable skill, care and diligence for the investigation of the site and the production of this report. There may be other conditions prevailing on the site which are outside the scope of work and have not been highlighted by this assessment and therefore have not been considered by this report. Responsibility cannot be accepted for such site conditions not revealed by the assessment.

This report has been prepared for the sole use and reliance of the Client, Atri7 6 Ltd. No other third parties may rely upon or reproduce the contents of this report without the written permission of Brownfield Solutions Ltd (BSL). If any unauthorised third party comes into possession of this report, they rely on it at their own risk and BSL do not owe them any Duty of Care. This report may not be relied upon by the client or submitted to a third party for their reliance for the purposes of valuation, mortgage, insurance and regulatory approval, until all invoices have been settled in full.

The investigation carried out on the site has been conducted to provide the best information on the ground conditions within site access and budgetary constraints. The inherent variation of ground conditions allows only for definition of the actual conditions at the locations and depths of exploratory locations at the time of the investigation. Different ground conditions may exist that have not been identified within this investigation.

The recommendations in this report assume that ground levels will remain as existing, unless stated otherwise within the report. If there is to be any re-profiling (e.g. to create development platforms or flood defences) then the recommendations may not apply.

The groundwater results described are only representative of the dates on which they were recorded, and levels may vary seasonally (e.g. due to changes in weather).

This assessment has been based on the proposed planning layouts provided. Any subsequent change to the planning layout may have an impact on the validity of recommendations made within this report. Furthermore, new information, changed practices or new legislation may necessitate revised interpretation of the report after the date of its submission.

Although every effort has been made to position exploratory holes in the least sensitive areas of the site, exploratory hole positions were located approximately as part of this investigation and no guarantee can be given as to their accuracy. Consideration should be given to the possibility that exploratory holes excavated as part of this investigation and indeed any previous ground investigation work by others may be encountered beneath or within the influence of individual foundations. BSL cannot be held responsible for structural failures caused by the location of foundations of any form of structure within the influence of exploratory holes.

Where it has not been possible to reasonably use an EC7 compliant investigation technique, a practical alternative has been adopted to obtain indicative soil parameters and any interpretation is based upon engineering experience, local precedent where applicable and relevant published information.

The chemical testing carried out for this report was not scoped to comply with the requirements of the water supply company and further work may be required, unless otherwise stated.

Notwithstanding site observations concerning the presence or otherwise of archaeological issues, asbestos-containing materials (ACM) or invasive weeds (e.g. Japanese knotweed), this report does not constitute a formal survey of these potential issues.

Asbestos in structures was not covered in this report. It should be noted that an asbestos demolition survey will be required prior to any demolition of structures. If asbestos is present in soils, these will need to be dealt with in accordance with the Control of Asbestos Regulations (CAR) 2012.

The site plans enclosed in this report should not be scaled off. Any site boundary line depicted on plans does not imply legal ownership of land.

Any recommendations made in this report should be confirmed with the Regulatory Authorities prior to implementation to ensure compliance.

2.0 THE SITE

2.1 Location

The site is located off Whitworth Street West, Manchester, M1 5NZ, centred on National Grid Reference 383579, 397518 as shown on the Site Location Plan, Drawing No. C5504/01.

2.2 Site Description

A site reconnaissance survey was carried out at the site on 4th November 2024. The main site features and potential issues identified are detailed below and are shown on the Site Features Plan, Drawing No. C5504/02.

Feature	Description
Site Area	0.11 hectares.
Site Access	Access to the site is gained off Whitworth Street West to the north.
Current Land Use and Site Features	Sparse vegetation comprising grasses and small bushes along the north, east and south border of the site.
Potential Sources of Gross Contamination	The site is generally flat with a slight slope to the west onto the access road.
Vegetation / Ecology	The site is bordered by wooden fencing to the north, commercial buildings to the east and west, and a railway viaduct bridge to the south.
Topography	The site is set within a commercial area with a tram station to the north of the site alongside a number of bars and bordered by a railway bridge to the south.
Site Boundaries	All services have been grubbed out and the made ground underlying the site is compacted due to previous use as a piling mat.
Surrounding Area	Sparse vegetation comprising grasses and small bushes along the north, east and south border of the site.

3.0 SUMMARY OF PREVIOUS REPORTS

A summary of the relevant points from the Desk Study completed by BSL (reference OH/C5504/13646) is presented below:

- The site has had previous development since 1851 for industrial end use including a warehouse.
- Several works, mills, warehouses and railway lines were in close proximity of the site.
- Geology comprises glaciofluvial sheet deposits (Secondary (A)) over Chester Pebble Beds Formation (Principal Aquifer).
- No faults are within an influencing distance of the site.
- The nearest watercourse is the Rochdale Canal circa 25m to the north of the site.
- The risk to human health is considered to be moderate to low.
- The risk from ground gas is considered to be moderate to low and the site is not located in an area requiring radon protection measures.
- The risk to controlled waters is low .
- The site is located in the UXO moderate risk zone. A Detailed UXO Desk Study concluded a low risk.
- Recommendations were for an appropriate Phase II ground investigation to be carried out to confirm the identified risks and obtain information for preliminary design.

4.0 METHOD OF INVESTIGATION

4.1 Objectives

To confirm the risks to the identified receptors and confirm the ground conditions in respect to the identified geotechnical and geo-environmental risks, an appropriate intrusive investigation was undertaken as per the recommendations of the Phase I Geo-Environmental Assessment.

The aim of the fieldwork was to:

- Investigate ground conditions on the site and the potential need for detailed investigation.
- Install standpipes to allow future monitoring.
- Assess the potential contamination on the site and obtain samples for contamination screening.
- Assess the potential impact of any contamination on controlled waters.
- Obtain geotechnical information on the ground conditions at the site for preliminary foundation design and preliminary pavement design purposes.
- Give an assessment of the geo-environmental risks associated with redevelopment of the site.

4.2 Site Works

The following site works have been undertaken as part of the intrusive investigation between the dates of 4th November and 8th November 2024.

Method	No.	Range Depths (m bgl)	Purpose
Trial pits – JCB 3CX	13	1.40 – 3.70	Establish general ground conditions and gain good coverage. Undertake hand shear vanes in cohesive strata to determine soil strengths for preliminary foundation design. SA201 to SA202A were undertaken for infiltration tests to be undertaken. TP201 to TP209 were undertaken to identify existing foundations.
Window sample boreholes – Tracked WS rig	27	0.30 – 4.29	Establish general ground conditions on site. Allow Standard Penetration Tests (SPTs) to be carried out and obtain samples for contamination and geotechnical and testing. Determine soil strengths/densities for preliminary foundation design. Installation of ground gas and water monitoring wells. BH201 and BH202 were rotary open holed and then rotary cored.
Rotary cored boreholes	2	30.00 – 32.00	Obtain rock core for geotechnical testing and parameters for preliminary foundation design. BH201 & BH202
Infiltration tests (in Trial Pits)	1	1.40	Obtain infiltration rates for drainage design. SA201A was the only suitable trial pit for an infiltration test.

TP207 and TP208 were undertaken 2.5m from the viaducts wall due to a drainage pipe identified within TP208 at 0.60m from the viaducts wall running parallel. 12No. window sample boreholes were proposed at the site, however due to obstructions a total of 27No. locations were attempted.

The approximate locations of the exploratory holes are indicated on the Exploratory Hole Location Plan, Drawing No C5504/02. The exploratory hole logs are presented in Appendix B.

The exploratory holes were logged by an experienced geo-environmental engineer in general accordance with the following guidance:

- BS 5930:2015+A1:2020 Code of Practice for Site Investigations.

- BS EN 14688-1:2018 Geotechnical Investigation and Testing – Identification and classification of soil.
- BS EN ISO 14689:2018 Geotechnical investigation and testing – Identification and classification of rock.

4.3 Sampling Strategy

Representative samples were taken from exploratory holes at regular intervals to assist in the identification of the soils and to allow subsequent laboratory testing. They were stored and transported in general accordance with BS 10175:2011+A2:2017.

The type of sample was dependent upon the stratum and the purpose of analysis in accordance with current environmental and geotechnical guidance. The distribution of samples taken across the site is recorded on the exploratory logs.

Investigatory hole locations were determined by reference to the conditions identified in the preliminary risk assessment. No specific sampling statistics or grid were utilised in this instance.

4.4 Laboratory Testing

As part of the initial assessment for potential contamination of the site, selected samples were taken for the purpose of chemical contamination testing.

In the absence of particularly contaminative processes on site and the lack of visual evidence of potential hydrocarbon impaction representative soil samples were screened for the following general suite of determinands at a UKAS approved laboratory:

Determinand	No of Samples
BSL Default Soil Suite: Arsenic, Cadmium, Chromium (III), Chromium (VI), Copper, Nickel, Mercury, Lead, Zinc, Selenium, speciated polycyclic hydrocarbons (PAH 16), water soluble sulphate (2:1 Extract), soil organic matter (SOM) and pH.	6
Petroleum Hydrocarbons (TPH CWG) inc BTEX and MTBE.	2
Asbestos Screen.	6
Waste Acceptance Criteria (WAC).	2

The Chemical Laboratory Testing Results are presented in Appendix C.

Representative disturbed samples were obtained for all soil types encountered. Selected samples were scheduled for testing at an approved laboratory in accordance with BS 1377 'Method of Test for Soils for Civil Engineering Purposes' and BS EN ISO 17892- Parts 1-12:2018 'Geotechnical investigation and testing. Laboratory testing of soil'.

The following tests were scheduled for geotechnical purposes:

Description	No of Samples
pH Value.	8
Water Soluble Sulphate Contents.	8
SD1 BRE Full Suite.	2
Point Load Testing.	14
Unconfined Compressive Strength (UCS).	8

The Geotechnical Laboratory Testing Results are presented in Appendix D.

4.5 Monitoring

Ground gas and ground water monitoring standpipes were installed in a number of boreholes as detailed in the table further below.

A total of 3 monitoring visits were undertaken out of 6 proposed as part of the current scope, in line with the recommendations of BS8485.

All gas monitoring was undertaken using either a GA5000 or GFM436 infrared gas meter with integral electronic flow analyser.

Flow measurements on each standpipe (l/hr) were taken. Measurements of the percentage volume in air (%v/v) of oxygen (O_2), carbon dioxide (CO_2) and methane (CH_4) were recorded in addition to the percentage Lower Explosive Limit (%LEL) of methane (Note: 100% LEL equates to 5% by volume), the atmospheric pressure (mb) and average temperature during the visit (°C).

Standpipes were constructed in general accordance with the relevant guidance. A summary of the installation construction is presented in the table below:

Location	Internal Diameter Pipe	Response Zone (m bgl)	Targeted Strata	Purpose
BH201	50mm HDPE	6.00 – 13.00	Bedrock	Ground Gas & Groundwater
BH202	50mm HDPE	6.00 – 13.00	Bedrock	Ground Gas & Groundwater
WS202	35mm PVC	0.50 – 3.50	Made Ground	Ground Gas
WS207A	35mm PVC	0.50 – 3.50	Made Ground	Ground Gas
WS210	35mm PVC	0.50 – 1.50	Made Ground	Ground Gas

The gas monitoring visits recorded peak and steady state conditions. Peak results are those that occur on opening the valve on the borehole tap. Steady state conditions are those that occur a period of time afterwards when the initial (accumulated) gases have been purged from the borehole.

Ground gas monitoring results are presented in Appendix E of this report.

5.0 GROUND CONDITIONS

5.1 Summary

A brief summary of the ground conditions encountered is presented in the table below:

Stratum	Range Depths - Top (m bgl)	Range Depths - Base (m bgl)	Range Thickness' (m)	Brief Description
Made Ground	00.00 – 0.05	0.90 – 3.70	0.60 – 3.70	Gravelly clayey sand.
	2.40	3.00	0.60	Gravelly sandy clay.
Natural Superficial Strata	0.90 - 1.40	2.00 – 2.20	0.60 – 1.30	Firm to very stiff sandy CLAY.
	1.40 – 3.60	2.20 – 3.90	0.10 - 2.10	Clayey gravelly SAND.
Solid Geology	3.60 – 3.90	3.94 – 32.00	0.29 – 0.84	Very weak to weak SANDSTONE.
	7.77 - 27.61	7.85 - 27.68	0.07 – 0.30	Very weak MUDSTONE.

Details are provided in the logs in Appendix B and the individual strata are described in the sections below.

5.2 Made Ground

Made Ground – General
Made ground was encountered within all the exploratory holes across the site and was observed from ground level to depths between 0.90m and 3.70m bgl.

Hardstanding surfacing of concrete was present across the western parts of the site recorded at 0.05m thick.

The composition of the made ground was fairly consistent across the site and represented demolition material comprising gravelly clayey sand. Cobbles of brick and concrete ranged from low to medium content.

Existing Foundations
In TP201 – TP206 and TP208 existing foundations were observed.

For full details on existing foundations see Foundation Drawings reference C5504/03. Photographs are also provided in that drawing.

5.3 Natural Superficial Strata

The natural strata underlying the site was generally gravelly clayey sand with occasional firm to very stiff clay with varying amounts of sand and gravel as minor constituents. The natural strata was generally a very thin veneer across the site, with some exploratory hole locations encountering made ground straight onto solid geology.

Shear vane readings in the cohesive soils indicate the clays are generally medium and high strength.

5.4 Solid Geology

Very weak becoming weak sandstone bedrock was encountered from depths of between 3.60m and 3.90m. This was proven to a maximum depth of 32.00m bgl across the site and is interpreted to represent the Chester Pebble Beds Formation.

The discontinuities described generally ranged from being very closely to closely spaced, rough, being horizontal to slightly sub-horizontal in orientation.

The overall percentage of Total Core Recovery (TCR) in sandstone over each core run within an individual borehole varied from 0% to 100%, although averaged at 95%. Similarly, Solid Core Recovery (SCR) ranged between 0% to 100% and averaged 90%.

Rock Quality Designation (RQD) percentages ranged between 0% up to 80%, although considerable variation in the RQD was recorded with depth but generally averaged 45%.

5.5 Groundwater

The depths to groundwater and locations present during site works are shown in the table below:

Location	Depth During Site Works (m)	Comments
BH201-BH202	-	NGW
SA201-SA202A	-	NGW
TP201-TP209	-	NGW
WS201-WS210	-	NGW

NGW – No Groundwater Encountered

Post site works monitoring has revealed the following depths to groundwater:

Location	Depth During Monitoring Period (range) (m)	
	Min	Max
Overall min/max	8.02	9.27
BH201	8.02	9.27
BH202	9.25	9.25
WS202	2.40	NGW
WS207A	1.30	NGW
WS210	NGW	NGW

5.6 Observations

Contamination
During the works undertaken by BSL, observations for both visual and olfactory evidence of contamination were undertaken.

Stability of Excavations/Boreholes
The sides of the trial pits were generally stable however spalling of the natural strata was observed in TP01 and TP02 and collapsing of the made ground was observed in several trial pits.

The sides of the trial pits were generally unstable due to the presence of deep granular made ground across the site.

The borehole sidewalls were generally stable and window sampling progressed without the need to install casing.

Obstructions
There are numerous obstructions throughout the made ground on site. The obstructions identified are summarised in the table below:

Location	Depth (m bgl)	Comments
BH201	0.80	Concrete.
WS203, WS203A	0.30	Dense made ground.
WS203B	0.47	

Location	Depth (m bgl)	Comments
WS203C	0.35	
WS203D	0.40	
WS204	0.89	Concrete.
WS204A	0.30	Dense made ground.
WS204B	1.00	
WS205	0.50	
WS205A	0.40	
WS205B	0.45	
WS206, WS206A	0.50	
WS206B	0.40	
WS207	0.50	
WS209	0.50	
WS209A	1.35	
WS209B	0.40	
WS209C	0.50	

6.0 TEST RESULTS

6.1 Geotechnical Laboratory Testing

Unconfined Compressive Strength (UCS) and Point Load Index delete if not done
A summary of the information pertaining to the Unconfined Compressive Strength (UCS) of the intact rock material (not rock mass) related to sandstone bedrock at the site is shown in the table below. The point load index results have been used to derive the UCS using the relationship of UCS=24*IS50 for sandstone (ISRM).

Point Load Index (MPa) (range)		UCS Range (MPa)	Method	No. of results
Is	IS50			
0.05 – 0.20	0.07 – 0.26	-	Point load (Axial, Diametral and Irregular)	26
-		1.68 - 6.24	Point load correlation (ISRM)	14
-		11.9 – 20.2	UCS test	8

6.2 Aggressive Ground Conditions – Geotechnical Chemical Testing

The test results for the assessment of aggressive ground conditions are presented in Appendix D. The results are summarised and assessed within Section 7.6 of this report.

6.3 In Situ Geotechnical Testing

In Situ Hand Shear Vane Tests
Hand shear vane tests were carried out on suitable cohesive soils where possible. Each shear vane result recorded represents the mean value of three tests undertaken at the specified depth.

The results and distribution of the hand shear vane tests are recorded in kPa on the Exploratory Hole Logs which are presented in Appendix B.

In Situ Standard Penetration Tests
Standard Penetration Tests (SPTs) were carried out within the window sample boreholes at regular 1.0m intervals. The results of the individual blows and the N-values are recorded on the Exploratory Hole Logs in Appendix B.

All SPT N values are uncorrected. Density and strength descriptors are reported in accordance with the guidelines stated in BS 5930:2015+A1:2020, incorporating requirements of BS EN ISO 14688-1:2002, BS EN ISO 14688-2:2004 and BS EN ISO 14689-1:2003.

Soil Infiltration Test Results
One soil infiltration test was undertaken within a trial pit, with a summary of the results presented in the table below. This was carried out in general accordance with BRE Digest 365 (BRE 2016) where infiltration rates allow three test runs during a working day (or where there is no infiltration), but where low infiltration rates were encountered the available time may not have been sufficient to fully comply with the BRE test method.

Where less than three tests were possible in a particular location the results provided should be considered as indicative only. Further discussion concerning the suitability of infiltration testing at the site is provided in Section 7.8.

Location	Stratum Type	Depth (m)	Infiltration Rate (m/sec)		
			Test 1	Test 2	Test 3
SA201A	Granular made ground	1.30	$8.67x10^{-6}$	-	-

The full test results are presented in Appendix D.

Permeability Test Results (Boreholes)
The results of permeability testing in boreholes using falling head methods are presented in the table below. These were carried out in general accordance with BS 5930 & BS 22282.

Location	Stratum Type	Response Zone (m)	Hydraulic Conductivity (m/sec)		
			Test 1	Test 2	Test 3
WS202	Granular made ground	0.50 – 3.50	$5.23x10^{-3}$	$6.54x10^{-3}$	$2.99x10^{-3}$
WS210	Granular made ground	0.50 – 1.50	$1.95x10^{-5}$	$1.76x10^{-5}$	-
BH201	Sandstone	6.00 – 13.00	$3.57x10^{-4}$	$3.92x10^{-4}$	$2.63x10^{-4}$

The full test results are presented in Appendix D.

6.4 Geo-Environmental Testing

Chemical Laboratory Testing
The chemical test results for soils are presented in Appendix C. The results are summarised and assessed within Section 8.2 of this report.

Ground Gas Monitoring
Ground gas monitoring results are presented in Appendix E and are summarised and assessed within Section 8.6 of this report.

7.0 GEOTECHNICAL ASSESSMENT

7.1 Ground Model

The site is currently used for storing building materials. There are known foundations associated with the previous uses at the site.

The ground conditions can be summarised as below (top down):

- Made ground generally comprising gravelly clayey sand from ground level to between 0.90m and 3.70m bgl.
- Natural superficial deposits comprising clayey gravelly sand proven to depths between 2.20m and 3.90m bgl. Fim to very stiff clay was also encountered in localised areas to depths between 2.00m bgl to 2.20m bgl.
- Solid geology comprising sandstone proven to depths ranging between 3.94m and 32.00m bgl.
- No groundwater encountered during site works.
- Post site works monitoring levels ranging between 8.02m and 9.27m bgl.

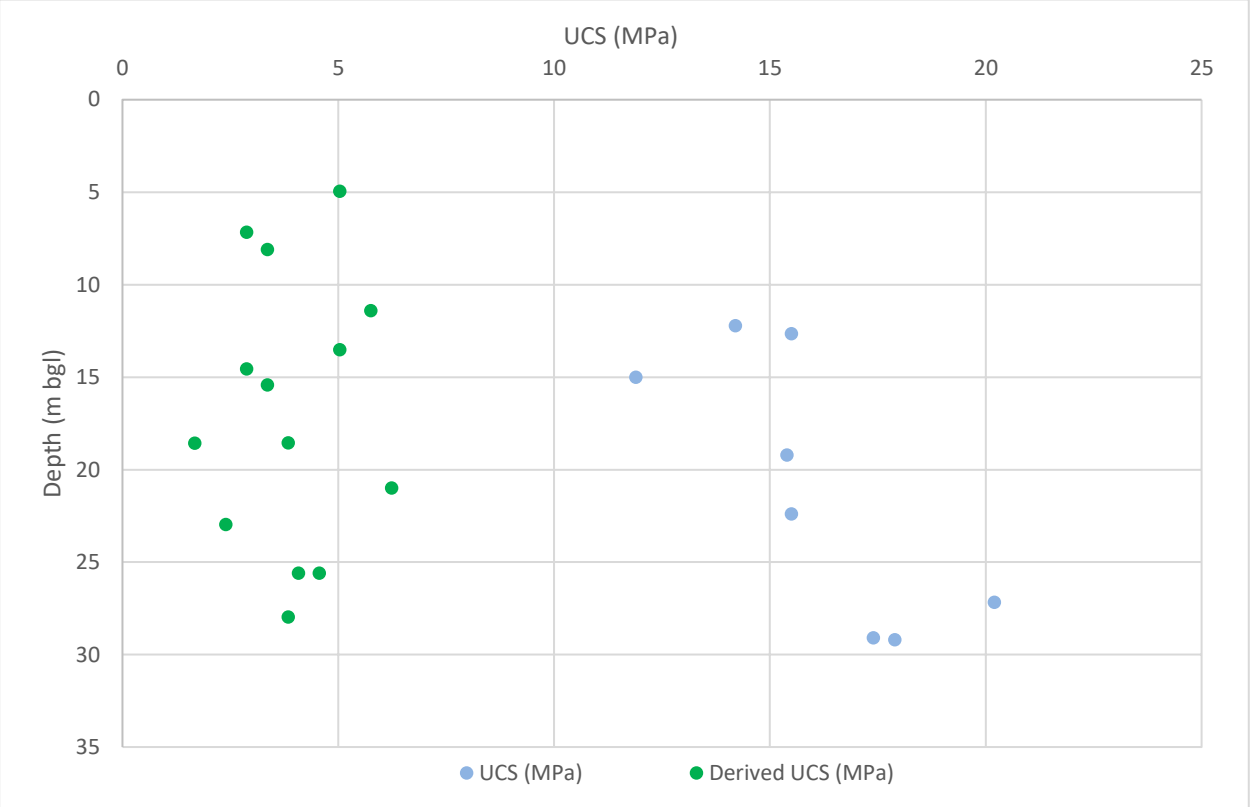
A large drain is indicated to run beneath the area parallel to the viaduct bridge. This will need to be taken into consideration for foundation design.

Numerous concrete and dense made ground obstructions throughout the made ground were identified across the site that will need removal during enabling works.

7.2 Design Soil Parameters

The relevant test results from the prior section have been evaluated to derive geotechnical soil parameters for the site.

The Unconfined Compressive Strength (UCS) was determined by laboratory testing and was also derived from laboratory point load testing using the relationship of UCS=24*IS50 for sandstone (ISRM). A graph showing the variation in UCS and derived UCS vs depth is presented below to provide a profile of the variation in UCS of the bedrock with depth.



The above graph shows a weak positive correlation between an increase in rock strength with depth. This trend is strengthened with the removal of the correlated Point Load Index results. There do not appear to be any significant or definitive lower strength zones, with the vast majority of results being above 4 MPa (weak rock) as can be expected of the Chester Formation, and all UCS testing data being above 10MPa. Note there is a tendency for bias within the UCS and point load data; UCS is typically undertaken on more intact samples, whereas lower strength area of rock tends to provide samples of rock unsuitable for UCS analysis, hence point load data is used as a proxy for UCS strengths. This should be considered during estimation of characteristic values.

Characteristic Values

Characterisation of the geotechnical parameters above has been undertaken to obtain characteristic values, which are a cautious estimate of the values affecting the occurrence of the limit state, taking into consideration typical minimum foundation depths for cohesive and granular soils.

Characteristic values for made ground are not presented due to the heterogeneity of the deposits and that they are not typically considered to be a suitable bearing stratum without some form of ground improvement. Characteristic values are also not presented for the natural superficial strata due to the thin veneer of deposits encountered and the lack of any skin friction that would be achieved through the minimum thickness of the strata, with some exploratory hole locations encountering no superficial deposits whatsoever.

Based on field strength descriptions, the laboratory testing and the above graph, the characteristic UCS values for the solid geology underlying the site has been derived and is summarised for a selection of depth in the table below:

Bedrock Strata	Depth (m)	Characteristic UCS values (MPa)	Characteristic RQD values (%)
Sandstone	14	6.6	47.5

Bedrock Strata	Depth (m)	Characteristic UCS values (MPa)	Characteristic RQD values (%)
	19	8.5	61.5
	24	9.4	45

7.3 Foundations

The development will comprise a thirty-eight storey residential building and is considered to be classed as Geotechnical Category 2 in accordance with Eurocode 7.

Preliminary design by calculation has been undertaken to determine the design resistance of the bearing strata in the following section. Note that the made ground, present to depths down to 3.70m bgl, is not considered to be a suitable bearing stratum.

No proposed structural loads were available at the time of writing, therefore the following recommendations are provisional and should be reviewed at the detailed design stage.

This assessment is based on the existing ground levels and does not take into consideration any cut/fill exercise, which should be considered at the detailed design stage.

Piles

In view of the variation in made ground thickness over the building footprint and the likely magnitude of the column loads expected to be imposed by the proposed development, shallow foundations will be unsuitable, and it is considered that piled foundations will be required.

Piles should be extended through the made ground and the superficial deposits. Depending on the structural loadings and design requirements, piles will likely utilise a combination of skin friction and end-bearing resistance, transferring the majority of the load to the underlying sandstone of the Chester Pebble Bed Formation .

Displacement piles such as driven pre-cast concrete or tubular steel piles, or replacement techniques such as bored piles with the use of casing or continuous flight auger (CFA) piles are all considered potentially suitable piling solutions for this site, with either pre-cast or cast in situ ground beams spanning between piles to support masonry walls.

It is understood that rotary bored piles with the use of casing are the preferred piling solution for this site. This method has the benefit of minimal ground disturbance and vibration where resulting risks to adjacent structures and property is. With this method there is also the ability to construct sockets into underlying rock.

However, the exact choice of piling system and the detailed design of piles are beyond the scope of this report and should be undertaken by a piling specialist. Preliminary calculations and recommendations are provided below as a guide at this stage. Appropriate modelling and settlement analysis will be required at the detailed design stage.

For piles socketed in bedrock, the ultimate shaft resistance for the portion of the pile embedded in the bedrock may be determined through the following equation:

$$q_s = k_1 p_{ref} \left(\frac{q_u}{p_{ref}} \right)^{k_2}$$

In this equation, q_s is the ultimate shaft resistance in kN/m^2, q_u is the UCS value of the bedrock, p_{ref} is a reference pressure of 100kPa and k_1 and k_2 are coefficients selected from the range presented in BS 8004 as 1.0 and 0.6 respectively.

The ultimate shaft resistance for the portion of the pile embedded in granular soil may be determined through the following equation:

$$q_s = K_s tan\delta \sigma'_v$$

In this equation, q_s is the ultimate shaft resistance in kN/m^2, K_s is an earth pressure coefficient conservatively assumed as 0.7 for preliminary design purposes, δ is the angle of interface friction 35°, and σ'_v is effective overburden pressure over the embedded length of the pile.

The frictional contribution of the made ground has been omitted from these calculations due to the variability and generally loose nature. Additionally, pile designs should be based on the final ground level, if any excavation is proposed, rather than the current ground elevations.

The ultimate end bearing resistance of the competent bedrock has been determined using the following equation:

$$q_b = k_3 p_{ref} \left(\frac{q_u}{p_{ref}}\right)^{k_4}$$

In this equation, q_b is the ultimate base resistance in kN/m^2, q_u is the UCS value of the bedrock, p_{ref} is a reference pressure of 100kPa and k_3 and k_4 are coefficients identified in BS 8004 as 15 and 0.5 respectively for cemented materials. The design base resistance may be limited by the compressive strength of the concrete used to construct the pile or the structural capacity of the pile itself.

Based on the available information and methodology outlined above, preliminary calculations were undertaken to provide estimated factored allowable loads for a singular circular concrete pile, to be socketed into xxx bedrock of variable lengths and a variety of diameters (based on standard rotary pile boring equipment). A global factor of safety of 3 has been used in this assessment. The preliminary allowable loads are shown in the table below. Note these recommendations are provisional and subject to review at the detailed design stage.

Pile Length (m)	Embedment into Rock (m)	Allowable Loads (MN) for Specified Pile Diameters		
		350mm	600mm	750mm
9	5	2.4	4.8	6.4
14	15	3.3	6.2	8.2
19	20	4.1	7.6	9.9

As stated above, these calculations are preliminary, should be used only as a guide and reviewed at the detailed design stage. Information gained from this ground investigation should be assessed by experienced piling contractors and suitably qualified structural engineers such that appropriate piles are selected and designed given the site conditions that have been encountered.

Information gained from this ground investigation should be assessed by an experienced piling contractor such that appropriate piles are selected and designed given the site conditions that have been encountered.

Whilst detailed design is beyond the scope of this report, the following should be taken into consideration during the detailed design stage by a suitably competent contractor/engineer:

- Piles should extend a minimum of five pile diameters into the bearing stratum to fully mobilise end-bearing resistance and shaft resistance.
- Higher allowable loads than those listed in the table above could be achieved by increasing the diameter of the piles or by using pile groups.
- Obstructions in the ground (e.g. relict foundations) could cause piles to stop shallower than their anticipated design depth, or deviate from the vertical, therefore reducing their capacity.
- As groundwater was observed during the boring of the intrusive holes and monitoring, temporary casing may be required for bored piles.
- Bored piles through coarse soils will likely result in loosening, with resultant reduced shaft friction.
- Discussions should be made with the pilling contractor regarding the suitability of driven piles due to the levels of disruption to the adjacent residential and commercial properties.
- CFA piles are likely to be a suitable alternative to driven piles to reduce noise levels, although there will be additional costs associated with disposal of excess soils.
- The construction of a basement structure should also be taken into account for foundation and pile design.
- Driven piling work should be undertaken in accordance with BS EN 12699:2015 'Execution of Special Geotechnical Work - Displacement piles', replacement piles should be carried out in accordance with BS EN 1536:2010(+A1:2015) 'Execution of Special Geotechnical Works - Bored Piles'.
- In accordance with Eurocode 7 it would be prudent to verify the compressive resistance of the strata and the pile design by static load testing on working piles to at least 1.5 times the characteristic load on more than 1% of working piles.

Working Platform

Prior to the commencement of penetrative works (piling/vibro), a working platform will be required for tracked plant. This should be designed and installed in accordance with BR470 (BRE 2004) based on the plant requirements, data and rig loadings.

Piling Risk Assessment

A risk assessment is likely to be necessary for piling and/or the installation of VSCs, as there is a possibility that this could lead to creation of new pathways for migration of contamination.

7.4 Floor Slabs

Given the thickness of made ground present (generally >600mm), suspended floor slabs should be adopted at the site in accordance with LABC standards.

Ground bearing slabs may also be adopted providing the following criteria are satisfied:

- Any other compressible or unsuitable materials (topsoil containing vegetation and organic matter, including tree roots, are excavated and either improved or removed and replaced with suitable materials.
- Any fill beneath the slab is suitable, well-compacted granular material placed in an appropriate thickness in accordance with a suitable specification (e.g. SHW Series 600) designed and supervised by an appropriately qualified engineer, with the end performance validated.
- The slab is adequately reinforced.
- Regular construction joints and ties are provided to allow for differential settlement.

The final floor slab design should be of sufficient thickness and sufficiently reinforced to accept the envisaged applied loads, without unacceptable total or differential movement.

Vertical elements within the structure, such as columns and walls will need to be isolated from the ground bearing slab in order to allow for the slab to expand against them without resulting in cracking.

Prior to the placement of the founding materials and the construction of a ground bearing floor slab, the sub-formation and formation will need to be inspected and checked by a geotechnical engineer to ensure the ground conditions are as expected. If soft spots or hard spots are identified at the formation level, they should be reported to the Geotechnical Engineer immediately and remedial actions agreed.

Incorporation of geogrid reinforcement at formation level, before granular material is placed and compacted, will likely minimise required excavation depths and help provide a suitable foundation for the ground bearing slab.

Ground floor slabs should also be designed to incorporate any ground gas protections measures, where required.

7.5 Site Preparation and Construction

The existing structures will need to be demolished and relict foundations/infrastructure grubbed out. Topsoil and subsoil should be removed from beneath all proposed buildings and hardstanding areas.

The majority of the services across the site have previously been grubbed out, however, a drain along the southern boundary of the site was observed during the site works. To allow remediation and construction, all services will need to be disconnected and any suspected dead services are confirmed as dead by testing.

Instability of excavations through natural soils is should be accounted for due to the granular nature of the deposits. Instability of the made ground should be allowed for. All excavations should be carried out in accordance with CIRIA Report 97 'Trenching Practice'.

Collapsing of the trial pit sides was observed in the natural strata and temporary shoring maybe required. Otherwise the foundation excavations will be significantly wider than anticipated and costs will be incurred for additional volumes of concrete.

Excavation depths should generally be readily achieved using conventional plant (JCB or similar) although high specification plant (tracked 360^{o} or similar) is recommended to maintain the build programme. Breaking equipment may also be required locally to penetrate old foundations associated with former construction and intact rock quality strata.

The presence of substantial depths of made ground across the site may result in settlement of newly installed drainage. This should be taken into consideration during the design of drainage, which may include flexible joints to allow for some differential settlement.

It should be noted that undertaking treatment locally or using deepened foundations (i.e. focussing only on the footprint of structures) means that the surrounding areas (roads, gardens and landscaping) are likely to settle relative to the structures if disturbed. This risk can be mitigated by undertaking more widespread ground improvement through techniques such as dynamic compaction, surcharging or excavation and re-compaction.

Recorded post site works groundwater levels ranged between 9.24m and 9.27m bgl and therefore will be encountered within likely excavation depths. Based on the exploratory holes logs and monitoring, it is considered that methods such as sump pumping are likely to be sufficient to deal with anticipated flows. Further guidance is provided in CIRIA C750 "Groundwater Control: Design and Practice". It should be noted that groundwater levels will vary seasonally and the timing of construction may influence requirements.

7.6 Concrete Classification

The soluble sulphate and pH test results have been assessed in accordance with BRE Special Digest 1 "Concrete in aggressive ground" 2005. The Design Sulphate (DS) classification and the Aggressive Chemical Environment for Concrete (ACEC) classification are presented in the table below.

For the purposes of this assessment, the made ground and natural strata is considered to be relatively permeable, therefore the groundwater has been classed as mobile.

Stratum	No. Samples	Characteristic SO_4 (g/l)	Characteristic pH	DS Class	ACEC Class
Made Ground	6	1440	8.4	DS-2	AC-1
Natural Superficial Strata	3	138	7.7	DS-1	AC-1
Solid Geology - Sandstone	10	200	6.7	DS-1	AC-1

Based on the above, the results of laboratory pH and sulphate content, alongside the BRE full suite tests, indicate that sulphate class DS-1 and ACEC Class AC-1 conditions are required for natural superficial strata and bedrock rock strata and DS-2 and AC-1 conditions are required within the made ground in accordance with BRE Special Digest 1 "Concrete in aggressive ground" 2005.

The specific concrete mixes (the Design Concrete Class) to be used on site will be determined by the site-specific concrete requirements in terms of the durability and structural performance. These are assessed in terms of the Structural Performance Level (SPL) and any need for Additional Protective Measures (APM) detailed in Part D of BRE Special Digest 1 with further guidance in Pt E and F.

7.7 Highways

Equilibrium CBR values are likely to be 2% within the made ground, which will be encountered at likely formation levels across the entirety of the site.

If natural strata is encountered at formation levels, based on Table 5.1 from DMRB IAN 73/06 Rev 1 equilibrium CBR values of 20% are likely to be achieved in undisturbed natural granular soils and 4% for natural clays soils for pavement design purposes, unless proven otherwise by in-situ testing at formation level by a specialist geotechnical engineer.

Where the CBR is found to be less than 2%, the sub-grade is unlikely to be suitable for both the trafficking of site plant and as a permanent highway foundation without improvement of the soils.

To achieve the required design CBR value, improvement works should be carried out in accordance with DMRB IAN 73/06 Rev 1 Chapter 5 and may include proof rolling, excavation and re-engineering / replacement of weaker soils, the inclusion of a geogrid or use of stabilisation techniques such as the addition of hydraulic binders (e.g. cement/lime).

Based on the fines content of the soils, they are considered to be frost susceptible, therefore highway construction should be a minimum thickness of 450mm to mitigate against the risk.

Care should be taken to ensure the stratum at formation level is protected against inclement weather, as this is likely to lead to surface deterioration and a decrease in soils strengths.

7.8 Site Drainage

The tests undertaken across the site indicate good drainage conditions, particularly in the deeper made ground and bedrock stratums. Based on the infiltration rates obtained, predominantly on the order of 10^{-3} m/s to 10^{-6} m/s, it is likely that drainage to soakaways will be feasible at the site. We recommend the

design of soakaway drainage is carried out in accordance with BRE 365 and CIRIA C753. Consideration should also be given to future maintenance, where infiltration capacity can be reduced as a result of blinding through ingress of fines.

Note the base of any soakaway incorporated into the future development of the site is required to be at least 1m above the water table. Observed groundwater levels ranged between 8.02m and 9.27 mbgl in deep boreholes across the site. Shallow groundwater was recorded in WS207A and WS02 at 1.30m and 2.40m bgl respectively.

If drainage to soakaways is to be considered, it is suggested that this is discussed with the Local Authority at the earliest opportunity, to confirm the adequacy of proposed testing and to allow their inspection of any test results.

8.0 GEO-ENVIRONMENTAL RISK ASSESSMENT

8.1 Introduction

The samples were tested for an assessment of the chemical contamination that may pose a risk to human health. The results were examined with reference to a selection of guidance documents as detailed in Appendix A. In this case the LQM/CIEH S4ULs and DEFRA C4SLs for a residential end use without homegrown produce has been adopted as Tier 1 generic screening values.

The apparent exceedance of the relevant screening value is taken as indicating further detailed assessment or remedial action is required.

A summary assessment sheet is presented in Appendix C alongside the chemical test results. Results are discussed in detail in the sections below.

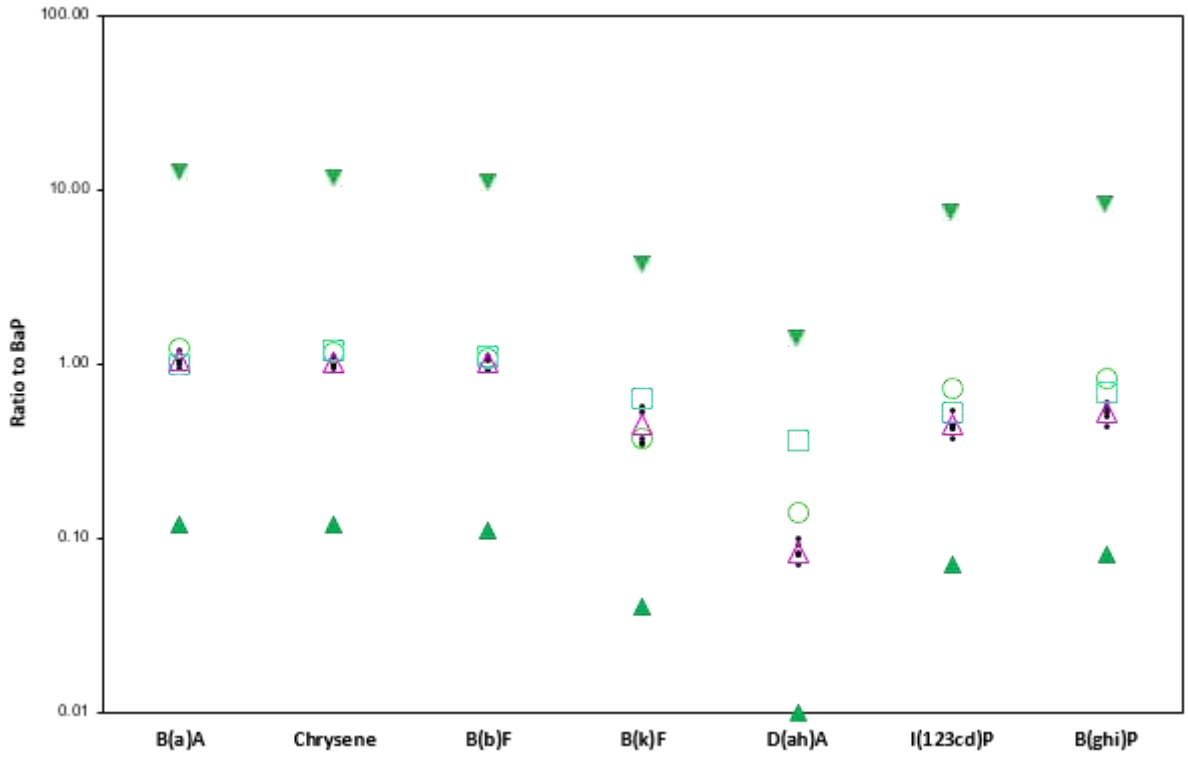
8.2 Soils Test Results and Risk Assessment – Human Health

Metals
No metals have been detected above the adopted screening criteria.

Asbestos
No asbestos fibres have been detected in any of the xx samples screened.

Poly Aromatic Hydrocarbons (PAHs)
BSL consider the main risk drivers for PAHs to be benzo(a)pyrene (B(a)P) and naphthalene. This is due to B(a)P being one of the most toxic of the PAHs, and naphthalene the most volatile and soluble. Category 4 Screening Levels (C4SLs) suggest the potential use of B(a)P as a surrogate marker for carcinogenic PAHs, if PAH mixtures fall within appropriate limits, since the risk from other non-carcinogenic PAHs are considered negligible. Given the difference in chemical properties between the two, naphthalene will be treated separately using the LQM S4ULs. Further guidance on this approach is presented in Appendix A.

PAHs and B(a)P as a Surrogate Marker
Based on the above approach, the graph below summarises the site data with respect to how the ratios of carcinogenic PAHs relate to B(a)P, within the confidence limits provided in the PHE documents.



Key:

- Ratio to B(a)P for all data
- Mean ratio to B(a)P from all data at the site
- Upper and Lower limits (order of magnitude from Culp data)
- Mean ratio to B(a)P for Culp data
- Mean ratio to B(a)P for UK data presented by PHE

All the data points that could be used to calculate ratios fall inside the upper or lower limits (order of magnitude above or below that of the study material). Based on this distribution of data it is considered that B(a)P can be used as a surrogate marker for carcinogenic PAHs and the C4SL criteria is suitable for this dataset.

Based on the above, elevated PAHs were recorded in one location to date. The location(s) and elevated species of PAH's are shown in the table below:

Exploratory Hole	Depth (m)	Stratum	Species	Concentration (mg/kg)	Adopted Screening Value (mg/kg)
TP208	0.00-1.00	Made Ground	B(a)P	9.10	5
			Naphthalene	7.10	5.6

* Based on Soil Organic Matter content

Total Petroleum Hydrocarbons (TPH CWG)
No petroleum hydrocarbons have been identified above the adopted screening criteria.

BTEX and MTBE
No BTEX or MTBE compounds have been identified above the adopted screening criteria.

8.3 Summary – Human Health Risk Assessment

Based on the testing and assessment undertaken it would appear that there is localised contamination within the made ground in the form of PAHs within the made ground strata.

The above pose a risk to human health and will require further consideration.

8.4 Soil, Water and Leachate Test Results – Controlled Waters

Soils

No significant contaminants were identified in soils as an indicator of potential impaction on groundwater.

8.5 Controlled Waters Risk Assessment

Groundwater/surface water testing has not been carried out based on the preliminary CSM risk assessment and the site is not considered to pose a significant risk to controlled water for the following reasons:

- No significant gross or mobile contamination has been identified on site in soils based on the results obtained as a potential indicator of groundwater contamination.
- There is no indication under present conditions of significant pollution of controlled waters and conditions following development of the site will not be any worse, indeed they may improve with increased hard cover and water retaining imported soft landscaping soils.
- For the made ground, the preparation of samples for leachability analysis has not been undertaken as this is an aggressive methodology and provides theoretical values which are unlikely to be representative of existing site conditions, real site leaching concentrations will be reduced significantly from that indicated by the laboratory testing, furthermore this would not be representative of post construction conditions, which will significantly reduce infiltration.
- There are no potable (sensitive) water abstractions within 2000m.

8.6 Permanent Ground Gas and Vapours Results

A total of 3 ground gas monitoring visits have been carried out between the dates of 19th November and 16th December 2024. A further 3 visits are scheduled. Results are summarised in the table below:

	CH_4 (%)		CO_2 (%)		O_2 (%)		CO (ppm)		H_2S (ppm)		TVOC (ppm)		Steady Flow (l/hr)	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Peak	.0	0.0	0.0	1.0	7.2	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1
Steady	.0	0.0	0.0	0.5	8.0	20.0							0.0	0.0

Notes: CH_4 = Methane; CO_2= Carbon dioxide; O_2= Oxygen; CO= Carbon Monoxide; H_2S= Hydrogen Sulphide; TVOC (PID)= Total Volatile Organic Compounds (as measured with Photo Ionisation Detector); ppm= Parts Per Million.

The highest carbon dioxide concentrations were recorded in BH201 (1.0% v/v) on the third visit. The maximum flow of 3.1 l/hr was recorded in WS202 on the first visit.

The atmospheric pressure ranged between 996mb and 1023mb over the monitoring period, of which visits were conducted over a range of falling and rising pressure trends.

8.7 Ground Gas Risk Assessment

Basis of Assessment

In order to assess the ground gas situation and the requirement for ground gas precautionary measures at the site, guidance was taken from BS8485:2015+A1:2019 'Code of Practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings' and CL:AIRE Technical Bulletin TB17 'Ground Gas Monitoring and 'Worst-Case' Conditions'.

Rationale and Suitability of Dataset
As per the Phase I Geo-Environmental Assessment report in accordance with BS8485 and as set out in Appendix A of this report, the ground gas generation potential is considered to be **very low** (sources as made ground). The sensitivity of the development is **moderate** on account of the proposed 38-storey apartment building.

In line with current guidance, it is recommended gas monitoring should comprise 6 visits over a 3-month period. Gas monitoring is ongoing therefore the below assessment is based on the data available at this stage.

Assessment of Data
Derivation of a Gas Screening Values (GSV) has been undertaken based on the guidance with BS8485 using the following equation: (max gas concentration / 100) x maximum steady flow.

A maximum steady flow of 0.1l/hr has been used to derive the worst credible GSVs. The GSV's for the site are presented below.

Ground Gas	Adopted Typical Steady Flow Rate (l/hr)	Max Concentration (% v/v)	Worst Credible GSV (l/h)	Classification based on GSV	Typical Threshold Concentration Exceeded
Methane	0.1	0.1	<0.7	CS1	No – CS1
Carbon Dioxide	0.1	1.0	<0.7	CS1	No – CS1

The GSVs place the site the site into Characteristic Situation 1 (CS1), however due to concentrations of carbon dioxide greater than 5% v/v being recorded at the site then guidance states ***consideration*** should be given to increasing the site classification as part of assessment; monitoring is ongoing at this stage therefore this should be considered during the final assessment.

Based on the data to date, the site should be preliminarily classified as CS1. However, monitoring is ongoing, and confirmation of the classification will be made following completion of the current monitoring period.

8.8 Qualitative Risk Assessment

The CSM has been revised based on the findings of the site investigation and laboratory testing results and these are presented overleaf. Unless stated otherwise, in respect to off-site sources, only risks that are assessed as moderate and above within the preliminary CSM have been carried forward to this section, or where a previously unidentified potential source, pathway and / or receptor has been identified from the recent site works.

Human Health						
Potential Source	Potential Pathway	Potential Receptor	Likelihood	Severity	Level of Risk	Justification
On site Made ground associated with previous development and former warehouse PAHs.	Root uptake, ingestion, direct contact, inhalation of dusts	End-users/ Structure	Unlikely	Medium	Low	Given the Industrial heritage of the site, associated contaminants were tested. The test results identified two minor exceedances of PAHs within one sample (TP208). Given that this sample is taken of a made ground only observed in this location the contamination is indicated to be minimal and localised. However, no areas of soft landscaping or POS are indicated on the proposed development plan and therefore end users have a low likelihood of being in contact with these contaminants, this area of the site is external to the building footprint but will be surfaced in hardstanding, as such the risk is considered to be low and no remedial actions are required. .
Off site Factories, works, mills, warehouses Heavy metals, hydrocarbons, PAHs, asbestos, VOC, detergents, degreasers, inorganic compounds, organic solvents	Root uptake, ingestion, direct contact, inhalation of dusts	End users	Unlikely	Medium	Low	Testing has identified minor localised exceedances of PAHs, this is considered to be attributed to the previous onsite industrial uses. The proposed development also indicates no areas of soft landscaping or POS limiting the risk to end users. Therefore, a low risk is considered.
Off site Gas works Heavy metals, PAHs, petroleum hydrocarbons, BTEX, SVOCs, cyanides	Root uptake, ingestion, direct contact, inhalation of dusts	End users	Unlikely	Medium	Low	Testing has identified minor localised exceedances of PAHs, this is considered to be attributed to the previous onsite industrial uses. The proposed development also indicates no areas of soft landscaping or POS limiting the risk to end users. Therefore, a low risk is considered.

Controlled Waters						
Potential Source	Potential Pathway	Potential Receptor	Likelihood	Severity	Level of Risk	Justification
Made Ground PAHs, Metals	Overland flow, / migration through saturated zone	Rochdale Canal 25m away (Surface waters)	Unlikely	Medium	Low	The Rochdale Canal is indicated to be located 25m from the site, it is considered contaminants associated with the made ground and other past industrial uses are unlikely to impact the Rochdale Canal due to the distance of the canal from the site and the associated contaminants are not considered to have significant mobility. Furthermore, canals are considered to be man made structures which are typically clay-lined and not in hydraulic continuity with the underlying aquifers. Therefore, a low risk is posed to the canal from the made ground.
	Leaching through unsaturated zone / Migration through saturated zone	Secondary A Aquifer (Groundwater)	Unlikely	Medium	Low	Chemical testing at the site did not reveal any exceedances of significantly mobile contamination that are considered to pose a potential risk to the underlying aquifers. The proposed development comprises building footprint in the majority with a new surface water drainage system installed which will further reduce the risk to controlled waters. The risk is considered to be low.
	Migration through saturated zone	Principal Aquifer (Groundwater)	Unlikely	Medium	Low	Chemical testing at the site did not reveal any exceedances of significantly mobile contamination that are considered to pose a potential risk to the underlying aquifers. There is a groundwater abstraction 468m north-west and a Source Protection Zone 132m east. The site is currently partially surfaced in hardstanding and will have building footprint or hard surfacing across the entirety of the site, with a new surface water drainage system installed which will reduce the risk to controlled waters. Therefore, a low risk is considered.

8.9 Outline Remedial Measures

No soft landscaping is proposed at this stage and therefore a cover system is not required. Should this change then this should be re-assessed and remedial measures may be required.

Ground Gas Protection Systems
Based on the ground gas monitoring results to date, no mitigation measures are required, subject to ongoing monitoring and no radon protection is required for new buildings at this location.

8.10 Health and Safety Issues

During the reclamation and construction phases of the site development it will be necessary to protect the health and safety of site personnel. The risk to construction and ground workers is assessed in the table below:

Potential Source	Potential Pathway	Potential Receptor	Likelihood	Severity	Level of Risk
Made Ground (PAHs)	Ingestion, direct contact, inhalation of dusts.	Construction Workers	Likely	Mild	Moderate/low
Made Ground (Ground Gas)	Inhalation	Construction workers and end users	Likely	Mild	Moderate/low

The risk from made ground will be mitigated by standard PPE including gloves. Welfare facilities should be made available to wash before hand to mouth activities.

General guidance on these matters is given in the Health and Safety Executive (HSE) document "Protection of Workers and the General Public during the Redevelopment of Contaminated Land". In summary, the following measures are suggested to provide a minimum level of protection:

- All ground workers should be issued with the relevant protective clothing, footwear and gloves. These protective items should not be removed from the site and personnel should be instructed as to why and how they are to be used.
- Hand-washing and boot-washing facilities should be provided.
- Care should be taken to minimise the potential for off-site migration of contamination by the provision of dust suppression control and wheel cleaning equipment during the construction works.
- Good practices relating to personal hygiene should be adopted on the site.
- The contractor shall satisfy the Health and Safety Executive with regard to any other matters concerning the health, safety and welfare of persons on the site.

9.0 WASTE SOIL CLASSIFICATION & ASSESSMENT

9.1 Summary

BSL have undertaken a preliminary assessment of potential excavation waste to arise from the site during redevelopment to:

- Classify the excavation waste to arise as either hazardous or non-hazardous.
- Identify the most sustainable options for the wastes to arise in accordance with the waste hierarchy.
- Provide a written description of the waste required as part of the Duty of Care.
- Provide details of "hazardous properties" to complete hazardous waste consignment note (where applicable).
- Be able to provide a basic classification report to a landfill operator (where waste is destined for landfill disposal).

It should be noted that testing requirements for contaminated land risk assessment differ to those for waste classification purposes. Unless otherwise stated, the assessment in this section has been carried out to provide initial indications in respect to disposal of waste soils, however this may not be fully compliant with waste testing requirements or frequencies, with further testing potentially required.

9.2 Soils Waste Classification Procedure

As described in the 'Waste Duty of Care Code of Practice (2016)' any substance or object that the holder discards, intends to discard or is required to discard is a waste. It is the responsibility of the waste producer to classify this waste. The classification process is described in the 'Guidance on the classification and assessment of waste' WM3 and aims to determine whether the waste is Hazardous or Non-Hazardous to human health and the environment.

Waste classification should be based on soils analyses that are representative of the actual waste load. At the stage of ground investigation, the materials that will become waste have generally not been defined yet, however test data can provide a useful guide to the likely waste classification before it is generated.

Further guidance is provided in Appendix A.

The Landfill Directive (Directive 1999/31/EC on the landfilling of waste, Decision 2003/33/EC and Landfill Regulations 2005) led to the establishment of a methodology for classifying wastes. Wastes first need to be classified based on their total concentrations and classified as either hazardous or non-hazardous waste. WAC testing is only required if the end disposal route is a landfill and WAC analysis must not be used for waste classification.

Wastes can only be accepted at a landfill if they meet the relevant Waste Acceptance Criteria (WAC) for that type of landfill. A waste must comply with the WAC limits for the relevant landfill, otherwise the soil will need to be pre-treated. There are three different WAC criteria, these are:

- Inert waste.
- Stable Non-Reactive Hazardous Waste (SNRHW).
- Hazardous waste.

Details of how material should be classified for waste disposal are presented in the BSL Methodology and Guidance in Appendix A and are summarised in the table below:

Classification based on Total Concentrations[1]	PRIOR TO LEAVING SITE			
	Non-Hazardous Waste		Hazardous Waste	
	IF SOILS CANNOT BE RE-USED ELSEWHERE AND MUST GO TO LANDFILL			
WAC testing	Below inert WAC limit values	Above inert WAC limit values	Below hazardous WAC limit values[4]	> WAC limit values
Landfill requirements	INERT landfill	NON-HAZARDOUS landfill[2]	HAZARDOUS landfill	PRE-TREATMENT[3]

1 Total concentrations are defined as tests results on solids as opposed to leachate (i.e. a liquid).
2 Individual sites may have certain limit values pre-determined in their licence.
3 After pre-treatment the material characteristics may have changed to an extent that allow the soil to be re-classified.
4 Possibility that wastes could be classified as stable Nonreactive HAZARDOUS waste in non-hazardous Landfill (e.g. soils containing low concentrations of asbestos, gypsum or sulphate bearing soils).

Inert Waste
The possibility of automatic inert classification of the naturally occurring "clean" soils should be explored in accordance with Section 4.3 of the EA guidance document. See Appendix A for further guidance.

9.3 Waste Classification and Waste Acceptance Criteria (WAC)

We have reviewed the testing results and assessed them through a waste classification database (HazwasteOnline™) which allows users to code and classify waste as defined in the EWC (European Waste Catalogue) based on EC Regulation 1272/2008 on the Classification, Labelling and Packaging of Substances and Mixtures (CLP) and latest Environment Agency guidance (WM3 "Guidance on the classification and assessment of waste -Technical Guidance").

The samples tested were screened against assessment criteria within WM3 using the HazWasteOnline tool to assess whether they contained any contaminants in the hazardous range.

The Waste Classification Report and WAC testing results are presented in Appendix F. Locations of hazardous soils are presented in the table below, alongside the WAC analysis test results.

Location	Depth (m)	Stratum	Waste Classification	WAC Analysis	Landfill	Commen
TP208	0.00-1.00	MADE GROUND	Non-hazardous	Exceeds Inert WAC	Non-Hazardous Landfill	
WS205D	0.00-1.00	MADE GROUND	Non-hazardous	Does Not Exceed Inert WAC	Inert Landfill	

Based on the waste classification database assessment, the majority of the made ground soils have been classified as **non-hazardous.**

Note that further testing of the soils (WAC testing) may be required on the actual arisings in order to satisfactorily categorise the soil for its suitability for disposal to landfill.

Waste Containing Asbestos
Should soils contain asbestos, the concentration and type of asbestos identified, in addition to the chemical composition (i.e. hazardous or non-hazardous detailed above), will determine which waste code is applicable to the soils and which landfill will accept it as summarised below:

Waste	Conc. by Weight (%)	EWC 2002 Catalogue Entry Code	Waste Disposal Route
Non-hazardous containing asbestos fibres	<0.001 - <0.1%	17 05 04 (soil and stones other than those mentioned in 17 05 03*)	Non-hazardous landfill subject to achieving Waste Acceptance Criteria (WAC) for a stable non-reactive hazardous landfill site.
Hazardous containing asbestos fibres	<0.001 - <0.1%	17 05 03* (soil and stones containing dangerous substances)	Hazardous landfill subject to achieving Waste Acceptance Criteria (WAC) for a hazardous landfill site.
Non-hazardous soils containing asbestos fibres	<0.1%	17 05 03* (soil and stones containing dangerous substances)	Hazardous landfill authorised to receive asbestos, or in a stable non-reactive hazardous waste cell at a non-hazardous landfill authorised to receive asbestos.
Non-hazardous Soils containing ACM (Mechanically separable)	>0.1%	17 06 05 (construction material containing asbestos) 17 05 04 (soil and stones other than those mentioned in 17 05 03*)	ACMs disposed of at a hazardous landfill authorised to receive asbestos, or in a stable non-reactive hazardous waste cell at a non-hazardous landfill authorised to receive asbestos. Soils should be disposed of at a non-hazardous landfill subject to achieving Waste Acceptance Criteria (WAC) for a stable non-reactive hazardous landfill site.
Hazardous soils containing ACM	>0.1%	17 05 03* (soil and stones containing dangerous substances)	Hazardous landfill subject to achieving Waste Acceptance Criteria (WAC) for a hazardous landfill site.

General
Following the classification of waste materials, the options available for the waste can be considered in the context of the waste hierarchy as below:

- Onsite re-use (with or without prior treatment) under suitable exceptions/permits.
- Offsite processing for recycling or recovery e.g. screening.
- Offsite disposal (with or without prior treatment) i.e. landfill.

Where feasible, efforts should be made to retain soils for onsite re-use to minimise costs and maximise the sustainability of projects.

If any gross hydrocarbon contaminated material is encountered during the construction phase, it is possible that this may be classified as hazardous and testing should be undertaken at that time.

Where it is necessary to dispose material off site it is recommended that materials are segregated and sufficient time is allowed to further classify the actual soil arisings that constitute the waste, including discussion with landfill sites and waste transfer stations to find the best disposal route. It is illegal to dilute and mix soils without a suitable permit.

Where possible, the option that the soils could be recycled at a suitable local waste treatment plant or transfer station rather than a landfill disposal route should be explored.

9.4 Re-use of Soils

By definition in law, any material excavated from the ground becomes waste at the moment of excavation. If that soil (now a “waste”) is then placed on another part of the development site (or used on another development site) without an appropriate materials management plan, permit or exemption being in place, by law this material is defined as “illegally deposited waste”.

In order to comply with UK legislation and avoid excessive costs, if the re-use of soils is proposed on site, this should be done in accordance with the relevant exemptions or permits in place.

Soils Re-use Under DoWCoP

One of the main industry mechanisms for allowing the re-use of soils in construction is the CL:AIRE "Development Industry Code of Practice for the Definition of Waste" (CL:AIRE DoWCoP) also known as a Materials Management Plan (MMP). Further guidance is provided in the BSL Methodology and Guidance in Appendix A.

In order to re-use soils under the DoWCoP, there are four key criteria that need to be met:

- The aims and objectives of the project meet the requirements of the Waste Framework Directive (does not harm human health or the environment).
- The soils can be demonstrated to be suitable for use (backed up by chemical/geotechnical testing and assessment).
- There is certainty of use (planning consents are in place alongside materials tracking, which should be in place as part of good site practice in any case).
- Quantity (the quantity of materials used should be known).

Information on existing site levels, proposed levels, volumes generated (e.g. foundation / drainage excavation arisings) would need to be known in order to complete the MMP.

If the DoWCoP is the chosen route, the MMP should be in place and declared by a Qualified Persons (QP) before works commence, otherwise excavated soils could constitute an illegal deposit of waste and enforcement action could be taken by the EA and HMRC.

Once the project is complete, a verification report detailing soils re-use/import will need to be produced and submitted to CL:AIRE, which may be subject to a random audit process. Sites found to be non-complaint with the CoP can be referred to the EA for further investigation.

Note that for re-use of landfilled materials or mining wastes, the DoWCoP may not apply and a Waste Recovery Permit (or others) may be required. Liaison with the Environment Agency would be needed on a case by case basis to determine the best option.

Re-use of soils containing asbestos should comply with the CL:AIRE publication 'Interpretation for Managing and working with Asbestos in Soil and Construction and Demolition Materials' (CAR-SOIL™) and CAR 2012.

In terms of the re-use of brick/concrete crush materials, the DoWCoP does cover aggregates, but only on the site of origin, and the EA WRAP aggregate Quality Protocol might best apply to ensure quality standards, which are discussed further below.

Soils Re-use under Exemptions and Permits

Other potentially suitable re-use mechanisms may include U1 Exemptions, WRAP quality protocols (for aggregates) or Waste Framework Directive (WFD) Exclusions, amongst other mechanisms. Further details are provided in Appendix A.

10.0 CONCLUSIONS

10.1 Geo-Environmental

Geo-Environmental – Human Health – Soils
Testing of the made ground at the site did not reveal any exceedances of heavy metals, petroleum hydrocarbons, BTEX or MTBE compounds.

However, minor exceedances of naphthalene and benzene (a) pyrene were identified within one sample positioned to the rear of the proposed building in an area of proposed hard surfacing.

As no soft landscaping is proposed, the risk is considered to be low and no remedial measures in respect to human health are required.

Geo-Environmental – Ground Gases and Vapours
Ground gas monitoring has revealed a maximum peak carbon dioxide concentration of 1.0%v/v and methane concentrations of <0.1%v/v. Based on the gas monitoring the site is classified as Characteristic Situation 1 and ground gas protection measures are not required. However, this should be re-assessed following completion of the gas monitoring programme.

Geo-Environmental – Controlled Waters
The overall risk to controlled waters is considered to be low and no further action is required.

Waste
Waste classification for the made ground at the site has revealed the majority of the soils to be non-hazardous with some soils suitable for disposal at an inert landfill and some at a non-hazardous landfill. Further testing of waste arisings is likely to be required to determine the most appropriate accepting landfill.

10.2 Geotechnical

Foundations
A 350mm diameter, 9m long pile embedded 5m into bedrock have an allowable load of 2.4MN increasing to 4.1MN for a 19m long pile embedded 15m into bedrock.

A 600mm diameter, 9m long pile embedded 5m into bedrock have an allowable load of 4.8MN increasing to 7.6MN for a 19m long pile embedded 15m into bedrock.

A 750mm diameter, 9m long pile embedded 5m into bedrock have an allowable load of 6.4MN increasing to 9.9MN for a 19m long pile embedded 15m into bedrock.

Floor slabs
Ground bearing slabs supported by piles may be adopted.

Concrete classification
DS-2 AC-1 within the made ground strata and DS-1 AC-1 within the natural superficial and bedrock stratums.

Highways
20% CBR values are indicated for granular superficial deposits, 4% CBR values are indicated within cohesive superficial deposits, and 20% CBR values are indicated within the made ground strata.

Drainage (SuDS)
SuDS are indicated to be feasible with rates between $2.99x10^{-3}$ and $8.67x10^{-6}$.

10.3 Further Work

The following further work is considered necessary to progress the site to construction phase:

- Completion of ground gas monitoring programme.
- Update gas assessment within this report. Tree survey by qualified arboriculturist.
- Detailed foundation design by a structural engineer.
- Design of Remedial Strategy and confirmation with the Local Authority /EA / warranty provider (if required).
- Production of Ground Gas Protection Measures Verification Plan (if required).
- Production of Materials Management Plan (MMP) under the CL:AIRE DoWCo (if required).
- Implementation of the Remedial Strategy and verification of the remedial works (if required).

11.0 ABBREVIATIONS AND DEFINITIONS

GLOSSARY	
Term / Abbreviation	**Definition**
AST	Above Ground Storage Tank.
B(a)P	Benzo (a) Pyrene.
BGS	British Geological Survey.
BRE	Building Research Establishment.
BS	British Standard.
BSL	Brownfield Solutions Ltd.
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes.
CBR	California Bearing Ratio (used in pavement/highways design).
CAR 2012	Control of Asbestos Regulations (2012).
CBCB	Cheshire Brine Compensation Board.
CBCD	Cheshire Brine Compensation District.
CBR	California Bearing Ratio.
CIEH	Chartered Institute of Environmental Health.
CIRIA	Construction Industry Research Association.
CL:AIRE	Contaminated Land: Applications in Real Environments.
CLEA	Contaminated Land Exposure Assessment.
CLO	Contaminated Land Officer.
COMAH	Control of Major Accident Hazards.
Contamination	Presence of a substance which is in, on or under land, and which has the potential to cause significant harm or to cause significant pollution of controlled water. There is no assumption in this definition that harm results from the presence of the contamination. Naturally enhanced concentrations of harmful substances can fall within this definition of contamination. Contamination may relate to soils, surface water, groundwater or ground gas.
Controlled Waters	Inland freshwater (any lake, pond or watercourse above the freshwater limit), water contained in underground strata and any coastal water between the limit of highest tide or the freshwater line to the three-mile limit of territorial waters.
CPT	Cone Penetration Test.
CSM	Conceptual Site Model. A schematic hypothesis of the nature and sources of contamination, potential migration pathways (including description of the ground and groundwater) and potential receptors, developed on the basis of the information from the preliminary investigation and refined during subsequent phases of investigation and which is an essential part of the risk assessment process. The conceptual site model is initially derived from the information obtained by the preliminary investigation (i.e. the Phase I Desk Study). This conceptual model is used to focus subsequent investigations, where these are considered to be necessary, in order to meet the objectives of the investigations and the risk assessment. The results of intrusive investigations can provide additional data that can be used to further refine the conceptual site model.
DCP	Dynamic Cone Penetrometer.
DNAPL	Dense Non-Aqueous Phase Liquid.
DoWCoP	Definition of Waste Code of Practice.
DWS	Drinking Water Standard.
EA	Environment Agency.
EHO	Environmental health Officer.
EQS	Environmental Quality Standard.

GLOSSARY	
Term / Abbreviation	**Definition**
GAC	Generic Assessment Criteria.
GDR	Geotechnical Design Report.
GFR	Geotechnical Feedback Report.
GIR	Ground Investigation Report.
GSV	Gas Screening Value.
Harm	Adverse effect on the health of living organisms, or other interference with ecological systems of which they form part, and, in the case of human health, including property/structures and water supply pipelines.
Hazard	Inherently dangerous quality of a substance, procedure or event.
HDPE	High Density Polyethylene.
HSV	Hand Shear Vane.
K	Modulus of Subgrade Reaction.
LCRM	Land Contamination: Risk Management (EA guidance).
LNAPL	Light Non-Aqueous Phase Liquid (petrol, diesel, kerosene).
LOD	Limit of Detection (for particular method adopted).
MMP	Materials Management Plan.
Mv	Modulus of Volume of Compressibility.
ND	Not Detected.
NHBC	National House Building Council.
NR	Not Recorded.
OS	Ordnance Survey.
PAH	Polycyclic Aromatic Hydrocarbon.
Pathway	Mechanism or route by which a contaminant comes into contact with, or otherwise affects, a receptor.
PCB	Poly-Chlorinated Biphenyl.
PCSM	Preliminary Conceptual Site Model.
pH	Scale used to specify how acidic or basic a water-based solution is.
PHC	Petroleum Hydrocarbons.
PID	Photo Ionisation Detector.
PNEC	Predicted No-Effect Concentration.
Precision	Level of agreement within a series of measurements of a parameter.
PSD	Particle Size Distribution.
PVC	Polyvinyl Chloride.
Receptor	Human health, living organisms, ecological systems, controlled waters (surface waters and groundwater within aquifers), atmosphere, structures and utilities that could potentially be adversely affected by contaminant(s).
Risk	Probability of the occurrence, magnitude and consequences of an unwanted adverse effect on a receptor.
Risk Assessment	Process of establishing, to the extent possible, the existence, nature and significance of risk.
Sampling	Methods and techniques used to obtain a representative sample of the material under investigation.
SOM	Soil Organic Matter.
Source	Location from which contamination is, or was, derived. This could possibly be the location of the highest soil, groundwater or gas concentration of the contaminant(s).
SPT	Standard Penetration Test.
SVOCs	Semi Volatile Organic Compounds.
TOC	Total Organic Carbon.

GLOSSARY	
Term / Abbreviation	**Definition**
TPH CWG	Total Petroleum Hydrocarbon (Criteria Working Group).
TVOCs	Total volatile organic compounds.
UCS	Unconfined Compressive Strength.
Uncertainty	Parameter, associated with the result of a measurement that characterises the dispersion of the values that could reasonably be attributed to the measurement.
UST	Underground Storage Tank.
UXO	Unexploded Ordnance.
VCCs	Vibro Concrete Columns.
VSCs	Vibro Stone Columns
VOCs	Volatile Organic Compounds.
WAC	Waste Assessment Criteria.
WFD (in waste context)	Waste Framework Directive.
WFD (in water context)	Water Framework Directive.
Units	**Definition**
°	Degrees
Φ	Phi angle (in degrees)
g/l	Grams per Litre
Km	Kilometres
kPa	Kilo Pascal (Equivalent to kN/m^2)
$KN/m^2/mm$	Kilo Newton per metered squared per millimeter
kN/m^2	Kilo Newtons per metre squared
kPa	Kilo Pascal (Equivalent to kN/m^2)
l/hr	Litres per hour
MJ/kg	Mega joule per kilogram
MN	Mega Newton
M^2/MN	Mega Newton per metre squared
M	Metres
m bgl	Metres Below Ground Level
m OD	Metres Ordnance Datum (sea level)
µg/l	Micrograms per Litre (parts per billion)
µm	Micrometre
mb	Millibars (atmospheric pressure)
mg/kg	Milligrams per kilogram (parts per million)
mg/m^3	Milligram per metre cubed
mm	Millimetre
ppb	Parts Per Billion
Ppm	Parts Per Million

12.0 REFERENCES

References used in the production of this report are listed below; note not all of the below are relevant to the subject site and may not have been utilised.

Association of Ground Investigation Specialists. 'Guidelines for Good Practice in Site Investigation'. Issue 2, March 2006.

Association of Ground Investigation Specialists. 'Description Of Anthropogenic Materials– A Practitioners' Guide'. 2018.

Black, W.P.M. & Lister, N.W. The strength of clay fill subgrades, its prediction in relation to road performance Report LR889, TRRL. 1979.

BRE Special Digest 1: 'Concrete in Aggressive Ground' 3rd Ed 2005.

BRE Report BR211, Scivyer, C. 'Radon – Guidance on protective measures for new buildings' 2023 Edition.

BRE Digest, vols. 240 and 241 'Low-rise buildings on shrinkable clay soils'. 1993.

BRE Digest 298 'The influence of trees on house foundations in clay soils'. 1999.

BRE Digest 365 'Soakaway Design'. 2016.

BRE Report 391 "Specifying vibro stone columns". 2000.

BRE Report 414. 'Protective measures for housing on gas contaminated land. Building Research Establishment Report'. 2011.

BRE Report 470 'Working platforms for tracked plant: good practice guide to the design, installation, maintenance and repair of ground-supported working platforms'. 2004.

British Geological Survey Technical Report WD/97/34. 312pp. Environment Agency R&D Publication 8. 'The physical properties of major aquifers in England and Wales'. 1997.

British Geological Survey Technical Report WD/00/04. 234pp. Environment Agency R&D Publication 68 'The physical properties of minor aquifers in England and Wales'.

British Geological Survey 'The advanced soil geochemical atlas of England and Wales'. 2012.

BS 1377 'Method of Test for Soils for Civil Engineering Purposes'. 1990.

BS EN 1997-1. 'Eurocode 7 – Geotechnical design - Part 1: General rules'. Plus associated UK National Annex. 2004.

BS EN 1997-2. 'Eurocode 7 – Geotechnical design - Part 2: 'Geotechnical investigation and testing'. Plus associated UK National Annex. 2007.

BS 3882: 'Specification for topsoil'. 2015.

BS 5837: 'Trees in relation to design, demolition and construction Recommendations'. 2012.

BS 5930+A1:2020: 'Code of Practice for Site Investigations'. 2020.

BS 6031: 'Code of practice for earthworks'. 2009.

BS 8004: 'Code of practice for foundations'. 2015.

BS 8485+A1: 'Code of practise for the design of protective measures for methane and carbon dioxide ground gases for new buildings'. 2019.

BS 8500-1 AMD 2. Concrete. Complementary BS to BS EN 206. Part 1. 'Method of specifying and guidance for the specifier'. 2018.

BS 8576 'Guidance on investigations for ground gas – Permanent gases and Volatile Organic Compounds (VOCs)'. 2013.

BS 10175:2011+A2 'Investigation of Potentially Contaminated sites - code of practice'. 2017.

BS 10176:2020 'Taking soil samples for determination of volatile organic compounds (VOCs)'. 2020.

BS EN ISO 14688 'Geotechnical investigation and testing – Identification and classification of soil'. 2018.

BS EN ISO 14689 'Geotechnical investigation and testing – Identification and classification of rock'. 2018.

BS EN ISO 17892 'Geotechnical investigation and testing. Laboratory testing of soil.' Parts 1-12 :2018.

BULL ET AL. Promoting the Use of B(a)P as a Marker for PAH Exposure in UK Soils. February 2013.

CIRIA Special Publication SP32, PSA Civil Engineering Technical Guide 34, 'Construction over abandoned mine workings'. 1984.

CIRIA Special Publications 101-112, 'Remedial Treatment for Contaminated Land'. 1998.

CIRIA Special Publication 124, 'Barriers, liners and cover systems for containment and control of land contamination'. 1996.

CIRIA R143, 'The Standard Penetration Test (SPT): methods and use'. 1995.

CIRIA 149 'Protecting Development from Methane'. 1995.

CIRIA 150 'Methane Investigation Strategies'. 1995.

CIRIA 151 'Interpreting Measurements of Gas in the Ground'. 1995.

CIRIA 152 'Risk assessment for Methane and Other Gases from the Ground'. 1995.

CIRIA 552 'Contaminated Land Risk Assessment – A guide to good practice'. 2001.

CIRIA C574 'Engineering in Chalk'. 2002.

CIRIA C659 'Assessing risks posed by hazardous ground gases to buildings.' 2006.

CIRIA C665 'Assessing Risks Posed by Hazardous Ground Gases to Buildings'. 2007.

CIRIA C681 'Unexploded Ordnance (UXO) A guide for the construction industry'. 2009.

CIRIA C716 'Remediating and mitigating risks from volatile organic compound (VOC) vapours from land affected by contamination'. 2012.

CIRIA C733 'Asbestos in Soil And Made Ground: A Guide To Understanding And Managing Risks'. 2014.

CIRIA C735 'Good Practice on The Testing and Verification of Protection Systems for Buildings Against Hazardous Ground Gases'. 2014.

CIRIA C748 'Guidance on the Use of Plastic Membranes as VOC Vapour Barriers'. 2014.

CIRIA C750 'Groundwater control: design and practice, second edition". 2016.

CIRIA C753 'The SuDS Manual'. 2015.

CIRIA C758 'Abandoned Mine Workings Manual'. 2019.

CL:AIRE and CIEH. 'Guidance on Comparing Soil Contamination Data with a Critical Concentration'. May 2008.

CL:AIRE 'The Definition of Waste: Development Industry Code of Practice'. Version 2. March 2011.

CL:AIRE RB17 'A Pragmatic Approach to Ground Gas Risk Assessment'. 2012.

CL:AIRE TB17 'Ground Gas Monitoring and 'Worst-Case' Conditions'. 2018.

CL:AIRE TB18 ‘Continuous Ground-Gas Monitoring and the Lines of Evidence Approach to Risk Assessment’. 2019.

CL:AIRE TB19 ‘Managing Risks and Liabilities associated with Per and Polyfluoroalkyl Substances (PFASs)’. 2019.

CL:AIRE TB22 ‘An overview of the uses of PFAS to assist with identification of sites of concern’. 2023.

CL:AIRE SP1010 ‘Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination’. Rev 2 2014.

CL:AIRE ‘Interpretation for Managing and Working with Asbestos in Soil and Construction and Demolition Materials – CAR-SOILTM’. 2016.

CL:AIRE ‘Petroleum Hydrocarbons in Groundwater: Guidance on assessing petroleum hydrocarbons using existing hydrogeological risk assessment methodologies’ Version 1. March 2017.

CULP, S.J., ET AL., A comparison of the tumours induced by coal tar and benzo[a]pyrene in a 2-year bioassay. Carcinogenesis. 1998.

DEFRA and the Environment Agency, CLR10 ‘Soil Guideline Value Reports for Individual Soil Contaminants’. 2002-2004.

DEFRA and the Environment Agency, CLR Report No 11 ‘Model Procedures for the Management of Contaminated Land’. 2004. [Withdrawn 2019.]

Department of the Environment, CLR Report No 1 ‘A framework for assessing the impact of contaminated land on groundwater and surface water’. 1994.

Department of the Environment, CLR Report No 2 ‘Guidance on Preliminary Site Inspection of Contaminated Land’. 1994.

Department of the Environment, CLR Report No 3 ‘Documentary research on Industrial Sites’. 1994.

Department of the Environment, CLR Report No 4 ‘Sampling Strategies for Contaminated Land’. 1994.

Department of the Environment Waste Management Paper No. 27. ‘Landfill Gas: A Technical Memorandum Providing Guidance on the Monitoring and Control of Landfill Gas’. 1992.

Department of the Environment. ‘Industry Profiles’ - 48 separate publications available from The Stationery Office, London. 1995.

DETR. Circular: Contaminated Land. 2006.

EC Regulation 1272/2008 ‘The Classification, labelling and packaging of substances and mixtures (CLP)’ 2008.

Environment Agency guidance - Land Contamination: Risk Management (LCRM). 2020.

Environment Agency ‘Using Soil Guideline Values’. 2009.

Environment Agency, ‘Updated Technical Background to the CLEA model’. 2009.

Environment Agency, ‘Human health toxicological assessment of contaminants in soil’. 2009.

Environment Agency Hazardous Waste: ‘Guidance on the classification and assessment of waste’ WM3 ver 1.1 May 2018.

Environment Agency. ‘Remedial Targets Methodology. Hydrogeological Risk Assessment for Land Contamination’. 2006.

Environment Agency & NHBC. R&D Publication 66. ‘Guidance for the Safe Development of Housing on Land Affected by Contamination’. 2008.

Environment Agency. R&D Publication 20. 'Methodology for the Derivation of Remedial Targets for Soil and Groundwater to Protect Water Resources'. 1999.

Environment Agency Technical Guidance Note 01. Hydrogeological Risk Assessment for Landfills. [Withdrawn Feb 2016. Replaced with below].

Environment Agency and DEFRA 'Landfill developments: groundwater risk assessment for leachate'. 2016.

Environment Agency Petroleum Hydrocarbons in Groundwater 'Supplementary Guidance for Hydrogeological Risk Assessment'. 2009.

Environment Agency 'Groundwater protection: Principles and practice (GP3)'. 2013. [Superseded 2017 by www.gov.uk online guidance].

Environmental Permitting Guidance: version 3.1 'The Landfill Directive for the Environmental Permitting (England and Wales) Regulations'. 2010.

Environmental Quality Standards. 2008.

European Parliament Directive 2008/98/EC of the Council of 19 November 2008 on waste and repealing certain Directives. 2008.

European Parliament. Directive 2014/955/EU: Commission Decision of 18 December 2014 amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC.

Ground Engineering. Wilson & Card 'Proposed method classifying gassing sites' /1999.

Hazardous Waste (England and Wales) Regulations. 2005.

Health & Safety Executive (HSE). 'Protection of Workers & the General Public during the Development of Contaminated Land'. 1991.

Health and Safety Executive (HSE). Control of Asbestos Regulations (CAR). 2012.

Highways Agency. Design Guidance for Road Pavement Foundations (Draft HD25). Interim Advice Note 73/06. Rev 1. Highway Agency, London. 2009. [Withdrawn 30th May 2017].

ICE Thomas Telford 'Applications of Dynamic Cone Penetrometer testing in East Anglia'. 1989.

Land Quality Press, Nathanail, C. P., McCaffrey, C., Gillett, A., Ogden, R. C. and Nathanail, J.F. 'The LQM/CIEH S4ULs for Human Health Risk Assessment.' 2015.

Landfill Directive 'Directive 1999/31/EC on the landfilling of waste'. 1999.

Japanese Geotechnical Society. Hatanaka and Uchida 'Empirical correlation between penetration resistance and effective friction of sandy soil'. Soils & Foundations, 36 (4), 1-9. 1996.

Manual of Contract Documents for Highway Works, Specification for Highway Works: Volume 1, Amendment August 2014. [Withdrawn 30th May 2017].

Manual of Contract Documents for Highway Works, Specification for Highways Works – Series 600 Earthworks November 2006. [Withdrawn 30th May 2017, Replacement unknown].

National Planning Policy Framework (NPPF). 2023.

National Planning Policy Framework - Technical Guidance. March 2012.

NHBC Standards, Part 1 'Introduction and Technical Requirements.'

NHBC Standards, Part 4 'Foundations.'

NHBC Standards. Chapter 4.1: Land Quality - Managing Ground Conditions.

NHBC. 'Hazardous Ground Gas - An essential guide for housebuilders'. May 2023.

Public Health England (PHE). Contaminated land information sheet: risk assessment approaches for polycyclic aromatic hydrocarbons (PAHs). September 2017.

Total Petroleum Hydrocarbon Criteria Working Group Volume 1 'Analysis of Petroleum Hydrocarbons in Environmental Media'. 1999.

Total Petroleum Hydrocarbon Criteria Working Group Volume 2 Composition of Petroleum Mixtures. May 1998.

Total Petroleum Hydrocarbon Criteria Working Group Volume 3 'Selection of Representative TPH Fractions Based on Fate and Transport Considerations'. July 1997.

Total Petroleum Hydrocarbon Criteria Working Group Volume 4 'Development of Fraction Specific Reference Doses (RfDs) and Reference Concentrations (RfCs) for Total Petroleum Hydrocarbons (TPH)'. 1997

Total Petroleum Hydrocarbon Criteria Working Group Volume 5 'Human Health Risk-Based Evaluation of Petroleum Release Sites: Implementing the Working Group Approach' June 1999.

SEPA 'Land remediation and waste management guidelines' publication date unknown.

UK Drinking Water Standards: Water Supply (Water Quality) Regulations 1989 (SI 1989/1147) and Water Supply (Water Quality) Regulations 2000 (SI 2000/3184).

UKTAG. Updated recommendations on environmental standards. River Basin Management (2015-21). UK Technical Advisory Group on the Water Framework Directive. November 2013 (updated January 2018).

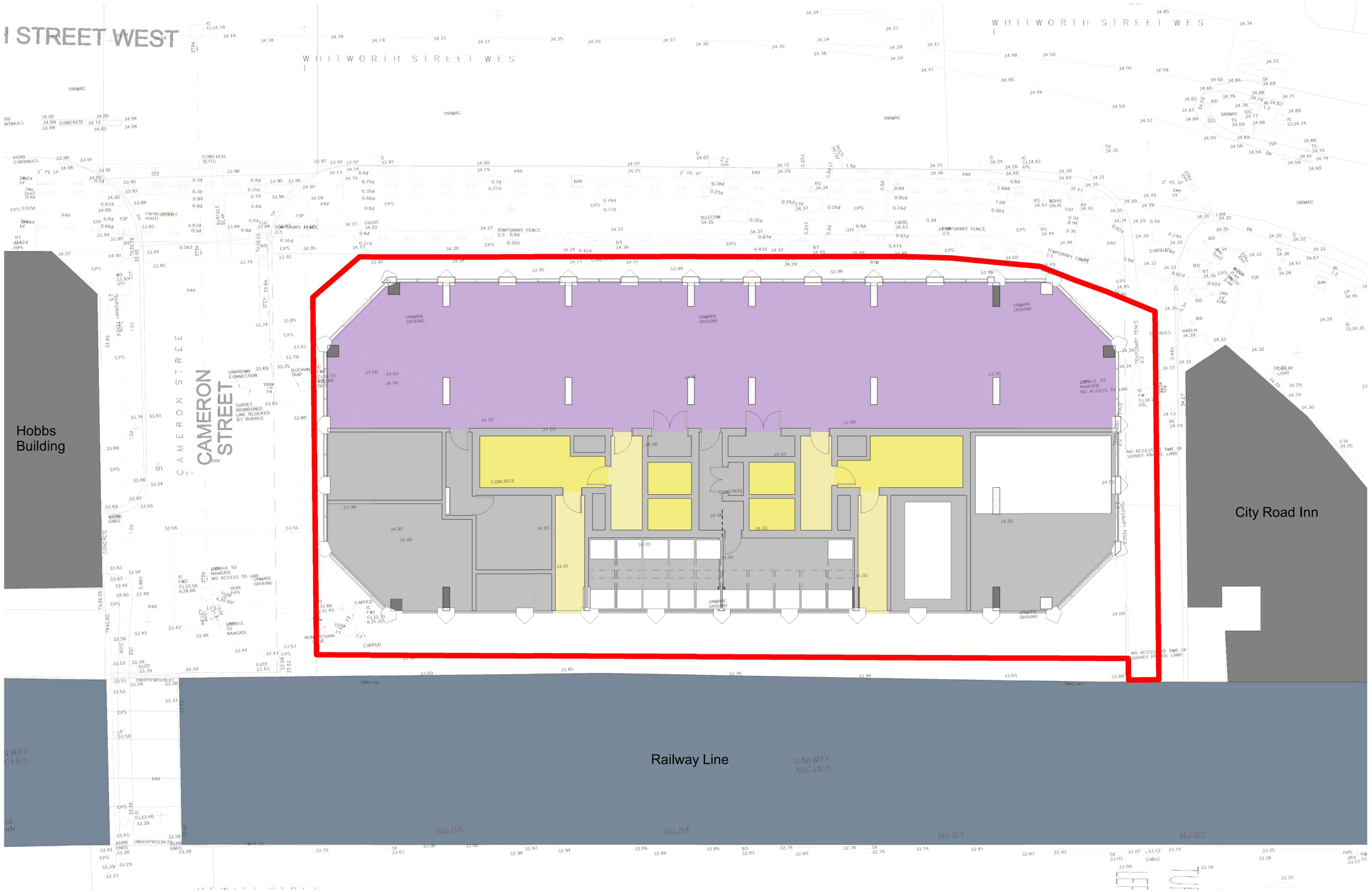
UKTAG-WFD. UKTAG River & Lake Assessment Method, Specific Pollutants (Metals), Metal Bioavailability Assessment Tool (M-BAT). Water Framework Directive – United Kingdom Technical Advisory Group. 2014.-

UKWIR Report 10/WM/03/21 2010 'Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites' 2010.

Water Framework Directive, 2000.

Water UK HBF. Contaminated Land Assessment Guidance. Water UK and the Home Builders Federation.

DRAWINGS



1 Level 0 - Site Plan Proposed
1 : 100

NORTH

0 1.0 2.0 3.0 4.0 5.0 10.0m

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Drawing No. 2095 | Revision P01

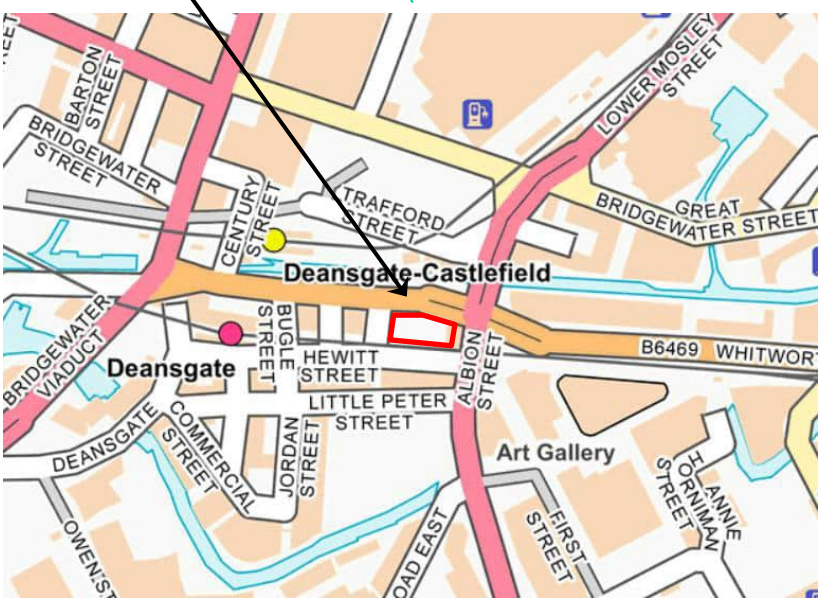
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SITE LOCATION

NEAREST POSTCODE: M1 5NZ

SITE ENTRANCE WHAT3WORDS: ///PROOF.BUTTER.POETIC



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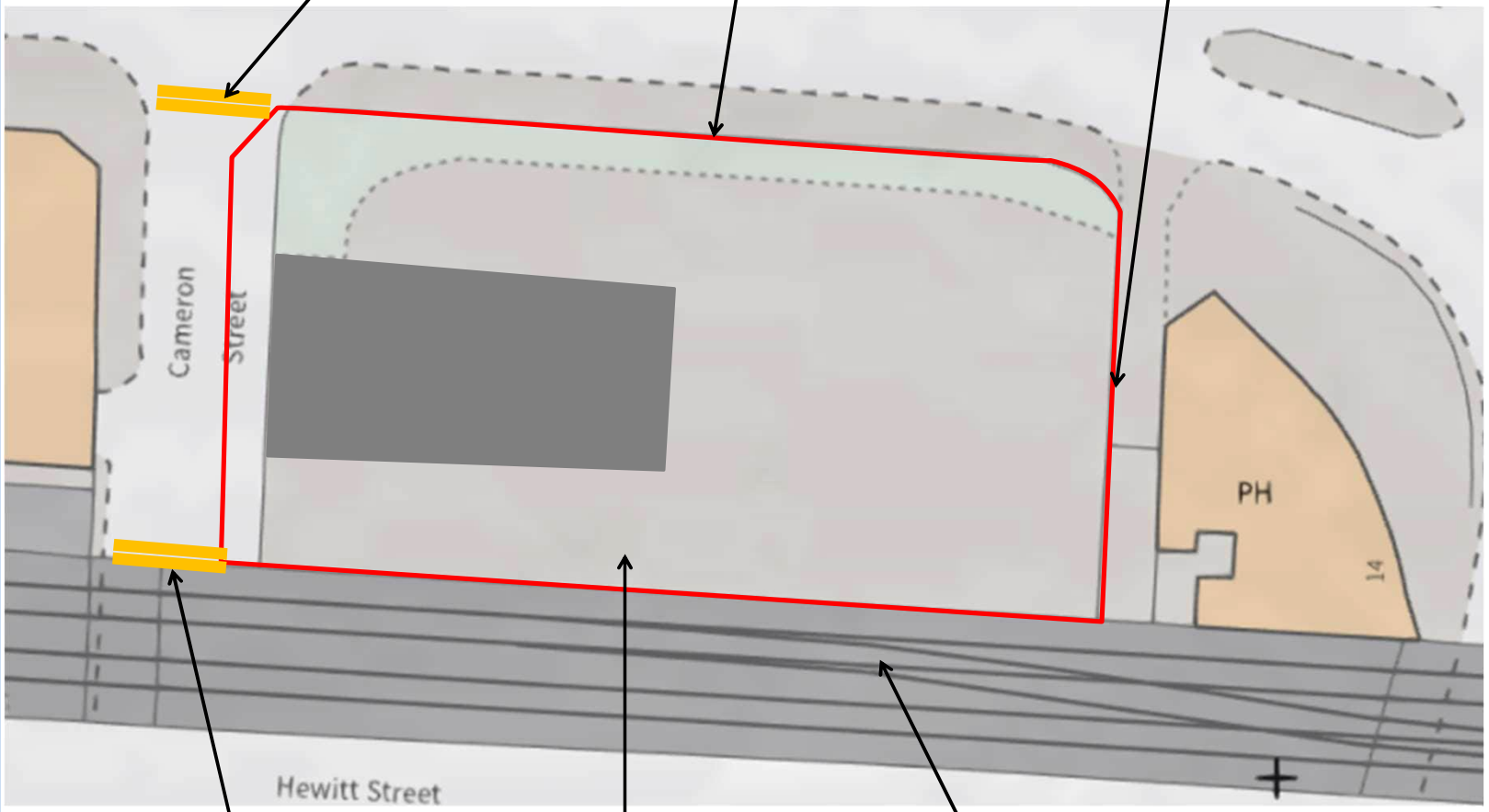
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PROJECT TITLE: VISION, MANCHESTER

DRAWING TITLE: SITE LOCATION PLAN

DRAWING No.	REVISION	SCALE	DATE
C5504/01	-	NTS	17/12/24

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SD	NS



KEY

- APPROXIMATE SITE BOUNDARY
- VEHICULAR SITE ACCESS
- CONCRETE HARDSTANDING

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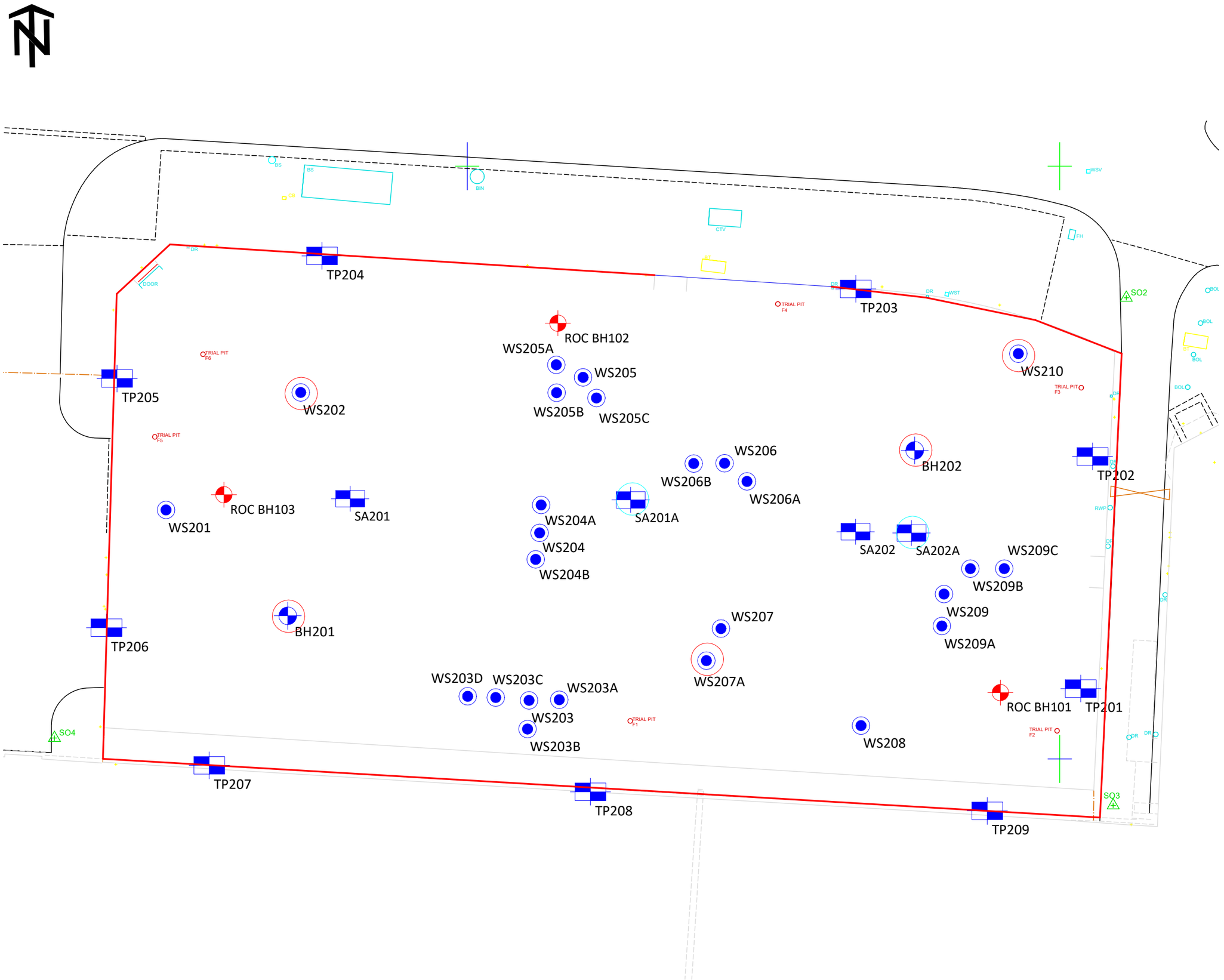
CLIENT
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PROJECT TITLE
VISION, MANCHESTER

DRAWING TITLE
SITE FEATURES PLAN

DRAWING No.	REVISION	SCALE	DATE
C5504/04	-	NTS	18/12/2024

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KEY	
	APPROXIMATE SITE BOUNDARY
TPXX	TRIAL PIT
WSXX	WINDOW SAMPLE BOREHOLE
BHXX	ROTARY CORED BOREHOLE
	SOAKAWAY INFILTRATION TEST
	BOREHOLE INSTALLATION

RoC CONSULTING (2016)	
BHXX	ROTARY CORED BOREHOLE

NOTES

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PROJECT TITLE

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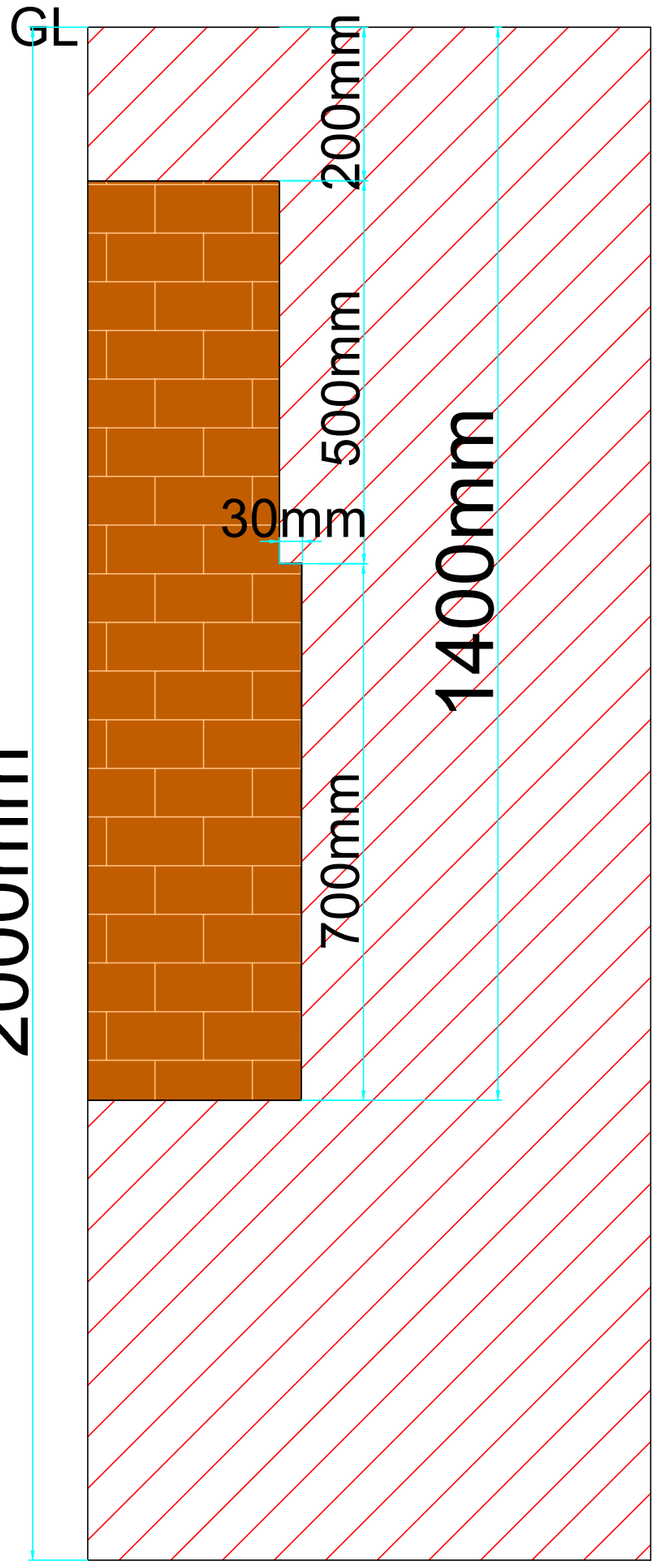
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EXPLORATORY HOLE LOCATION PLAN

DRAWING No.	REVISION	SCALE	DATE
C5504/02	-	NTS	27/11/24

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TP201









KEY	
	BRICK
	MADE GROUND

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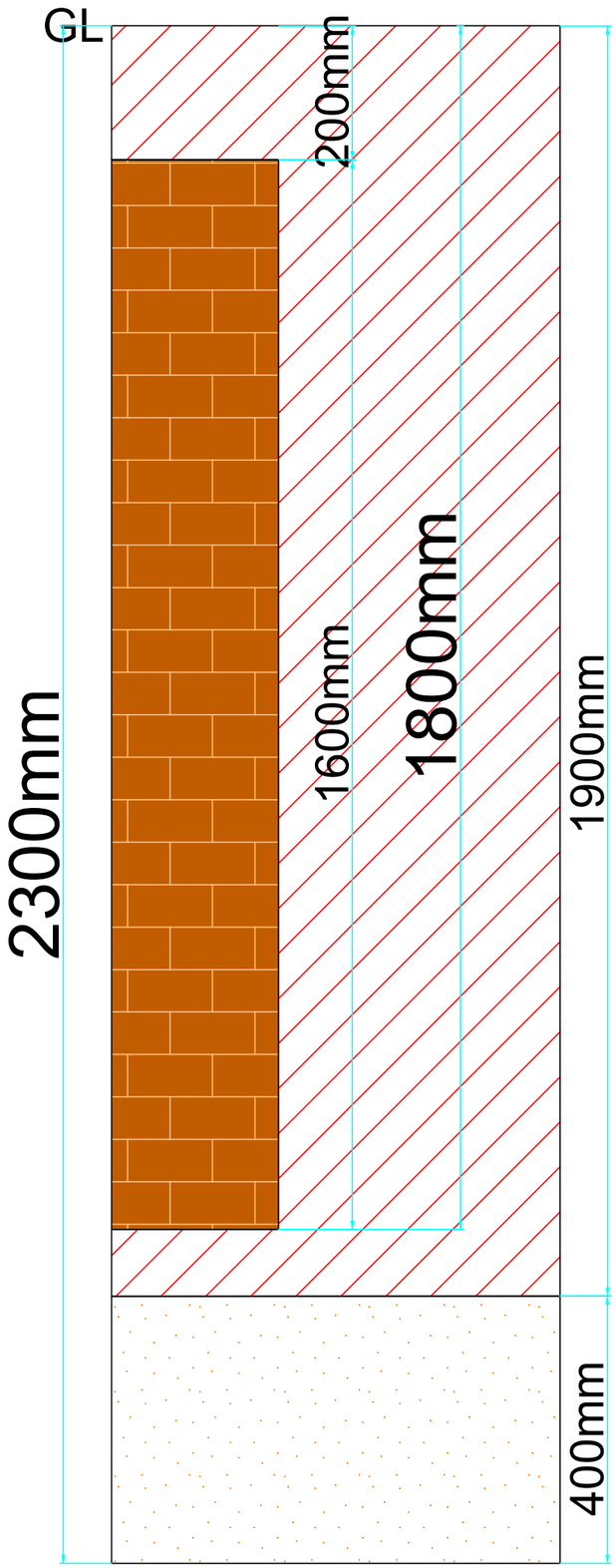
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DRAWING No.	REVISION	SCALE	DATE
C5504/03		NTS	19/11/2024

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TP202









KEY

	BRICK
	MADE GROUND
	SAND

NOTES

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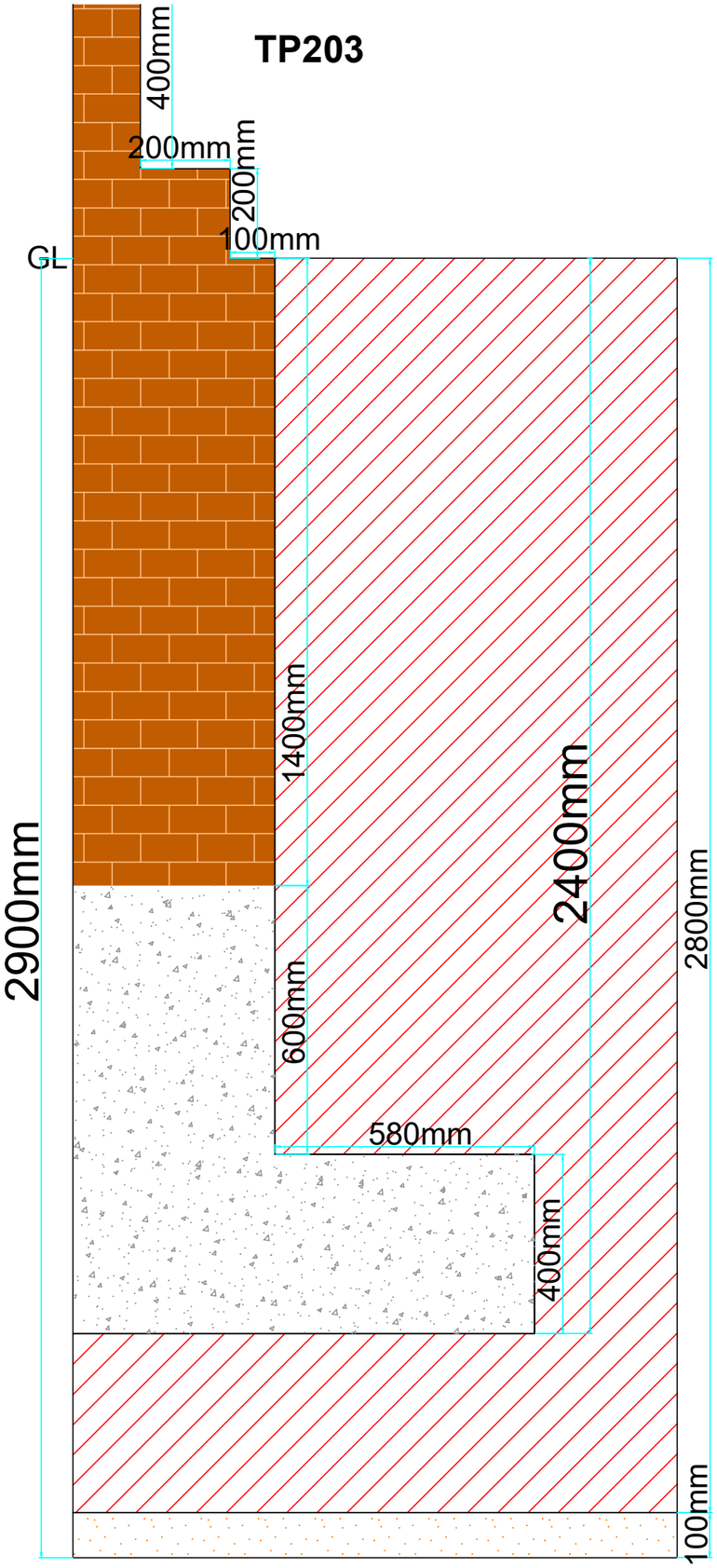
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DRAWING No.	REVISION	SCALE	DATE
C5504/03		NTS	19/11/2024

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AH	NS

TP203









KEY	
	BRICK
	CONCRETE
	MADE GROUND
	SAND

NOTES

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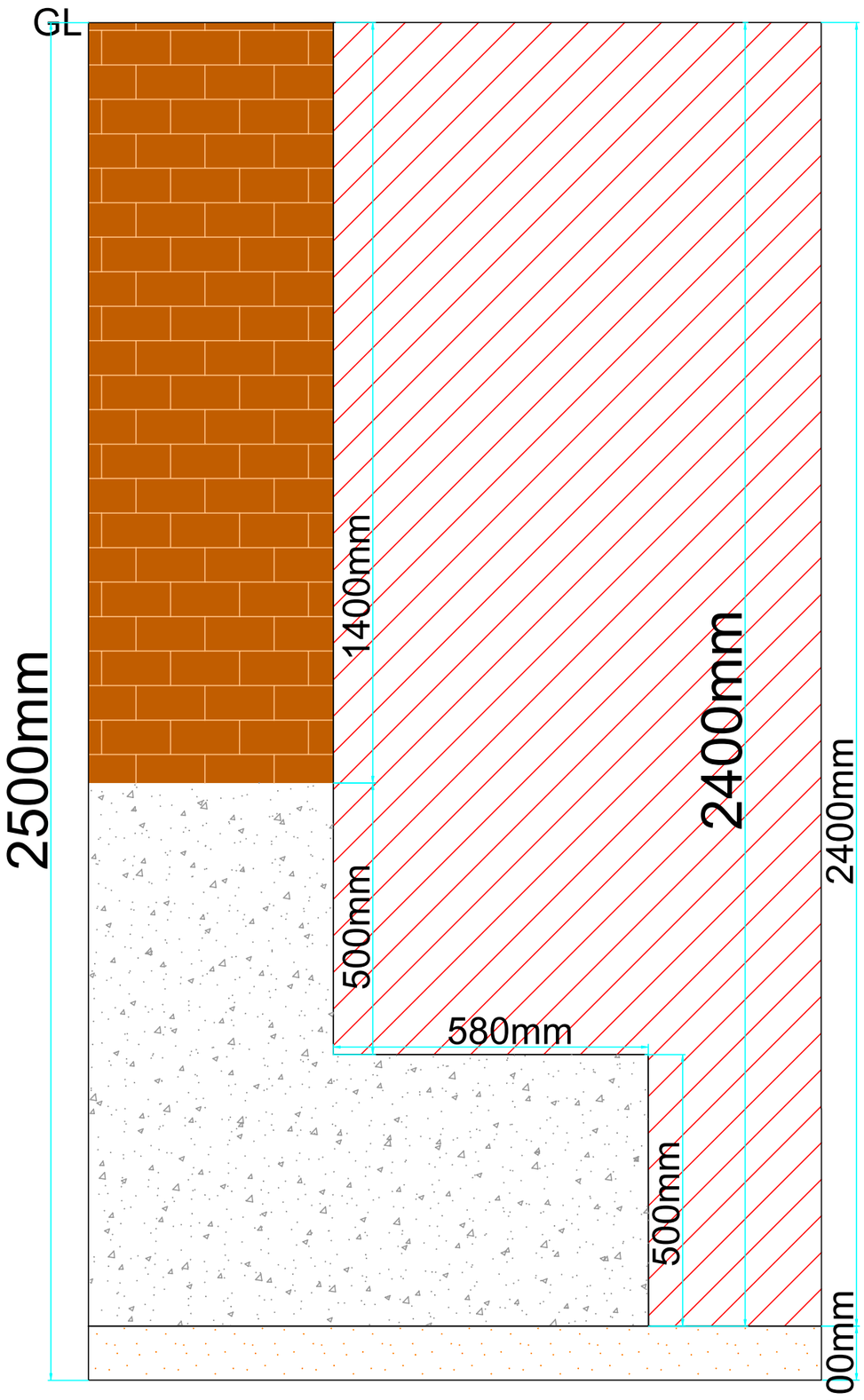
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FOUNDATION INSPECTION PIT DRAWING - TP203

DRAWING No.	REVISION	SCALE	DATE
C5504/03		NTS	19/11/2024

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TP204









KEY	
	BRICK
	CONCRETE
	MADE GROUND
	SAND

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VISION, MANCHESTER

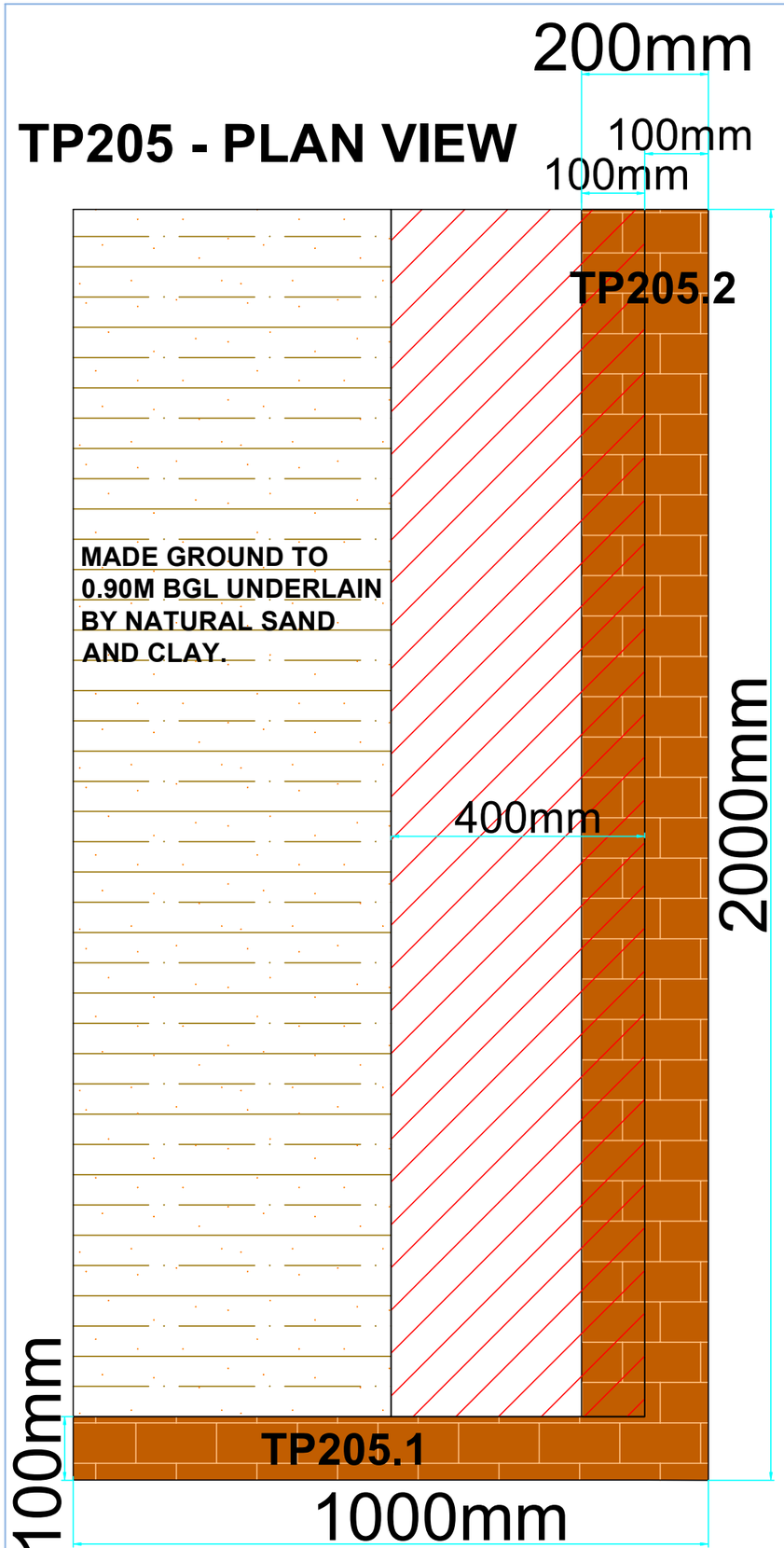
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TP205 - PLAN VIEW







KEY	
	BRICK
	MADE GROUND
	CLAY
	SAND

NOTES

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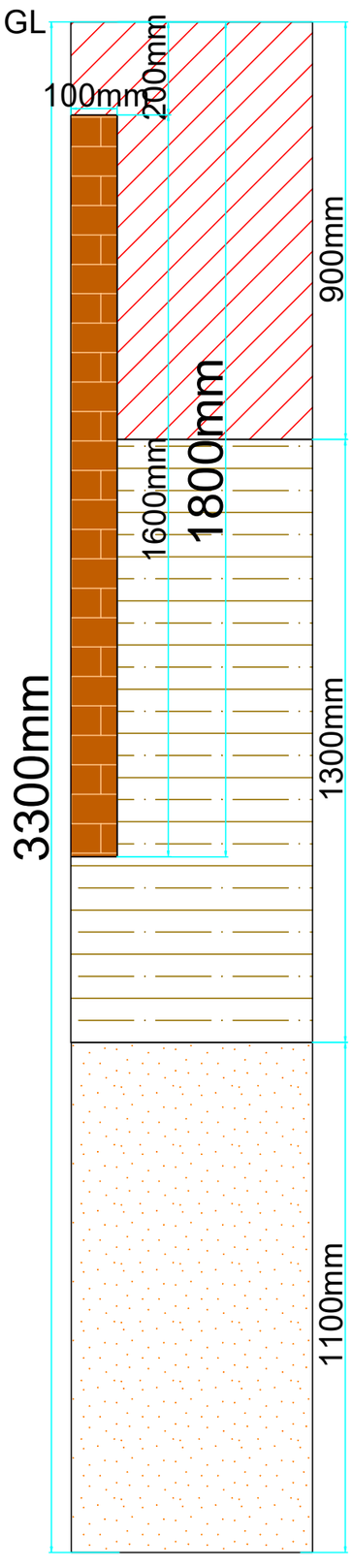
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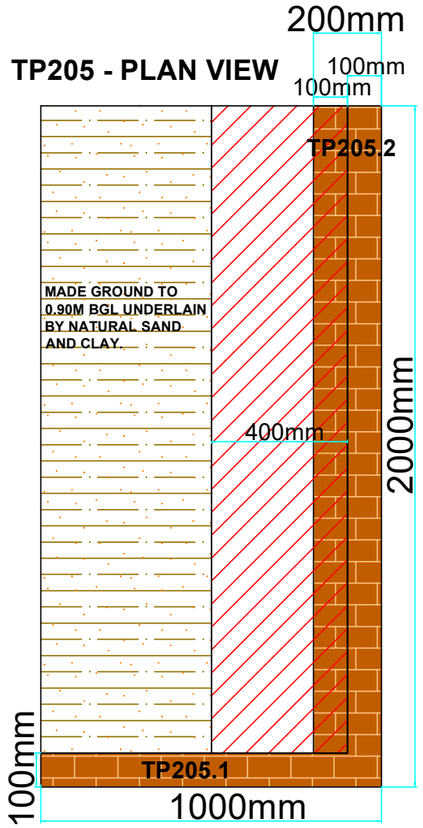
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TP205.1



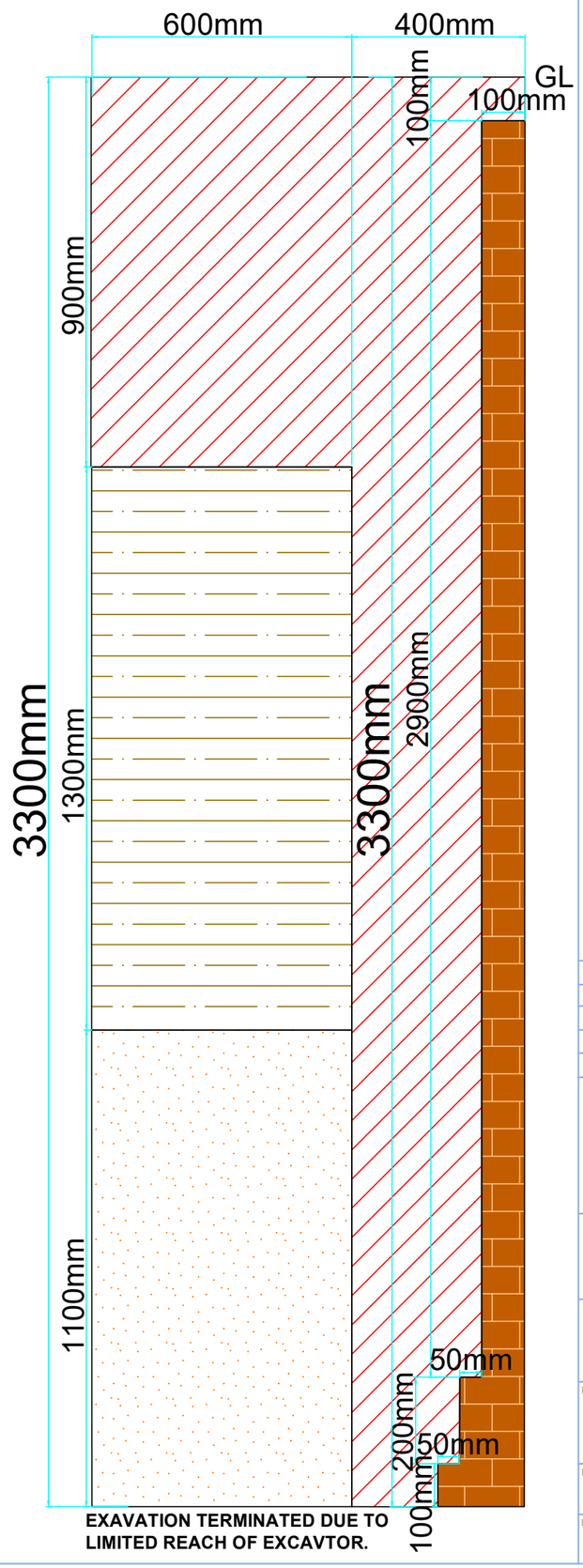
TP205 - PLAN VIEW







TP205.2



EXAVATION TERMINATED DUE TO LIMITED REACH OF EXCAVTOR.

KEY

	BRICK
	MADE GROUND
	CLAY
	SAND

NOTES

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PROJECT TITLE

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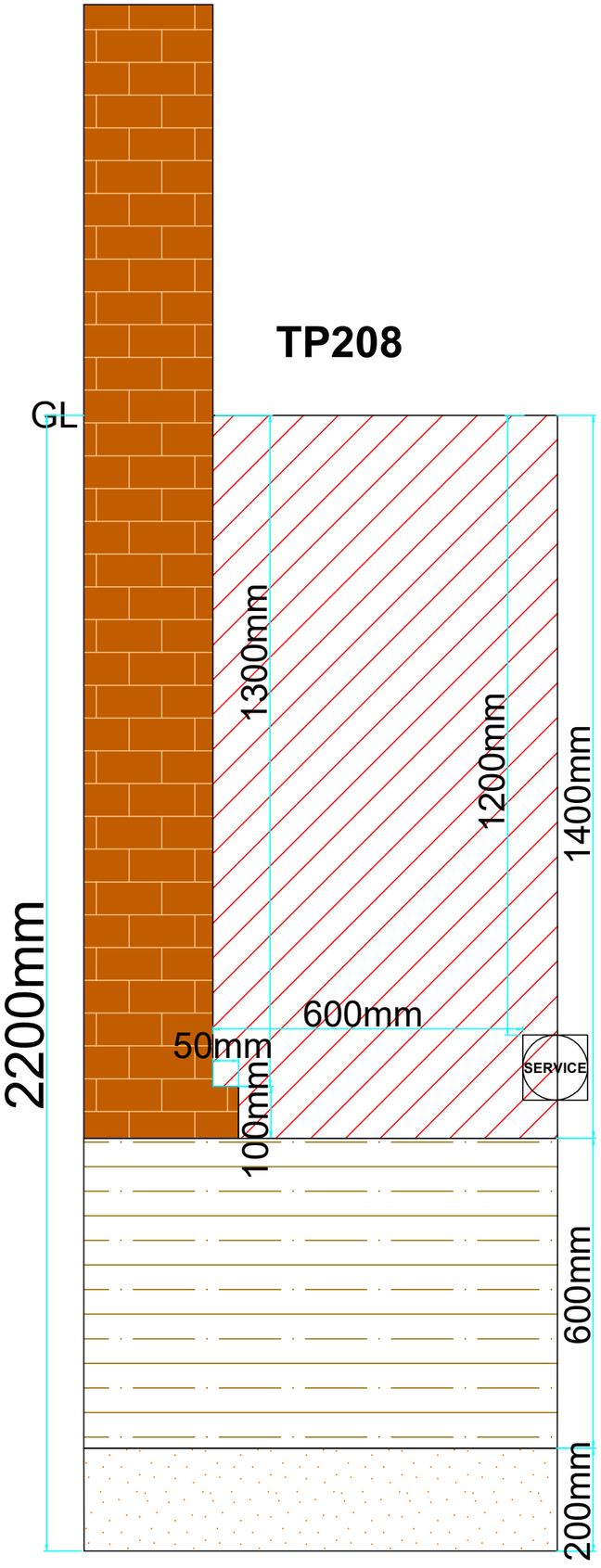
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DRAWING No.	REVISION	SCALE	DATE
C5504/03		NTS	14/11/2024

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TP208







KEY

- BRICK
- MADE GROUND
- CLAY
- SAND

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PROJECT TITLE

VISION, MANCHESTER

DRAWING TITLE

FOUNDATION INSPECTION PIT DRAWING - TP208

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APPENDIX A

BSL Methodology and Guidance

BSL Phase I & II Geo-Environmental Assessment Reports - Methodology and Guidance

Background

This Appendix provides information on the approaches, methods and guidance used by Brownfield Solutions Ltd in the preparation of this report.

The term 'geo-environmental' is used to describe aspects relating to ground-related environmental issues (such as potential soils and groundwater contamination). The term 'geotechnical' is used to describe aspects relating to the physical nature of the site (such as foundation requirements). It should be noted that this is an integrated investigation and these two main aspects are related, unless otherwise specified within the report.

Phase I reports are written in general accordance with the description of a Preliminary Investigation as defined in BS10175:2011+A2:2017 and are also produced in general accordance with the recommendations for a Tier 1 Preliminary Risk Assessment as described in LCRM guidance.

The first stage of the investigation and assessment of a site is the Preliminary Investigation/Tier 1 Preliminary Risk Assessment, often referred to as a Phase 1 Desk Study, comprising a desk study and walk-over survey and collation of desk-based searches, which culminates in the Preliminary Risk Assessment and the development of a preliminary/initial **Conceptual Site Model (CSM)**. From this are identified any potential geotechnical and geo-environmental hazards and the qualitative degree of risk associated with them. In the case of the geotechnical hazard identification, this is referred to as the **Ground Model.**

From the geo-environmental perspective, the hazard Identification process uses professional judgement to evaluate all the hazards in terms of possible contaminant linkages (of source-pathway-receptor). Possible contaminant linkages are potentially unacceptable risks in terms of the current contaminated land regime legal framework and require either remediation or further assessment. These are normally addressed via intrusive ground investigation and generic risk assessment as part of Phase II investigations and reports.

The second stage is the Ground Investigation, Generic Risk Assessment and Geotechnical Interpretation. This represents the further assessment mentioned above. The Ground Investigation comprises field work and laboratory testing based on the findings of the Preliminary Risk Assessment, to reduce uncertainty in the geotechnical and geo-environmental hazard identification. This may include an exploratory, a detailed or/and supplementary Investigations as described in BS 10175:2011+A2:2017. Phase II Assessments are produced in general accordance with the recommendations for a Tier 2 Generic Quantitative Risk Assessment as described in LCRM guidance and are also intended to fulfil the requirements of a Ground Investigation Report (GIR) as detailed in BS EN 1997-2:2007.

Contaminated Land - Legislative Background

Land contamination can be addressed in several ways, e.g. during planning, under Part 2A, following an incident, during an investigation into environmental damages, or during the application of an environmental permit, or its surrender.

For the planning process the key test is **as a minimum the site cannot be determined as contaminated land**, e.g. there is not significant harm, significant possibility of significant harm to human health or that there is not significant harm to, or the significant possibility that the pollution of controlled waters will occur.

Environmental liabilities and risks have been evaluated in terms of a source -pathway - target relationship in accordance with the approach set out in:

- The 1995 Environment Act.
- The Contaminated Land Statutory Guidance, DEFRA – April 2012.
- The Contaminated Land (England) Regulations 2006.
- The Contaminated Land (England) Amendment Regulations 2012.
- Water Resources Act.
- Water Framework Directive.
- Environmental Damage Regulations.
- Environment Agency (EA) - Land Contamination Risk Management (LCRM) 2019.

Contaminated land is defined within the legislative framework as land which is in such condition by reason of substances in, on or under the land that:

1) Significant harm is being caused or there is a significant possibility of such harm being caused.
2) Significant pollution of controlled waters is being or is likely to be caused.

The potential for harm is based on the presence of three factors:

Source - substances that are potential contaminants or pollutants that may cause harm.
Pathway - a potential route by which contaminants can move from the source to the receptor, and the impact of that migration on the source e.g. attenuation.
Receptor - a receptor that may be harmed, for example the water environment, humans and water, considering the sensitivity of the receptor.

Where a source, pathway and target are all present a pollutant linkage exists and there is potential for harm to be caused.



Where any one of the “pollution linkages” between the above is absent there is deemed to be no risk.

The presence of a source does not automatically imply that a contamination problem exists, since contamination must be defined in terms of pollutant linkages and unacceptable risk of harm. The nature and importance of both pathways and receptors are site specific and will vary according to the intended end use of the site, its characteristics and its surroundings.

The key principle which supports the S-P-R approach is ‘suitable for use’ criteria. This requires remedial action only where contamination is considered to pose unacceptable actual or potential risks to health or the environment and, taking into account the proposed use of the site.

Relevant Guidance Documents
This report has been prepared in accordance with the list of guidance below, however the list is not exhaustive:

- DETR: Circular 02/2000: Environmental Protection Act 1990: Part IIA: Contaminated land. 2012.
- Environment Agency technical advice to third parties on Pollution of Controlled Waters for Part IIA of the EPA1990, May 2002.
- BS 10175:2011+A2:2017.
- Environment Agency (EA) - Land Contamination Risk Management (LCRM). 2019.
- Groundwater Protection https://www.gov.uk/government/collections/groundwater-protection
- UK Technical Advisory Group (UKTAG) - Water Framework Directive
- Incidents and their classification: the Common Incident Classification Scheme (CICS) – Used by the Environment Agency to classify pollution incidents.

Relevant Legislative Documents
The following is a non-exhaustive list of legislative framework documents that has been considered in the production of this report:

- The Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance (2012).
- The Environment Protection Act (1990).
- The Water Resources Act (1991).
- The Environment Act (1995).
- The Contaminated Land (England) Act (2000).
- The Pollution Prevention and Control (England and Wales) Regulations (2000).
- The Landfill Regulations (England and Wales) Regulations (2002).
- The Landfill (England and Wales) (Amendment) Regulations (2004).
- Contaminated Land (England) Regulations (2012).
- The Environmental Damage (Prevention and Remediation) Regulations (2009).
- Environmental Permitting Regulations (England and Wales) Regulations (2010).
- The Water Environment (Water Framework Directive) (England and Wales) Regulations (2017).
- Health and Safety at Work Act.
- National Planning Policy Framework (NPPF) – latest version.

Contaminated Land Risk Assessment Approach

Contaminated Land Risk Assessment is a technique that identifies and considers the associated risk, determines whether the risks are significant and whether action needs to be taken. The four main stages of risk assessment are:



LCRM outlines the framework to be followed for risk assessment in the UK. The framework is designed to be consistent with UK legislation and policies including planning. The starting point of the risk assessment is to identify the context of the problem and the objectives of the process. Under LCRM, three tiers of risk assessment exist – Stage/Tier Preliminary Risk Assessment, Stage 2 Generic Quantitative and Stage 3 Detailed Quantitative.

Further information can be found at the below site:
https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm

Formulating and developing a conceptual model for the site is an important requirement of risk assessment, this supports the identification and assessment of pollutant linkages. Development of the conceptual model forms the main part of preliminary risk assessment, and the model is subsequently refined or revised as more information and understanding is obtained through the risk assessment process.

Risk is a combination of the likelihood of an event occurring and the magnitude of its consequences. Therefore, both the likelihood and the consequences of an event must be taken into account when assessing risk.

The risk assessment process needs to take into account the degree of confidence required in decisions. Identification of uncertainties is an essential step in risk assessment.

The likelihood of an event is classified on a four-point system using the following terms and definitions from CIRIA C552, with reference to Incidents and their classification: the Common Incident Classification Scheme (CICS), Environmental Protection Act 1990: Part 2A – Contaminated Land Statutory Guidance 2012 and other guidance as appropriate which will be detailed within the main body of the report if applied.

The likelihood of a given receptor being impacted is related to a number of factors, e.g. the geology which could inhibit contaminant migration. For example, a site with a significant thickness of clay between it and a receptor may reduce migration of contamination via the subsurface, which will reduce the likelihood of a given receptor being impacted. The geology or drainage for example could offer a preferential pathway e.g. mines shafts/faults increasing the likelihood and potential magnitude of an impact. The depth of contamination will also affect the exposure pathway, for example petroleum hydrocarbons at depth are unlikely to reach a receptor via dermal contact but could via vapour pathways which will influence the likelihood of an impact being felt e.g. if there are no buildings on site.

The terms and definitions used for the assessment of the likelihood are provided below:

High likelihood: There is a pollution linkage and an event appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
Examples - Extensive areas with concentrations above saturation limits for mobile contamination e.g. petroleum hydrocarbons within the water table.

Likely: There is a pollution linkage and all the elements are present and in the right place, which means it is probable that an event will occur. Circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term.
Examples – Localised areas of contaminants with concentrations above saturation limits for mobile contamination e.g. localised petroleum hydrocarbons within the water table; shallow contamination above relevant human health generic assessment criteria is present with little or no hardstanding,

Low likelihood: There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain even over a longer period such event would take place, and is less likely in the short term.
Examples - A thickness/distance of low permeability deposits preventing contaminant migration to a receptor is present; a site is mostly covered hard standing preventing exposure to soil contamination.

Unlikely: There is a pollution linkage but circumstances are such that it is improbable the event would occur even in the long term.
Examples – A site is underlain by a substantial thickness of low permeability clays, between the source and potential receptors which will inhibit significantly, but not completely rule out migration to sensitive receptors.

The severity is also classified using a system based on CIRIA C552, with reference to Incidents and their classification: the Common Incident Classification Scheme (CICS), Environmental Protection Act 1990: Part 2A – Contaminated Land Statutory Guidance 2012 and other guidance as appropriate which will be detailed within the main body of the report, if applied. The terms and definitions are:

Severe: Short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resources. Catastrophic damage to buildings or property. A short-term risk to a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);

Examples – High concentrations of contaminant on surface of recreation area, major spillage of contaminants from site into controlled waters, explosion causing building to collapse.

Medium: Chronic damage to human health ('significant harm' as defined in DETR 2000). Pollution of sensitive water resources. A significant change in a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
Examples - Concentrations of contaminants exceed the generic assessment criteria, leaching of contaminants from a site to a Principal or Secondary Aquifer, death of species within a designated nature reserve.

Mild: Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000). Damage to sensitive buildings, structures, services or the environment.
Examples – Pollution of non-classified groundwater or damage to buildings rendering it unsafe to occupy.

Minor: harm, not necessarily significant harm, which may result in financial loss or expenditure to resolve. Non-permanent health effects to human health (easily prevented by use of personal protective clothing etc). Easily repairable effects of damage to buildings, structures and services.
Examples – Presence of contaminants at such concentrations PPE is required during site work, loss of plants in landscaping scheme or discolouration of concrete.

Once the likelihood and severity have been determined, a risk category can be assigned using the table below.

		Consequences			
		Severe	Medium	Mild	Minor
Probability	Highly likely	Very high	High	Moderate	Moderate/low
	Likely	High	Moderate	Moderate/low	Low
	Low likelihood	Moderate	Moderate/low	Low	Very low
	Unlikely	Moderate/low	Low	Very Low	Very low
	Negligible	Negligible Risk / No Linkage			

Definitions of the risk categories obtained from the above table are as follows together with an assessment of the further work that might be required:

Very high: There is a high probability that severe harm could arise to a designated receptor from an identified hazard or there is evidence that severe harm is currently happening. This risk, if realised, could result in substantial liability. Urgent investigation and remediation are likely to be required.

High: Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation is required and remedial works may be necessary in the short term and are likely over the longer term.

Moderate: It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it would be more likely to be relatively mild. Investigation is normally required to clarify the risk and determine the liability. Some remedial works may be required in the longer term.

Low: It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.

Very Low: There is a low possibility that harm could arise to a receptor. In the event of such harm being realised, it is not likely to be severe.

Some linkages may be identified which constitutes a theoretical connection between a source and a receptor, but professional judgement shows them not to be possible for some reason. These are labelled 'negligible risk' and 'no linkage' in the summary table, which give rise to an overall **negligible** risk category and no further action is required.

Contaminated Land Screening Values

In assessing the potential for contamination Brownfield Solutions Limited (BSL) follows UK guidance and current best practice.

General

The purpose of using generic Tier 1 screening levels is to have a simple means of assessing the potential contamination of a site and to inform decisions on whether further investigation is warranted or whether an option to undertake remedial action based on the data to hand is cost effective.

Human Health

Current UK guidance on risks to human health is provided by DEFRA and the Environment Agency (EA). Under the land use planning system where the aim is to demonstrate 'suitability for use' the key will usually be to confidently determine that the level of contamination of the land is low relative to some appropriate measure of risk at a particular critical connection.

Publications forming part of the guidance include the CLEA Model and toxicological reports collectively referred to as the CLEA Guidance. The CLEA Guidance has included a number of publications which have provided initial screening values or Generic Assessment Criteria (GACs) for soils contamination based on standard land uses and soil assumptions. The critical concentrations referred to above can be the relevant GAC.

CLEA guidance has gone through a number of revisions over time. Tier 1 generic S4UL values (or GACs) have been published using the CLEA 1.06 Model by CIEH/LQM. These are the third set of generic assessment criteria generated by CIEH and replace the previous two sets of GACs. The revised S4UL values are based on greater knowledge of relevant toxicology and further consideration of exposure frequencies.

C4SL values for six determinands including lead were published by DEFRA/CL:AIRE in December 2014. Additional determinands were added in 2021. They represent a low risk as opposed to minimal risk, however they are still strongly precautionary. These screening values were published by DEFRA for Part 2A use, although DEFRA have also confirmed acceptability for use under planning. However, S4ULs remain the first reference point for BSL due to the broader range of end uses scenarios and the availability of a wide array of determinands with various soil organic contents.

As part of Tier 1 assessments, the following data sources are used in the order of preference given below, unless further justification is provided to adopt less conservative criteria:

- CIEH S4UL values (derived by CIEH/LQM).
- DEFRA/CL:AIRE C4SL's https://www.claire.co.uk/projects-and-initiatives/category-4-screening-levels
- CL:AIRE GAC values.
- Guidance from other European countries.
- Guidance from the outside Europe.

Dependent on requirements, test results may be divided into representative data sets for assessment against the above referenced screening criteria, based on the conceptual model and taking into account such characteristics as variation in soil properties, historical, existing or proposed land uses. The soils in these areas are considered likely to form the ground cover in critical receptor areas (e.g. gardens, soft landscaping etc)

where pathways may exist. The critical part of the soil column is typically taken as the upper metre in terms of contact with end users of a development site for the purposes of initial assessment.

The screening criteria adopted by BSL are presented overleaf.

Further Assessment
When screening values are exceeded then further consideration is required. This could include further additional detailed investigation and assessment to further define the risk or to design appropriate remedial measures to either remove the source or break the pathway. In some cases, dependant on the Conceptual Site Model (CSM), no action may be required.

PAHs and B(a)P as a Surrogate Marker for Adoption of C4SLs
As stated above, S4ULs remain the first reference point as screening levels unless further justification is provided. In order to determine if the C4SL can be adopted, benzo(a)pyrene (B(a)P), the following guidance within SP1010 Appendix E for B(a)P and Public Heath England (PHE) may be adopted with our assessments where appropriate.

Guidance states that benzo(a)pyrene is considered to be one of the most potent PAHs, and it would be appropriate to assume the cancer risk in a mixture is proportional to the concentration of a surrogate marker PAH (benzo(a)pyrene) in the mixture. The ratio of PAHs within the mixture can be assessed to ensure that the profile is similar to that seen for the test material (coal tar mixtures) in the toxicological study by Culp et al. The International Programme on Chemical Safety (IPCS) considered that the PAH profile of the soil sample may deviate from the average profile by about an order of magnitude (up or down).

A more recent study by Bull et al (2013) which analysed PAH concentrations in soil samples from 274 sites, showed that the levels of PAH relative to B(a)P showed little variability and were similar to that recorded for the coal tar mix used in the Culp et al study. Given this, it was concluded that benzo(a)pyrene is a suitable surrogate marker to represent mixtures of PAH in soil.

In order to risk assess the PAH mixture for site specific soil samples using human health guideline values, notably the C4SLs, as detailed in SP10101 the ratio of the seven genotoxic PAHs as shown below, relative to B(a)P, should be calculated to ensure it is similar to the test material used in the Culp study (PHE 2010). To be considered sufficiently similar, the ratio relative to B(a)P should fit within the upper and lower limits (representing an order of magnitude above and below the mean ratio to B(a)P of test material used in the Culp et al study). In such cases B(a)P is considered an adequate surrogate marker and the Low Level of Toxicological concern (LLTC) for B(a)P (i.e., the C4SL) may be used in the risk assessment.

Statistical Analysis on Soils
Guidance on the use of statistics is taken from the CL:AIRE publication "Comparing Soil Contamination Data with a Critical Concentration" 2020, the basis of which in statistics is termed Central Limit Theorem (CLT), which says "*The distribution of sample means converges to a normal distribution as the sample size increases*".

If the critical concentrations have been exceeded, as part of a further assessment, statistical analysis may be undertaken on a dataset to demonstrate that the mean concentration on the site (or a particular area) is actually below the critical concentration. The true mean concentration of a contaminant is never known because all the site soil has not been tested. An estimation of the true mean can be obtained from the samples tested during the investigation. The greater the number of samples tested, the closer the mean of these values is to the true mean.

As discussed above, test results are typically divided into representative data sets for assessment and may be referred to as 'averaging areas' to which statistics can be applied, although several statements need to be satisfied before applying the guidance:

- Averaging areas have been defined based on the CSM.
- Sample locations – random/grid sampling adopted as opposed to targeted investigation.
- Samples are evenly spread and not clustered.

- Analysis do not suggest a hotspot/outlier or cluster established by histogram or other means.
- Samples are of same/similar depth and taken from one population (e.g. just topsoil).
- Analyses do not show a spatial trend or other spatial pattern across that zone.
- The number of samples has been shown to be sufficient for statistical analysis.

Once the above have been satisfied, when undertaking statistical analysis, the question "*are mean soil concentrations within the averaging area equal to, or greater than, the GAC*?" is being asked. Typically, outliers or "hotspots" are treated as separate zones or averaging areas. The sampling strategy and assessment should also take into account uncertainty (for example, spatial heterogeneity) in contaminant concentrations. There is the assumption that sampling was random or stratified and systematic (e.g. on a grid) and not targeted at specific sources; data from such targeted areas should be omitted from the statistical analysis. Data should be from one population (i.e. the same materials).

The statistical test that is carried out is used to demonstrate that there is a certain probability that the true mean falls below the critical concentration (typically the GAC in a screening exercise). The main tool used to draw conclusions based on the 2020 guidance is a comparison of a 2-way confidence interval with the critical concentration. A confidence interval consists of two sets of numbers; an interval i.e. a range of values plus a pre-determined level of confidence e.g. 80%. A common interpretation of a confidence interval of say 80% is that "*there is an 80% chance that the true mean concentration level of the contaminant in a sampling zone lies between X concentration and Y concentration*".

The current guidance for planning says that the site has to be "safe" which suggests we should use a large confidence interval such as 95% or higher to make a decision. This means that there is a 95% chance of the true mean concentration lying in this interval, there is also a 5% chance it lies outside this interval. One could then conclude that the requirements of planning have been met if the 95% confidence interval lies below the critical concentration.

The guidance recommends that at least two confidence levels are used such as 90% and 99% or 80% and 95%. By using two differing confidence intervals, we can use the smaller confidence interval (e.g. 80% confidence interval) to say "*we think the mean is most likely to be inside this range*" and the larger confidence interval (e.g. 95% confidence interval) to say "*we think the mean is most unlikely to be outside this range*".

If the confidence interval extends to above the critical concentration, then further action may be required.

Controlled Waters

The European Water Framework Directive (WFD) became UK law in December 2003. It was created to ensure that European countries manage their rivers, groundwater and lakes so that they stay healthy for people and for wildlife.

This is achieved by the use of chemical standards (Water Quality Targets – WQTs) for surface waters and groundwater. These values describe concentrations of chemicals that are not expected to cause harm to environmental organisms or human health, provided they are not exceeded. The same chemical may have several standards for different environmental regimes, and for different protection objectives.

Statutory Standards are set in legislation and if exceeded, this constitutes non-compliance with statutory obligations. European Directives are implemented in England and Wales by corresponding statutory instruments (i.e. regulations- The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015 and The Private Water Supplies (England) Regulations 2016. SI 2016 / 618). In Scotland, the Public Water Supplies (Scotland) Regulations 2014 apply. The statutory instruments can be the exact same standards as they appear in the Directive or be more stringent.

A number of non-statutory standards also exist, these are set by various organisations (including the EA) for chemicals that are considered to be of concern, but are not covered by any specific legislation.

The chemical standards used in the UK to control impaction of contamination on controlled waters are Environmental Quality Standards (EQS). These cover a large number of compounds. EQS are available for inland surface waters (freshwater) and other surface waters (transitional and marine).

Several EQS are based on bioavailable metal proportions (i.e. copper, lead, manganese, nickel and zinc). A software tool (M-BAT) is available from the Water Framework Directive - UK TAG website for calculating the bioavailable fraction. Where this tool has been used, the bioavailability has been taken into account by calculating site-specific $PNEC_{dissolved}$ (Predicted No Effect Concentration) values. These enable the dissolved concentration data to be compared with the PNEC as if it were an EQS.

UK Drinking Water Standards (DWS) apply to waters abstracted for human consumption. Where no UK or EU drinking water standard exists, reference is made to the World Health Organisation criteria (2011).

The DWS apply to groundwater or to surface water used for abstraction and the EQS apply to surface water where the aquatic ecosystem is the receptor. Where the most appropriate water quality target cannot be determined with certainty, the lowest one is adopted in line with the precautionary principle.

In some instances, the laboratory detection limits (LODs) may be greater than the water quality target it is being screened against, but it should be noted that these comparisons are an initial screening assessment. It may be the case that lower LODs could be obtained using a more specialised technique, but it would be disproportionately expensive to adopt the more costly specialist technique for initial screening exercises.

The preference of BSL is to have testing carried out on actual samples of ground/surface water rather than theoretical values obtained from leachate testing, which is considered to often be highly conservative. Data from water samples obtained or from leachate analysis is then compared against the screening criteria adopted by BSL, which are presented overleaf.

When screening values are exceeded then further consideration is required. This could include further additional detailed investigation and detailed quantitative risk assessment (DQRA) to further define the risk or to design appropriate remedial measures to either remove the source or break the pathway.

Ground Gas Risk Assessment

BS8485:2015+A1:2019, BS 8576:2013, CL:AIRE RB17, and NHBC 'Hazardous Ground Gas - An essential guide for housebuilders' 2023, are the current guidance which gives up-to-date advice on all aspects of permanent ground gas risk. BS8576 alongside CIRIA C682 also provides guidance on assessment of hydrocarbon vapour intrusion.

The CL:AIRE publication 'Good Practice for Coal Mine Gas Emissions" 2021 provides guidance on the assessment of risks from mine gas sources.

The above all outline good practice in investigation, the collection of relevant data and monitoring programmes in a risk-based approach to ground gas contamination. The aim of the guidance is for a consistent approach to decision making, particularly relating to the scope of protective design measures on a site-specific basis.

Legislative Framework
BS8485:2015+A1:2019, BS 8576:2013 and CIRIA C665 provides technical guidance, however they also recognise the context into which the guidance has to be employed. Government policy is based upon a "suitable for use approach", which is relevant to both the current and proposed future use of land. When considering the current use of land, Part IIA of the Environment Protection Act 1990 provides the regulatory regime. The presence of hazardous ground gases could provide the "source" in a "pollutant linkage" which could lead the regulator to determine that considerable harm or there is a significant possibility of such harm being caused. Under such circumstances, the regulator would determine the land to be "contaminated land" under the provisions of the Act, setting out the process of remediation as described in the DETR Circular 02/2000 *Statutory guidance on contaminated land.*

Generation Potential of Sources

BS 8576:2013 Figure 6 provides a basis for assessing the generation potential from sources identified as part of the Phase I Assessment. These are summarised below:

Generation Potential	Typical Sources
Very Low	• Natural carbonate soil and strata, e.g. chalk and limestone. • Natural soil strata with a low degradable organic content, e.g. alluvium, peat. • In-filled pond less than 15 m diameter, in-filled before 1930s to 1940s. • Made ground with low degradable organic content (e.g. up to 5% organic material such as pieces of wood, pieces of paper, rags, etc. with a high proportion of ash and no food or other easily degradable waste). • Mine workings shallow or shaft (where there is clear evidence that they are flooded). • Inert landfill sites (and pre -1945 landfills).
Low	• Natural soil strata with a high degradable organic content (DOC). • Made ground with total organic carbon (TOC) up to 6% (e.g. dock silt, no food or other easily degradable waste). • Foundry sand (includes phenolic binders, rags and wood that decay, albeit at low rates). • Landfill 1945 to mid 1960s (see also Moderate below).
Moderate	• Sewage sludge. • Mine workings – unflooded, more than 50 years since last worked (gas is liberated from coal when mine workings are excavated; this continues for up to about 50 years). • Landfill 1945 to mid 1960s (this could also be “low” or, if disturbed, “high”).
High	• Landfill mid 1960s to early 1990s. • Mine workings – unflooded – less than 50 years since last worked.
Very High	• Municipal landfill sites. • Landfill early 1990s onward.

Frequency and Duration of Monitoring

BS8576 notes to determine where and how to monitor ground gases requires consideration of credible pathways of possible exposure of the receptors, taking into account what is known about the geology and hydrogeology, building construction and services layout, foreseeable events such as flooding, changes in groundwater level, climate change, extreme weather conditions, the closure of mines, and possible changes to the gas regime caused by future development.

The monitoring period for a specific site should cover the “worst case” scenario. A “worst case” scenario will typically occur during falling atmospheric pressure and, in particular, weather conditions such as rainfall, frost and dry weather.

The benefits of additional information and whether it is likely to change the scope of gas protection should be considered, as are the consequences of failing to characterise adequately pollutant linkages. Investigations concerned with ground gas are required to provide monitoring data sufficient to allow prediction of worst case conditions enabling the confident assessment of risk and subsequent design of appropriate gas protection schemes. Monitoring programmes should not be an academic exercise in data collection. CL:AIRE publication TB17 “Ground Gas Monitoring and ‘Worst-Case’ Conditions” provides further guidance.

Below are matrices that will aid in determining an appropriate number of gas monitoring visits and the length of monitoring period.

Typical/idealised periods of monitoring

		Generation of Potential Source				
		Very Low	Low	Moderate	High	Very High
Sensitivity of Development	Low (Commercial)	1 month	2 months	3 months	6 months	12 months
	Moderate (Apartments)	2 months	3 months	6 months	12 months	24 months
	High (Low rise Residential)	3 months	6 months	6 months	12 months	24 months

Typical/idealised frequency of monitoring/Number of Visits Required

		Gas Generation of Potential Source				
		Very Low	Low	Moderate	High	Very High
Sensitivity of Development	Low (Commercial)	4	6	6	12	12
	Moderate (Apartments)	6	6	9	12	24
	High (Low rise Residential)	6	9	12	24	24

Notes

1 Generation potential of sources based on descriptions within BS 8576:2013.

2 At least two sets of readings should be at low and falling atmospheric pressure (but not restricted to periods below <1000 mb) known as worst case conditions. Historical data can be used as part of the data set (Table 5.5b).

It is recommended that newly installed monitoring wells are left for 24 hours to allow the soil gas to reach equilibrium. It should be recognised, however, that some soil gas regimes could take considerably longer (up to seven days). Interpretation of any initial readings should take this equilibrium process into account.

Gas Risk Assessment

Within BS8485:2015+A1:2019 a semi-quantitative method is set out for the assessment of risk.

This method (Modified Wilson and Card) uses the concept of Gas Screening Values (GSVs) and typical threshold concentrations of carbon dioxide and methane to identify levels of risk. Sites are then classified into a 'Characteristic Situation' or 'CS' from CS1 where no mitigation is required and CS2 increasing up to CS6 where protection measures are required.

The NHBC guide 'Hazardous Ground Gas - An essential guide for housebuilders' 2023 provides further assessment tools for ground gas monitoring data, including the use of ternary plots to determine ground gas sources.

A separate approach to assessment without monitoring data is discussed under the RB17 header further below.

CIRIA C682 and BS 8576:2013 provide guidance on assessment of VOC intrusion risk.

Ground Gas Mitigation

Where a risk is determined to be present by assessment, BS8485:2015+A1:2019 provides guidance for the design of protection systems based on a points scoring system depending on the characteristic situation, structure type, structural barrier types, ventilation and a gas resistant membrane. Source removal can also be considered.

The design requires the structures to be categorised into one of four building types: Type A, Type B, Type C or Type D, related to the construction and end use of the building, together with the control of future structural changes and maintenance.

CIRIA C748 provides advice on the use of membranes as VOC vapour barriers.

CIRIA C735 sets out the approach for verification of installed mitigation measures. Note that if a membrane is installed it must be verified in accordance with CIRIA C735 or it will score zero points and assumed to not afford any protection.

RB17 Approach
CL:AIRE RB17 (Card et al 2012) is a pragmatic approach to ground gas risk assessment and was developed because gas concentration, pressure and flow rate measured in a well headspace may not be representative of the conditions in the surrounding formation.

In these low-risk situations, the approach is to use the conceptual site model and the estimation of the likely gas generation from a source to identify where or if gas monitoring is required to better define the risks.

Under this approach, for sites with natural soils only with no credible methane source, then no action is required (no monitoring or gas protection measures) as this represents Characteristic Situation 1 (CS1).

Radon
Advice on radon protection in England is provided by the UK Health Security Agency, https://www.ukradon.org/information/ukmaps and by the BRE (BR 211 (Scivyer 2023).

Areas of the country can be categorised according to the percentage of existing homes where radon is present above the Action Level:

- 0-1% lower probability.
- 1-3% and 3-10% intermediate probability.
- >10% higher probability.

Basic radon protection measures are required in new buildings and extensions in areas of England and Wales where 3-10% of properties exceed the Action Level and full radon protection measures where >10% exceed the Action Level.

Unexploded Ordnance (UXO) Guidance

Clients have a legal duty under the CDM 2015 Regulations to provide designers and contractors with project-specific health and safety information needed to identify hazards and risks. This includes the possibility of unexploded ordnance (UXO) being encountered on the site. Further details are given in CIRIA report C681.

BSL carry out non-specialist UXO screening exercises by considering any evidence of UK defence activities on or near the site evident from gathered desk study information and the unexploded aerial delivered bomb (UXB) online risk maps produced by Zetica. Other data sources are available, but as a first stage screening exercise the freely available online Zetica maps have been used. The level of risk stated is that determined by Zetica, a company experienced and considered competent in the assessment of UXO.

Geotechnical Guidance

A preliminary risk assessment of geotechnical hazards is carried out at the desk study stage and confirmed (or amended) at the ground investigation stage.

The CD 622 'Managing Geotechnical Risk' guidance document defines the technical approval and certification procedures to be used to ensure that the risk associated with the geotechnical activities are appropriately managed.

The desk-based stage may also include the requirements for a Coal Mining Risk Assessment (CMRA) which specifically assesses the risks from mining induced instability and related issues in high risk development areas: https://www.gov.uk/guidance/planning-applications-coal-mining-risk-assessments.

In order to establish the requirements of a project, the Geotechnical Category which is based on a consideration of project complexity, proposed geotechnical activities, presence of geo-hazards and severity of geotechnical risks, shall also be considered. These range from Category 1 (small/simple structures) to Category 3 (very large, unusual or complex activities/structures, such as tunnels). It is envisaged most projects typically fall into Category 2, including conventional types of geotechnical structures, earthworks and activities.

In the case of the geotechnical hazard identification at the intrusive investigation stage, this is referred to as the **ground model**.

The geotechnical sections of the report contain the factual information on the geology and relevant site data, including both in situ and laboratory testing, with a geotechnical evaluation of the information stating the assumptions made in the interpretation of the data.

Derived values of geotechnical parameters are obtained from test results by theory (book values), correlation or empiricism in general accordance with BS EN 1997-2:2007 (EC7).

Where derived geotechnical parameters are to be used in designs in accordance with EC7, the selection of characteristic values for geotechnical parameters using the derived values is carried out by well-established experience.

The characteristic value is a cautious estimate of the value affecting the occurrence of the limit state. For any particular material type there may be more than one characteristic value for each parameter because there may be more than one limit state.

The second stage is the selection of design values. The design values are either derived from the characteristic value by applying the relevant partial factors or assessed directly. Similarly, there can be several design values for the same material type.

In the event that geotechnical designs are included in this report, selection of the characteristic and design values is included. Otherwise, it is the duty of the geotechnical designer to determine these within a separate design report (a GDR).

Where it has not been possible to reasonably use an EC7 compliant technique, a practical alternative has been adopted to obtain indicative soil parameters and any interpretation is based upon engineering experience, local precedent where applicable and relevant published information.

In addition to the above:

- Assessments for highways designs are based on CD 622 Managing Geotechnical Risk.
- The assessment of sustainable drainage is based on BRE365 and CIRIA C753 'The SuDS Manual'.
- Earthworks Assessments are based on SHW Series 600 and BS6031.
- Risks from mining (both at the desk based and intrusive stages) are assessed adopting guidance from CIRIA C758.

Re-Use of Waste Soils Guidance

Definition of Waste
The Environment Agency considers waste to be "*...any material that is discarded, or intended to be discarded...*" this includes any soil from drainage trenches, foundation arisings, site strips etc. It is no longer required in its original location, therefore it is considered to be waste. Without an appropriate materials management plan, permit or exemption in place, by law this material is defined as "illegally deposited waste".

Landfill tax rules allow HM Revenue & Customs (HMRC) to recover landfill tax on illegally deposited waste on construction sites. This could lead to excessive costs without the correct documentation in place. In addition, a

person who makes, knowingly causes or knowingly facilitates a disposal to be made at an unauthorised site is also liable to pay Landfill Tax.

CL:AIRE: Code of Practice
Where materials are excavated for construction purposes, wherever possible these should be retained on site for engineering purposes if they are suitable for use. This can be implemented under the CL:AIRE "Development Industry Code of Practice for the Definition of Waste" (CL:AIRE DoWCoP), also commonly referred to as a "Materials Management Plan".

https://www.claire.co.uk/projects-and-initiatives/dow-cop

Developers and contractors are advised to complete all works under the DoWCoP where applicable.

To implement the DoWCoP (for Route A), there is a requirement to notify the Environment Agency and Local Authority of the intention to use the code of practice in principle, after which there is a 21-day notice period for their response.

In order to re-use soils under the DoWCoP, there are four key criteria that need to be met:

- The aims and objectives of the project meet the requirements of the Waste Framework Directive (does not harm human health or the environment).
- The soils can be demonstrated to be suitable for use (backed up by chemical/geotechnical testing and assessment).
- There is certainty of use (planning consents are in place alongside materials tracking, which should be in place as part of good site practice in any case).
- Quantity (the quantity of materials used should be known).

Potential scenarios where soils may be able to be re-used:

- Material capable of being used in another place on the same site without treatment.
- Material capable of being used in another place on the same site following ex-situ treatment on site.
- Material capable of being used in another development site without treatment (Direct Transfer).
- Material capable of being used in another development site following ex-situ treatment on another site e.g. Hub site.

In order to satisfy these requirements, the following are required:

i) Consultation/approval with Local Authority & Environment Agency to confirm they have no objections to the proposed re-use of waste soils, or the risk assessments for the site.
ii) Risk Assessments to demonstrate that the site does not present an Environmental Hazard.
iii) Remediation Strategy for contaminated sites (or Design Statement for non-contaminated sites).
iv) Materials Management Plan (MMP) which details material generated stockpiles and the end use.
v) Volume calculations.
vi) Planning permission for the development.
vii) Contractual details to be clear, regarding who steps in is a contractor goes into administration/liquidation.

The use of the CoP is effectively industry regulated, there is a requirement to appoint an independent Qualified Person (QP) who checks all the requirements have been met and registers the documentation with the Environment Agency. This person must not have had any involvement with the preparing of the risk assessments or remedial strategy on the site.

Soils which require treatment on site (e.g. bioremediation, stabilisation etc) may require an Environmental Permit for treatment, together with justification and validation to prove, once treated, this material is suitable for use.

Construction activities carried out on uncontaminated soils solely for the purpose of improving geotechnical properties are not generally regarded as waste treatment operations and do not require a permit.

Site management procedures need to be in place to ensure that material is tracked through from excavation stockpiling, treatment and remediation processes. Should the process of material tracking be considered non-robust, or not adhered to, this may fail the test whether excavated materials may be considered non-waste.

Any declared MMP should be amended as new import sources are added.

Regardless of implementing re-use under the code of practice or not, all sites should have some form of materials tracking in place in compliance with current legislation. Any re-use scheme should also be designed to minimise disposal costs. Note that for re-use of landfilled materials or mining wastes, the DoWCoP may not apply and a Waste Recovery Permit (or others) may be required. Liaison with the Environment Agency would be needed on a case by case basis to determine the best option.

Once the project is complete, a verification report detailing soils re-use/import will need to be produced and submitted to CL:AIRE, which may be subject to a random audit process. Sites found to be non-complaint with the CoP can be referred to the EA for further investigation.

Soils Re-use under Exemptions and Permits
Other potential options to allow the re-use and/or import of soils and aggregates on site are provided in the table below. Applies to England/Wales only – Scotland differs.

Re-use Mechanism	Description
U1 Exemption	Can be applied to re-use/import of soils and stones, but only up to 1000 tonnes or for brick and concrete up to 5000 tonnes. This is usually an efficient way to re-use small volumes of waste materials. However, only one U1 can be filled in per site in any 3-year period. Quick and free via online registration.
WRAP Quality Protocols	Describes how processed demolition arisings can be removed from regulatory waste regime. Requires a demonstration of appropriateness by: • Factory Production Control Manual. • Facility Permit (or Exemption). • Grading Analysis.
Waste Framework Directive (WFD) exclusion	In regard to "clean" naturally occurring soils only that are to be re-used on their site of origin, these are covered by a Waste Framework Directive (WFD) exclusion which is an EA regulatory position statement. So long as the project can prove the four criteria listed above for the DoWCoP, then permits or the DoWCoP are not required. However, many projects still use the CoP to ensure compliance.
T5 Screening and blending of waste	The T5 exemption allows you to temporarily treat waste on a small scale to produce aggregate or soil at a particular location, such as a construction or demolition site. The limit is 5,000 tonnes. This applies to: • Screening soil on a demolition site to remove wood and rubble. • Blending soil and compost that has been produced under an exemption on a construction site to produce better soil for landscaping on that site (e.g. peaty deposits). • Crushing waste (except bricks, tiles and concrete) before screening or blending • Grading waste concrete after it has been crushed to produce a certain type of aggregate.
T7 Exemption	The T7 allows treatment of waste bricks, tiles and concrete by crushing, grinding or reducing in size. This needs to be registered with the Local Authority.
Other Permitting Routes	Other options include use under an Environmental Permit (Standard or Bespoke Rules), however these may be a time consuming and costly route, where use of the other above options (if applicable) are likely to be more feasible in construction.

There are also potential non-enforcement positions for re-use e.g. a site has a large volume waste illegally deposited on it (not by landowner). The new owner is keen to re-use waste where possible to reprofile the site (planning condition granted). The DoWCoP could not be used as materials already excavated and deposited as a waste (illegally). The EA may agree that although the DoWCoP not applicable, they would take a non-enforcement position if the works were completed in accordance with the DoWCoP – this would need to be agreed in advance.

Waste Classification and Disposal Guidance for Soils

Introduction
As described in the 'Waste Duty of Care Code of Practice (2016)' any substance or object that the holder discards, intends to discard or is required to discard is a waste. Waste producers have a duty of care to classify the waste they are producing:

- Before it is collected, disposed of or recovered.
- To identify the controls that apply to the movement of the waste.
- To complete waste documents and records.
- To identify suitably authorised waste management options.
- To prevent harm to people and the environment.

The most sustainable and economic method of dealing with waste soil is usually the retention and re-use on site. Where this is not possible there are three main options for the disposal of soils:

1. Disposal to a permitted waste recycling facility.
2. Re-use on another site (subject to the suitability).
3. Disposal to a landfill site.

The disposal to a permitted facility will be subject to the **specific conditions of the permits for each individual facility** and will vary dependent on location and environmental sensitivity of the receiving site. Re-use on another site will also be subject to the acceptability criteria of that site.

The guidance below relates to disposal to **landfill sites only**.

Background for Landfill Disposal
The Landfill Directive places controls on waste disposal. These controls include requirements to follow the waste acceptance procedures and criteria that have been agreed by the Council of the European Union and are laid out in Council Decision 2003/33/EC.

Before a waste can be accepted at a landfill site, the landfill **operator** must be satisfied that the waste meets permit conditions, the waste acceptance procedures (WAP) and waste acceptance criteria (WAC).

If disposal to landfill is the best management option for the waste soils, these procedures **must** be followed or the operator may refuse to accept the waste.

Key Points:

- Not all waste can be landfilled.
- Landfills are classified according to whether they can accept hazardous, non-hazardous or inert wastes.
- Wastes can only be accepted at a landfill if they meet the waste acceptance criteria (WAC) for that class of landfill.
- Most wastes must be treated before you can send them to landfill.
- There are formal processes for identifying and checking wastes that must be followed before wastes can be accepted at a landfill site.

Classification

Wastes are listed in the European Waste Catalogue and grouped according to generic industry, process or waste types. Wastes within the EWC are either hazardous or non-hazardous. Some of these wastes are hazardous without further assessment (absolute entries) or are 'mirror' entries that require further assessment of their hazardous properties in order to determine whether they are hazardous waste.

Waste soil has mirror entries on the EWC and as such the first phase of the waste classification process is that of determining if the waste is hazardous or not i.e. the hazard assessment. The most common EWC waste codes related to soil are:

17 05	Soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 03*	soil and stones containing dangerous substances
17 05 04	soil and stones other than those mentioned in 17 05 03

Soils may contain certain contaminants (e.g. asbestos, oil,) which have prescribed concentration thresholds, that if breached will render the material hazardous waste. These are based on specific "hazardous properties" which include hazards such as carcinogenicity, flammability and toxicity.

In the first instance the concentrations of plausible contaminants within the soil should be identified and wastes should be **classified based on their total concentrations** and classified as either hazardous or non-hazardous waste. WAC analysis must not be used for waste classification.

Waste Definitions

Inert	• Will not undergo any significant physical, chemical or biological transformations. • Will not dissolve. • Will not burn. • Will not physically or chemically react. • Will not biodegrade. • Will not adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm to human health. • Has insignificant total leachability and pollutant content. • Produces a leachate with an ecotoxicity that is insignificant (if it produces leachate).
Non-Hazardous	Is not inert (see above). Is not hazardous (see below).
Hazardous	Soil has hazardous properties as defined in WM3 (Guidance on the classification and assessment of waste (1st edition 2015)- Technical Guidance).
Stable Non-reactive hazardous waste#	Hazardous waste, the leaching behaviour of which will not change adversely in the long-term, under landfill design conditions or foreseeable accidents either: in the waste alone (for example, by biodegradation), under the impact of long-term ambient conditions (for example, water, air, temperature or mechanical constraints) or by the impact of other wastes (including waste products such as leachate and gas).

This option allows hazardous waste that is stable and thus has a low leaching potential to be deposited in cells with a standard of containment consistent with non-hazardous wastes.

WAC Testing

The purpose of WAC analysis is to confirm that the waste complies with the relevant WAC for the receiving landfill. If the waste has any disposal route other than a landfill site (e.g. recycling facility, incineration etc) then WAC is not relevant. Furthermore, the WAC limits **cannot** be used to make an assessment of whether a waste is hazardous. WAC testing does however define if a non-hazardous waste is suitable for an inert landfill.

Classification based on Total Concentrations[1]	Non-Hazardous Waste		Hazardous Waste	
WAC testing	Below inert WAC limit values:	Above inert WAC limit values:	Below hazardous WAC limit values	> WAC limit values

Landfill requirements	INERT landfill	NON-HAZARDOUS landfill[2]	HAZARDOUS landfill	PRE-TREATMENT[3]

1 Total concentrations are defined as tests results on solids as opposed to leachate (i.e. a liquid).
2 Individual sites may have certain limit values pre-determined in their licence.
3 After pre-treatment the material characteristics may have changed to an extent that allow the soil to be re-classified.
4 Possibility that wastes could be classified as stable Nonreactive HAZARDOUS waste in non-hazardous Landfill (e.g. soils containing low concentrations of asbestos, gypsum or sulphate bearing soils).

Waste classified as non-hazardous can be accepted into a non-hazardous landfill without having to pass any numerical WAC.

Soils above hazardous WAC limit values require pre-treatment prior to disposal. The effective pre-treatment, typically involving separation, sorting and screening, can offer cost savings through reducing the hazardous nature and volumes of soil. Costs for disposal of non-hazardous/hazardous soils are significant compared to the disposal of inert material.

Greenfield Sites and Inert Waste
The possibility of automatic inert classification naturally occurring "clean" soils should be explored in accordance with the requirements of paragraph 10 (wastes acceptable without testing at landfills for inert waste) of the Landfill (England and Wales) (Amendment) Regulations (2005). This is the case if:

- They are single stream waste of a single waste type (although different waste types from the list may be accepted together if they are from a single source); and
- There is no suspicion of material or substances such as metals, asbestos, plastics, chemicals, etc to an extent which increases the risk associated with the waste sufficiently to justify contamination and they do not contain other classes of landfill (e.g. the waste producer can characterise the waste based on visual assessment and written description with supporting evidence such as a desk study, subject to agreement by the landfill operator).

Hydrocarbons in Soils
WM3 uses the term Oil or Waste Oil to cover hydrocarbons products such as fuel oil, petrol or diesel. These are defined by WM3 as hazardous under an absolute entry in the List of Wastes. However, hydrocarbons in soils are a mixture rather than a pure product and are therefore not absolute entries.

Known Oils
The simplest scenario is where the identity of the contaminating oil is known or can be identified. If the oil is known the manufacturer's or supplier's REACH compliant safety data sheet for the specific oil can be obtained and the hazard statement codes on that Safety Data Sheet can be used for the hazardous waste assessment.

Where the identity of the oil can only be identified down to a petroleum group level (i.e. the contaminating oil is known to be diesel, but the specific type/brand is unknown), then the classification of that petroleum group should be used in the assessment. The marker compounds associated with that petroleum group may be used to confirm carcinogenicity.

Oils may contain a range of hydrocarbons, so the presence of for instance Diesel Range Organics (DRO) does not enable the assessor to conclude that diesel is present. These hydrocarbons may have arisen from other oils, the laboratory needs to provide an interpretation of the chromatograph to determine if it is consistent with diesel or weathered diesel as a whole.

The concentration of known oils should be determined using a method that as a minimum spans the range in which the carbon numbers for that known oil fall.

Unknown Oils
Where hydrocarbons are contaminating soils, it is likely that the oil will be unknown or cannot be determined.

WM3 states that:

For contaminated land specific consideration must be given to the following before proceeding:

- The presence of other organic contaminants, for example solvents or coal tar that could be detected as hydrocarbons. Coal Tar is not an oil and is considered separately in WM3 example 2. Where the site history or investigation indicates the presence of hydrocarbons from oil and other sources (e.g. coal tar), and the origin of the hydrocarbons cannot reliably be assigned to either, then a worst case approach of considering the hydrocarbons both as waste oil (in accordance with this example) and from other sources, for example coal tar should be taken.
- The presence of diesel, or weathered diesel, should be specifically considered by the laboratory and where this is confirmed by the hydrocarbon profile the oil should be assessed as a known or identified oil (diesel).

The use of marker compounds is optional; however, it is recommended that where possible the marker compounds should be used. WM3 states:

If the identity of the oil is unknown, and the petroleum group cannot be established, then the oil contaminating the waste can be classified as non-carcinogenic/mutagenic due to the presence of oil if all three of the following criteria are met:

- The waste contains benzo[a]pyrene (BaP) at a concentration of less than 0.01% (1/10,000th) of the TPH concentration (This is the carcinogenic limit specified in table 3.1 of the CLP for BaP)
- This has been determined by an appropriate and representative sampling approach in accordance with the principles set out in Appendix D of WM3, and
- The analysis clearly demonstrates, for example by carbon bands or chromatograph, and the laboratory has reasonably concluded that the hydrocarbons present have not arisen from petrol or diesel.

For example:

TPH Concentration (mg/kg)	Petrol or Diesel	BaP (mg/kg)	Classification
10,000	No	0.9	Non- Hazardous
1,000	No	Not available	Hazardous
1,000	Yes	Not relevant	Hazardous

References

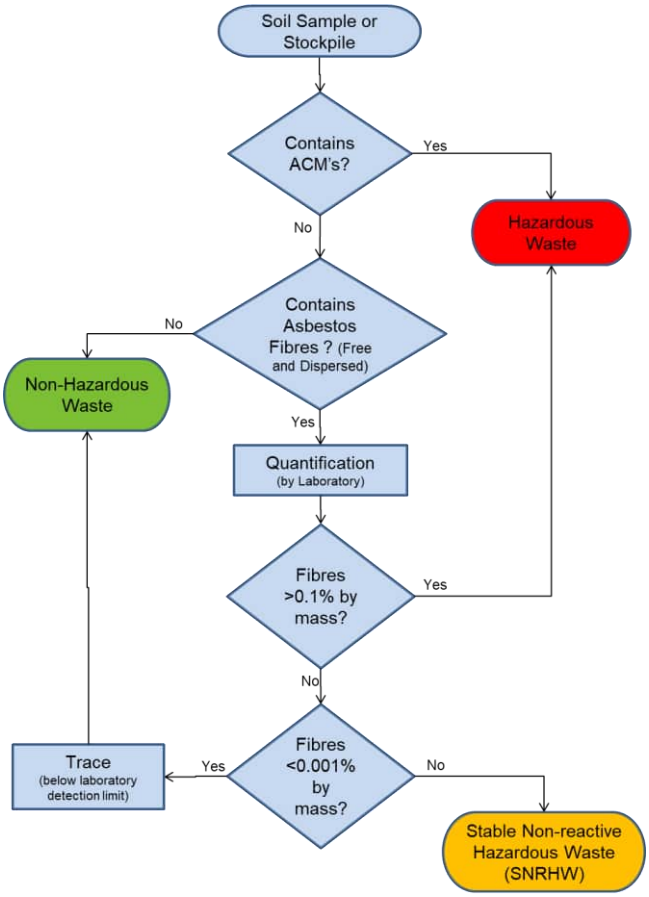
1. Environmental Permitting (England and Wales) Regulations 2010 (as amended) (EP Regulations), the Landfill Directive (1999/31/EC) and the subsequent Council Decisions.
2. Environment Agency Environmental Permitting Regulations: "Inert Waste Guidance- Standards and Measures for the Deposit of Inert Waste on Land" 2009.
3. Environment Agency "Waste acceptance at landfills - Guidance on waste acceptance procedures and criteria" Nov 2010.
4. Environment Agency "Guidance on the classification and assessment of waste (Technical Guidance WM3)".
5. Classification, Labelling and Packaging of Substances Regulation (EC 1272/2008) (CLP).
6. Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives.
7. 2014/955/EU: Commission Decision of 18 December 2014 amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC of the European Parliament.
8. Environmental Permitting Guidance The Landfill Directive For the Environmental Permitting (England and Wales) Regulations 2010 Updated March 2010 Version 3.1.
9. Classification, Labelling and Packaging of Substances Regulation (EC 1272/2008) (CLP).

Waste Containing Asbestos

The assessment of asbestos containing waste is dependent on whether the asbestos is present as:

- Fibres that are free and dispersed, or
- Identifiable pieces of asbestos containing materials (ACM's).

Identifiable pieces of asbestos are any particle of a size that can be identified as potentially being asbestos by a competent person if examined by the naked eye. The result is that commonly soils with visible ACM's are sorted and the ACM's removed by hand picking and separate disposal.



Should soils contain asbestos, the concentration and type of asbestos identified, in addition to the chemical composition (i.e. hazardous or non-hazardous detailed above), will determine which waste code is applicable to the soils and which landfill will accept it as summarised below:

Waste	Conc. by Weight (%)	EWC 2002 Catalogue Entry Code	Waste Disposal Route
Non-hazardous containing asbestos fibres	<0.001 - <0.1%	17 05 04 (soil and stones other than those mentioned in 17 05 03*)	Non-hazardous landfill subject to achieving Waste Acceptance Criteria (WAC) for a stable non-reactive hazardous landfill site.
Hazardous containing asbestos fibres	<0.001 - <0.1%	17 05 03* (soil and stones containing dangerous substances)	Hazardous landfill subject to achieving Waste Acceptance Criteria (WAC) for a hazardous landfill site.
Non-hazardous soils containing asbestos fibres	>0.1%	17 05 03* (soil and stones containing dangerous substances)	Hazardous landfill authorised to receive asbestos, or in a stable non-reactive hazardous waste cell at a non-hazardous landfill authorised to receive asbestos.

Waste	Conc. by Weight (%)	EWC 2002 Catalogue Entry Code	Waste Disposal Route
Non-hazardous Soils containing ACM (Mechanically separable)	>0.1%	17 06 05 (construction material containing asbestos) 17 05 04 (soil and stones other than those mentioned in 17 05 03*)	ACMs disposed of at a hazardous landfill authorised to receive asbestos, or in a stable non-reactive hazardous waste cell at a non-hazardous landfill authorised to receive asbestos. Soils should be disposed of at a non-hazardous landfill subject to achieving Waste Acceptance Criteria (WAC) for a stable non-reactive hazardous landfill site.
Hazardous soils containing ACM	>0.1%	17 05 03* (soil and stones containing dangerous substances)	Hazardous landfill subject to achieving Waste Acceptance Criteria (WAC) for a hazardous landfill site.

Asbestos concentrations below 0.001% by mass are below standard laboratory detection limits and are not currently regarded as containing asbestos for the purposes of disposal and may be disposed of to an inert landfill site[1]. These levels are often termed "trace" by laboratories.

Asbestos concentrations between 0.001% and 0.1% are stable non-reactive hazardous waste (SNRHW)[1]. Waste transfer stations where soil recycling takes place may be able to take SNRHW, but are unlikely to take soils containing asbestos above trace concentrations.

The following codes should be assigned to the asbestos waste as appropriate:

17 06	Insulation materials and asbestos-containing construction materials
17 06 01	Insulation materials containing asbestos
17 06 03	Other insulation materials consisting of or containing hazardous substances
17 06 04	Insulation materials other than those mentioned in 17 06 01 and 17 06 03
17 06 05	Construction material containing asbestos

WM3 indicates that 17 06 05 would normally be used in preference to 17 06 01 for the asbestos in asbestos contaminated soil and stones.

Construction materials containing asbestos and "*other suitable materials*" may be landfilled at landfills for non-hazardous waste in accordance with the Landfill Directive without testing.

This means that wastes that are only hazardous because of their asbestos content can be disposed of at landfills for non-hazardous waste in separate landfill cells that only accept asbestos wastes and other suitable materials. The Landfill Directive requires that stable non-reactive hazardous waste shall not be deposited with biodegradable waste (for example organic material, household waste, paper etc..) and must meet the waste acceptance criteria set out in accordance with Annex II.

Construction

Health and Safety Executive (HSE) guidance on asbestos is not directly related to soil and much of the guidance focuses on the removal of asbestos from buildings. The overarching legislation is the Control of Asbestos Regulation (CAR 2012). However, where work involves (or is likely to involve) contact with asbestos then CAR 2012 requires a risk assessment including whether the work is licensed or notifiable non-licensed work and may require an Asbestos Management Plan. Work becomes notifiable if it is considered that the control limit could be exceeded.

Brownfield sites frequently have soils that contain asbestos and the presence of asbestos needs to be considered within the context of construction, particularly in relation to groundworks. The exposure of soils and the use of excavators and plant to move soil around increases the possibility of fibres becoming airborne. However, it is good site practice to not generate dusts and to employ dust suppression on all sites regardless of the presence of asbestos.

The legal control limit for asbestos is 0.1f/ml over a continuous four-hour period. The control limit is not a '*safe*' level and exposure from work activities involving asbestos must be reduced to as far below the control limit as possible.

Clearly the higher the concentrations in the soil the greater potential there is for fibres to be released, however IOM publication TM/88/14 "the release of dispersed asbestos fibres from soil" 1988 concludes that:

- Mixtures of asbestos in dry soils with asbestos content as low as 0.001% can produce airborne respirable asbestos concentrations greater than 0.1f/ml in dust clouds where the respirable dust concentrations are less than 5mg/m3.
- An action limit is recommended of no higher than 0.001% asbestos in soils above which steps should be taken to minimise exposure to airborne fibres (e.g. by wetting).
- The addition of relatively small quantities (10%) of water can reduce the airborne fibre concentrations by an order of magnitude.

Where asbestos has been identified at concentrations above 0.001% as free and dispersed fibres in the soil precautions need to be adopted. Concentrations below this are considered to be normal background, although good site practice dictates that the generation of dusts should be avoided and therefore any fugitive fibre release from minor concentrations should be kept to a practical minimum.

End Use
The use of materials containing asbestos and material containing asbestos is prohibited under EU legislation.

Asbestos containing materials can remain in situ under a suitable cover system which may be hard surfacing or soft landscaping (with or without hard dig layers and markers).

There is a risk that future maintenance may compromise such systems and details of the presence of asbestos should be kept in the Health and Safety File.

Publications from the JIWG provide guides for decision making in relation to construction.

The re-use of waste soils should be undertaken in accordance with the CL:AIRE Code of Practice and is subject to suitable risk assessments demonstrating low risk. There is nothing that specifically excludes the re-use of soils containing asbestos as fill to raise levels. However, the movement of materials increases the risk of fibres becoming airborne and suitable precautions will be required. Re-use of soils containing asbestos should be as per CARSOILS.

The re-use of soils containing asbestos at concentrations above hazardous waste levels may be met with regulatory opposition. Assuming a suitable strategy could be agreed this would take a considerable amount of time and is only likely to be feasible where there is a long program for implementation.

Asbestos in Soil as Free Fibres

Concentration (by weight)	Waste Disposal				Construction Issues	End Use	
	Recycle	Inert	SNR	Haz		Suitable for re-use on site	Precautions
Not detected	√	√			No precautions necessary, however on a brownfield site asbestos not previously identified may be found during works and a statement within the contractor's method statement for how they will deal with this unforeseen asbestos would be good practice to ensure compliance with CAR2012.	Yes.	None.
Trace (<0.001%)		√ [2]			Precautions are unlikely to be required, however a detailed method statement may be required to ensure compliance with CAR2012. Basic asbestos management good practice will be required. Typically precautions would include: • Ensuring soils do not dry out to become dusty. • Site personnel have the risk communicated at induction stage.	Yes Soils can be re-used under CL:AIRE CoP with the correct precautions in place.	Generally clean cover or hardstanding cover required.
0.001% – 0.099%			√		Contractor needs to produce an Asbestos Management Plan in accordance with CAR2012 as part of their method statement. Typical precautions would include: • Site personnel have the risk communicated at induction stage. • Ensuring personnel have suitable training. • Task monitoring to inform PPE requirements. • Ensuring soils do not dry out to become dusty and that misting is available during groundworks. • Separate stockpiling. • Clean haulage routes.	Possibly. Soils may be able to be re-used under CL:AIRE CoP, subject to a satisfactory Risk Assessment and regulatory agreement with the correct precautions in place.	Clean cover with hard dig/demarcation layer or hardstanding cover required.
0.1+%				√	Contractor needs to produce an Asbestos Management Plan in accordance with CAR2012 as part of their method statement. Typical precautions would include: • Site personnel have the risk communicated at induction stage. • Ensuring personnel have suitable training. • Task monitoring to inform PPE requirements. • Site wide and or perimeter monitoring. • Ensuring soils do not dry out to become dusty and that misting is available during groundworks. • Separate stockpiling.	Unlikely [3] Re-use of soils containing asbestos within an earthworks scheme will involve significant engineering and the risk for generating dusts will be significantly	Clean cover and a hard dig / demarcation layer. A plan should be in place for future excavations as part of the Health and Safety File.

Concentration (by weight)	Waste Disposal				Construction Issues	End Use	
	Recycle	Inert	SNR	Haz		Suitable for re-use on site	Precautions
					• Clean haulage routes. • Decontamination unit	increased with repeated handling and compaction.	

1. The standard laboratory detection limit is normally 0.001%. Below 0.001% is trace and currently regarded as not containing asbestos for the purposes of disposal off site. However the waste producer has a duty to fully classify the waste and the presence of trace asbestos should be declared. Consequently it is unlikely that a waste treatment site will take this soil and an inert landfill may make a commercial decision to only take it under some circumstances.

2 The re-use of soils containing asbestos at concentrations above hazardous waste is likely to meet with regulatory opposition. Assuming a suitable strategy could be agreed this would take a considerable amount of time and is only likely to be warranted where there a long program for implementation.

APPENDIX B

Exploratory Hole Logs

BROWNFIELD SOLUTIONS LTD

Borehole Log

Rotary Open Hole with Rotary Core Follow-on No.

BH201

Sheet 1 of 3

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** RO+RC
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:51
CLIENT:	ATRI7 6 LTD	**DATES:** 05/11/24 - 07/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
		0.05-0.80	ES		0.05			MADE GROUND: Concrete.
					0.80			MADE GROUND: Brown very gravelly clayey sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, slate, ceramics and sandstone.
		1.20	SPT	N=10 (3,3/2,2,3,3)	0.90			MADE GROUND: Concrete.
		1.30-1.70	D					MADE GROUND: Brown very gravelly clayey sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, slate, ceramics and sandstone.
		2.00	SPT	N=12 (2,2/3,4,3,2)				
		2.30-2.70	D					*Some angular fine to coarse gravels of clinker at 2.80m bgl.*
		3.00	SPT	N=4 (1,1/1,1,1,1)				
		3.80-4.00	D		3.70			Very weak red fine to coarse grained moderately weathered SANDSTONE recovered as a gravelly sand. Sand is fine to coarse. Gravel is sub-angular to sub-rounded fine to coarse of sandstone.
		3.80	SPT	N≥50 (25 for 125mm/50 for 85mm)	4.01			Weak red fine to coarse grained moderately weathered SANDSTONE.
		4.50 - 6.00	NR	80 / 80 / 0				
			25					
		6.00 - 7.00	NR	50 / 40 / 0				
			3					
			NI					
			2					
		7.00 - 8.00	6	100 / 95 / 55				
			NI					
			2		7.77			Very weak unweathered red MUDSTONE.
		8.00 - 9.00	12	100 / 100 / 40	7.85			Weak red fine to coarse grained slightly weathered SANDSTONE.
								8.00-9.00m bgl: Discontinuities are extremely close to closely spaced rough undulating horizontal to 45 degrees sub-horizontal.
								8.38-8.50m bgl: Vertical fractures.
		9.00 - 10.00	NR	0 / 0 / 0				*9.00-10.00m bgl: No recovery, suspected sand lense.*
				100 / 80 / 20				
				TCR / SCR / RQD				

1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 1.20m bgl.
3. Groundwater encountered from 12.00m bgl.
4. Borehole sides stable.
5. Window sample borehole to 4.01m bgl, redrilled with rotary open hole to widen borehole from ground level to 4.50m bgl with rotary cored follow on to 32.00m bgl.
6. Installation to 13.00m bgl: 6.00m plain 50mm PVC, 7.00m slotted PVC upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Rotary Open Hole with Rotary Core Follow-on No.

BH201

Sheet 2 of 3

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** RO+RC
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:51
CLIENT:	ATRI7 6 LTD	**DATES:**	05/11/2024 - 07/11/2024

Logged	Checked
AH	NS

Well	Water Strike	Depth (m)	Type / FI	Coring TCR (%)	Coring SCR (%)	Coring RQD (%)	Depth (m)	Level (m OD)	Legend	Stratum Description
		10.00 - 11.00	NI 9	100	95	60				*10.00-10.20m bgl: Not intact.* *10.00-11.00m bgl: Discontinuities are very close to medium spaced rough undulating horizontal to 15 degrees sub-horizontal.*
		11.00 - 12.00	7 NI 2	100	100	60				*10.80-10.85m bgl: Vertical fractures.* *11.00-12.00m bgl: Discontinuities are close to medium spaced rough undulating horizontal to 10 degrees sub-horizontal.*
		12.00 - 13.00	5	100	98	45				*11.68-11.73m bgl: Non intact.* *12.00-13.00m bgl: Discontinuities are close to medium spaced rough undulating horizontal to 45 degrees sub-horizontal.*
		13.00 - 14.00	6 1	100	90	50				*13.00-14.00m bgl: Discontinuities are very close to closely spaced rough undulating horizontal to 10 degrees sub-horizontal.*
		14.00 - 15.00	5 NI 2	100	100	65	14.78 14.88			*13.90-13.92m bgl: Not intact.* *14.00-15.00m bgl: Discontinuities are extremely close to medium spaced rough undulating horizontal to 30 degrees sub-horizontal.* Very weak unweathered red MUDSTONE. *14.78-14.88m bgl: Non intact.*
		15.00 - 16.00	6	100	100	60				Weak red fine to coarse grained slightly weathered SANDSTONE. *15.00-16.00m bgl: Discontinuities are extremely close to medium spaced rough undulating horizontal to 5 degrees sub-horizontal.*
		16.00 - 17.00	7	100	92	67	16.47 16.54			*16.00-17.00m bgl: Discontinuities are extremely close to medium spaced rough undulating horizontal to 30 degrees sub-horizontal.* Extremely weak unweathered red MUDSTONE. Weak red fine to coarse grained slightly weathered SANDSTONE.
		17.00 - 18.00	4 NI 3	93	88	53				*17.00-18.00m bgl: Discontinuities are extremely close to medium spaced rough undulating horizontal to 10 degrees sub-horizontal.* *17.72-17.80m bgl: Non intact.*
		18.00 - 19.50	NR 6 NI 5	100	87	33	18.77 18.84			*18.00-18.10m bgl: No recovery.* *18.10-19.50m bgl: Discontinuities are very close to closely spaced rough undulating horizontal to 5 degrees sub-horizontal.* *18.74-18.82m bgl: Non intact.* Extremely weak unweathered red MUDSTONE. Weak red fine to coarse grained slightly weathered SANDSTONE.
			1 2							*19.50-19.60m bgl: Vertical fractures.* *19.50-21.00m bgl: Discontinuities are extremely close to closely spaced rough undulating horizontal to 20 degrees sub-horizontal.* *19.74-19.75m bgl: Non intact.*

11.0 12.0 13.0 14.0 15.0 16.0 17.0 18.0 19.0 20.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 1.20m bgl.
3. Groundwater encountered from 12.00m bgl.
4. Borehole sides stable.
5. Window sample borehole to 4.01m bgl, redrilled with rotary open hole to widen borehole from ground level to 4.50m bgl with rotary cored follow on to 32.00m bgl.
6. Installation to 13.00m bgl: 6.00m plain 50mm PVC, 7.00m slotted PVC upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Rotary Open Hole with Rotary Core Follow-on No.

BH201

Sheet 3 of 3

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** RO+RC
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:51
CLIENT:	ATRI7 6 LTD	**DATES:**	05/11/2024 - 07/11/2024

Logged	Checked
AH	NS

Well	Water Strike	Depth (m)	Type / FI	Coring TCR (%)	Coring SCR (%)	Coring RQD (%)	Depth (m)	Level (m OD)	Legend	Stratum Description
		19.50 - 21.00	12	100	100	70				*20.54-20.60m bgl: Non intact.*
			NI 3							*20.83-20.91m bgl: Non intact.*
			NI 1							*21.00-22.50m bgl: Discontinuities are very close to medium spaced rough horizontal.*
		21.00 - 22.50	11							
		22.50 - 24.00	6	100	99	53				*22.50-24.00m bgl: Discontinuities are closely spaced rough undulating horizontal to 5 degrees sub-horizontal.*
			3							*23.31-23.34m bgl: Non intact.*
			2							*23.53-23.57m bgl: Non intact.*
			NR							*23.90-24.00m bgl: No recovery.*
		24.00 - 25.50	10	97	93	50				*24.00-25.50m bgl: Discontinuities are very close to closely spaced rough undulating horizontal to 5 degrees sub-horizontal.*
			NR 1							*25.20-25.30m bgl: No recovery.*
		25.50 - 27.00	13	97	97	37				*25.50-27.00m bgl: Discontinuities are very close to closely spaced partly rough undulating horizontal to 10 degrees sub-horizontal.*
			NR							*26.95-27.00m bgl: No recovery.*
		27.00 - 28.50	16	100	100	27				*27.00-27.94m bgl: Discontinuities are extremely close to very closely spaced rough undulating horizontal to 5 degrees sub-horizontal.*
			3							*27.94-28.50m bgl: Discontinuities are very close to closely spaced rough horizontal to 45 degrees sub-horizontal.*
		28.50 - 30.00	5	100	98	80				*28.50-29.09m bgl: Discontinuities are very close to closely spaced rough undulating horizontal to 45 degrees sub-horizontal.*
			4							*29.09-30.00m bgl: Non intact.*
										28.50-29.09m bgl: Discontinuities are close to medium spaced rough undulating horizontal to 10 degrees sub-horizontal.
							30.00			End of Borehole at 30.00m

21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0 30.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 1.20m bgl.
3. Groundwater encountered from 12.00m bgl.
4. Borehole sides stable.
5. Window sample borehole to 4.01m bgl, redrilled with rotary open hole to widen borehole from ground level to 4.50m bgl with rotary cored follow on to 32.00m bgl.
6. Installation to 13.00m bgl: 6.00m plain 50mm PVC, 7.00m slotted PVC upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Rotary Open Hole with Rotary Core Follow-on No.

BH202

Sheet 1 of 4

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** RO+RC
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:51
CLIENT:	ATRI7 6 LTD	**DATES:**	04/11/24 - 06/11/24

Logged	Checked
	NS

Well	Water Strikes	Sample and In Situ Testing					Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results						
		0.00-1.00	ES							MADE GROUND: Brown slightly clayey very gravelly sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete and sandstone.
		1.20	SPT	N=16 (12,12/7,3,3,3)						
		1.30-1.70	D							
		2.00	SPT	N=16 (4,5/6,4,3,3)						
		2.80-3.40	D				2.50			Orangish brown slightly clayey gravelly SAND. Sand is fine to coarse. Gravel is sub-angular to sub-rounded fine to coarse of sandstone.
		3.00	SPT	N=12 (4,3/3,3,3,3)						
		3.90-4.10	D				3.90			Very weak red fine to coarse grained moderately weathered SANDSTONE recovered as a gravelly sand. Sand is fine to coarse. Gravel is sub-angular to sub-rounded fine to coarse of sandstone.
		4.00	SPT	N≥50 (25 for 100mm/50 for 140mm)			4.24			Weak red fine to coarse grained slightly weathered SANDSTONE.
		5.00 - 6.00	NR							
			NI							
			2 NI 2							
		6.00 - 7.00	4	30	10	0				
			8							
			4	100	93	0				
			5							
		7.00 - 8.00	10	90	90	20				
		8.00 - 9.00	4							
			NI							
			6	100	88	15				
			3							
		9.00 - 10.00	15	100	98	45				
				100	100	40				
				TCR	SCR	RQD				

1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 1.20m bgl.
3. Groundwater encountered from 12.00m bgl.
4. Borehole sides stable.
5. Window sample borehole to 4.24m bgl, redrilled with rotary open hole to widen borehole from ground level to 5.00m bgl with rotary cored follow on to 32.00m bgl.
6. Installation to 13.00m bgl: 6.00m plain 50mm PVC, 7.00m slotted PVC upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Rotary Open Hole with Rotary Core Follow-on No.

BH202

Sheet 2 of 4

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** RO+RC
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:51
CLIENT:	ATRI7 6 LTD	**DATES:**	04/11/2024 - 06/11/2024

Logged	Checked
	NS

Well	Water Strike	Depth (m)	Type / FI	Coring TCR (%)	Coring SCR (%)	Coring RQD (%)	Depth (m)	Level (m OD)	Legend	Stratum Description
		10.00 - 11.00	11	100	95	40	10.35			Interbedded very weak red unweathered MUDSTONE and fine to coarse grained unweathered SANDSTONE. Weak red fine to coarse grained slightly weathered SANDSTONE.
		11.00 - 12.00	10				10.65			*11.00-12.00m bgl: Discontinuities are very close to closely spaced partly open to open rough undulating horizontal to 5 degrees subhorizontal.*
	▼	12.00 - 13.00	NI 1 2 NI 3 4	100	93	60				*11.90-11.95m bgl: Non intact.* *12.00-13.00m bgl: Discontinuities are very close to closely spaced partly open to open rough undulating horizontal to 5 degrees subhorizontal.* *12.14-12.18m bgl: Non intact.* *12.24-12.27m bgl: Non intact.*
		13.00 - 14.00	NR 3 6	90	85	40				*13.00-13.10m bgl: No recovery.* *12.00-13.00m bgl: Discontinuities are very close to closely spaced tight to open rough undulating horizontal to 5 degrees subhorizontal.* *13.22-13.26m bgl: Non intact.*
		14.00 - 15.00	NI 7 NI 1	100	75	45				*14.00-14.20m bgl: Non intact.* *14.00-15.00m bgl: Discontinuities are very close to closely spaced open rough undulating horizontal to 5 degrees subhorizontal.* *14.80-14.85m bgl: Non intact.*
		15.00 - 16.00	8 3	100	98	30				*15.00-16.00m bgl: Discontinuities are very close to closely spaced rough undulating horizontal to 10 degrees sub-horizontal.* *15.73-15.75m bgl: Non intact.*
		16.00 - 17.00	8	100	94	40				*16.00-17.00m bgl: Discontinuities are very close to closely spaced rough undulating horizontal to 10 degrees sub-horizontal.* *16.43-16.49m bgl: Vertical fractures.*
		17.00 - 18.00	10	100	100	45				*17.00-18.00m bgl: Discontinuities are extremely close to closely spaced rough undulating horizontal to 5 degrees sub-horizontal.*
		18.00 - 19.00	5	100	100	70				*18.00-19.00m bgl: Discontinuities are very close to medium spaced spaced rough undulating horizontal to 5 degrees sub-horizontal.* *18.62-19.40m bgl: Fine to medium grained SANDSTONE.*
		19.00 - 20.00	7	100	100	80				*19.00-20.00m bgl: Discontinuities are extremely close to medium spaced partly open to open rough undulating horizontal to 20 degrees sub-horizontal.*
				90	90	40				

11.0 12.0 13.0 14.0 15.0 16.0 17.0 18.0 19.0 20.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 1.20m bgl.
3. Groundwater encountered from 12.00m bgl.
4. Borehole sides stable.
5. Window sample borehole to 4.24m bgl, redrilled with rotary open hole to widen borehole from ground level to 5.00m bgl with rotary cored follow on to 32.00m bgl.
6. Installation to 13.00m bgl: 6.00m plain 50mm PVC, 7.00m slotted PVC upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Rotary Open Hole with Rotary Core Follow-on No.

BH202

Sheet 3 of 4

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** RO+RC
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:51
CLIENT:	ATRI7 6 LTD	**DATES:**	04/11/2024 - 06/11/2024

Logged	Checked
	NS

Well	Water Strike	Depth (m)	Type / FI	Coring TCR (%)	Coring SCR (%)	Coring RQD (%)	Depth (m)	Level (m OD)	Legend	Stratum Description
		20.00 - 21.00	NR 7	100	100	50				*20.00-20.10m bgl: No recovery.* *20.10-21.00m bgl: Discontinuities are very close to closely spaced rough undulating horizontal.* *20.60-20.95m bgl: Fine to medium grained SANDSTONE.*
		21.00 - 22.00	8	100	94	20				*21.00-22.00m bgl: Discontinuities are very close to closely spaced rough undulating horizontal to 15 degrees sub-horizontal.*
		22.00 - 23.00	2 NI 11	100	95	45				*22.00-23.00m bgl: Discontinuities are very closely spaced rough undulating horizontal to 10 degrees sub-horizontal.* *22.16-22.22m bgl: Non intact.*
		23.00 - 24.00	NI 13	100	85	40				*23.00-23.05m bgl: Non intact.* *23.00-24.00m bgl: Discontinuities are extremely close to closely spaced rough undulating horizontal to 15 degrees sub-horizontal.*
		24.00 - 25.00	NI 4 NI 5	90	89	55				*24.00-24.10m bgl: Non intact.* *24.00-25.00m bgl: Discontinuities are very close to closely spaced rough undulating horizontal to 20 degrees sub-horizontal.* *24.25-24.30m bgl: Non intact.*
		25.00 - 26.00	7	100	95	50				*25.00-26.00m bgl: Discontinuities are very close to medium spaced rough undulating horizontal to 45 degrees sub-horizontal.* *25.58-25.60m bgl: Vertical fractures.*
		26.00 - 27.00	6	100	93	65				*26.00-27.00m bgl: Discontinuities are close to medium spaced rough undulating horizontal.* *26.95-27.00m bgl: Vertical fractures.*
		27.00 - 28.00	4 NI 2	100	95	55	27.61 27.68			*27.00-28.00m bgl: Discontinuities are close to medium spaced rough undulating horizontal to 15 degrees sub-horizontal.* Very weak unweathered red MUDSTONE. *27.61-27.68m bgl: Non intact.*
		28.00 - 29.00	4 NI 3	100	100	75				Weak red fine to coarse grained slightly weathered SANDSTONE. *28.00-29.00m bgl: Discontinuities are close to medium spaced rough undulating horizontal to 5 degrees sub-horizontal.* *28.46-28.51m bgl: Non intact.*
		29.00 - 30.00	3	100	98	75				*29.00-30.00m bgl: Discontinuities are close to medium spaced rough undulating horizontal.* *29.11-29.35m bgl: Fine to medium grained SANDSTONE.*

21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0 30.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 1.20m bgl.
3. Groundwater encountered from 12.00m bgl.
4. Borehole sides stable.
5. Window sample borehole to 4.24m bgl, redrilled with rotary open hole to widen borehole from ground level to 5.00m bgl with rotary cored follow on to 32.00m bgl.
6. Installation to 13.00m bgl: 6.00m plain 50mm PVC, 7.00m slotted PVC upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Rotary Open Hole with Rotary Core Follow-on No.

BH202

Sheet 4 of 4

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** RO+RC
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:51
CLIENT:	ATRI7 6 LTD	**DATES:**	04/11/2024 - 06/11/2024

Logged	Checked
	NS

Well	Water Strike	Depth (m)	Type / FI	Coring TCR (%)	Coring SCR (%)	Coring RQD (%)	Depth (m)	Level (m OD)	Legend	Stratum Description
[redacted]		30.00 - 31.00	2	100	100	70	32.00			*30.00-31.00m bgl: Discontinuities are close to medium spaced rough undulating horizontal to 15 degrees sub-horizontal.*
			4							*30.28-30.30m bgl: Non intact.*
		31.00 - 32.00	7							*30.00-31.00m bgl: Discontinuities are very close to medium spaced rough undulating horizontal to 10 degrees sub-horizontal.*
										End of Borehole at 32.00m

31.0
32.0
33.0
34.0
35.0
36.0
37.0
38.0
39.0
40.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 1.20m bgl.
3. Groundwater encountered from 12.00m bgl.
4. Borehole sides stable.
5. Window sample borehole to 4.24m bgl, redrilled with rotary open hole to widen borehole from ground level to 5.00m bgl with rotary cored follow on to 32.00m bgl.
6. Installation to 13.00m bgl: 6.00m plain 50mm PVC, 7.00m slotted PVC upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Trial Pit Log

No.
SA201
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** TP
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:25
CLIENT:	ATRI7 6 LTD	**DATES:** 08/11/24	**Logged** AH / **Checked** NS

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.10-1.00	ES		0.05			MADE GROUND: Concrete.
	1.50-2.40	D					MADE GROUND: Brown slightly clayey very gravelly sand with moderate cobble content. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse of brick, concrete, sandstone, slate, ceramics and metal. Cobbles of angular to sub-angular brick and concrete up to 250mm in diameter.
				2.40			End of Trial Pit at 2.40m

1.0
2.0
3.0
4.0
5.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. No groundwater encountered.
3. Excavation sides unstable.
4. Excavation backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Trial Pit Log

No.
SA201A
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** TP
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:25
CLIENT:	ATRI7 6 LTD	**DATES:** 08/11/24	**Logged** AH / **Checked** NS

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.00-1.00	ES					MADE GROUND: Brown slightly clayey very gravelly sand with moderate cobble content. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse of brick, concrete, sandstone, slate, ceramics and metal. Cobbles of angular to sub-angular brick and concrete up to 250mm in diameter.
				1.40			End of Trial Pit at 1.40m

1.0
2.0
3.0
4.0
5.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. No groundwater encountered.
3. Excavation sides unstable.
4. Excavation backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Trial Pit Log

No.
SA202
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** TP
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:25
CLIENT:	ATRI7 6 LTD	**DATES:** 08/11/24	**Logged** AH / **Checked** NS

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.00-1.00	ES					MADE GROUND: Brown slightly clayey very gravelly sand with moderate cobble content. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse of brick, concrete, sandstone, slate, ceramics and metal. Cobbles of angular to sub-angular brick and concrete up to 250mm in diameter.
	1.50-2.50	D					
	2.50-3.40	D					
				3.40			End of Trial Pit at 3.40m

1.0
2.0
3.0
4.0
5.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. No groundwater encountered.
3. Excavation sides unstable.
4. Excavation backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Trial Pit Log

No.
SA202A
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type**: TP
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale**: 1:25
CLIENT:	ATRI7 6 LTD	**DATES:** 08/11/24	**Logged**: AH / **Checked**: NS

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.00-1.00	ES					MADE GROUND: Brown slightly clayey very gravelly sand with moderate cobble content. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse of brick, concrete, sandstone, slate, ceramics and metal. Cobbles of angular to sub-angular brick and concrete up to 250mm in diameter.
	1.50-2.50	D					
							Low cobble content from 2.00m bgl.
	2.50-3.50	D					
				3.70			End of Trial Pit at 3.70m

1.0
2.0
3.0
4.0
5.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. No groundwater encountered.
3. Excavation sides unstable.
4. Excavation backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Trial Pit Log

No.
TP201
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type**: TP
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale**: 1:25
CLIENT:	ATRI7 6 LTD	**DATES:** 07/11/24	**Logged**: AH / **Checked**: NS

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.00-1.00	ES					MADE GROUND: Brown slightly clayey gravelly sand with moderate cobble content. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse of brick, concrete, sandstone, slate and plastic with occassional wood. Cobbles are angular to sub-angular of brick and concrete up to 170mm in diameter.
	1.00-2.00	ES					
				2.00			End of Trial Pit at 2.00m

1.0
2.0
3.0
4.0
5.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. No groundwater encountered.
3. Excavation sides unstable.
4. Excavation backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Trial Pit Log

No.
TP202
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type**: TP
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale**: 1:25
CLIENT:	ATRI7 6 LTD	**DATES:** 07/11/24	**Logged**: AH / **Checked**: NS

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.00-0.50	ES					MADE GROUND: Brown slightly clayey gravelly sand with moderate cobble content. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse of brick, concrete, sandstone, slate, plastic and occasional wood. Cobbles are angular to sub-angular of brick and concrete up to 170mm in diameter.
				0.50			
	0.60-0.80	D					MADE GROUND: Orangish brown slightly clayey very gravelly sand. Sand is fine to coarse. Gravel is sub-angular to sub-rounded fine to coarse of sandstone.
				0.90			
	1.00-1.80	D					MADE GROUND: Brown slightly clayey gravelly sand with moderate cobble content. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse of brick, concrete, sandstone, slate and plastic with occasional wood. Cobbles are angular to sub-angular of brick and concrete up to 170mm in diameter.
				1.90			
	2.00-2.20	D					Orangish brown gravelly SAND. Sand is fine to coarse. Gravel is sub-rounded to rounded fine to coarse of sandstone.
				2.30			End of Trial Pit at 2.30m

1.0
2.0
3.0
4.0
5.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. No groundwater encountered.
3. Excavation sides unstable.
4. Excavation backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Trial Pit Log

No.
TP203
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type**: TP
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale**: 1:25
CLIENT:	ATRI7 6 LTD	**DATES:**	07/11/24

Logged	Checked
AH	NS

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.00-1.00	ES					MADE GROUND: Brown slightly clayey gravelly sand with low cobble content. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse of brick, concrete, sandstone and slate with occasional plastic and metal. Cobbles are angular to sub-angular of brick and concrete up to 170mm in diameter.
	1.50-2.50	D					
				2.80			Orangish brown gravelly SAND. Sand is fine to coarse. Gravel is sub-rounded to rounded fine to coarse of sandstone.
				2.90			End of Trial Pit at 2.90m

1.0
2.0
3.0
4.0
5.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. No groundwater encountered.
3. Excavation sides unstable.
4. Excavation backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Trial Pit Log

No.
TP204
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type**: TP
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale**: 1:25
CLIENT:	ATRI7 6 LTD	**DATES:** 07/11/24	**Logged**: AH / **Checked**: NS

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.00-1.00	ES					MADE GROUND: Brown slightly clayey gravelly sand with moderate cobble content. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse of brick, concrete, sandstone and slate with occasional plastic and metal. Cobbles are angular to sub-angular of brick and concrete up to 400mm in diameter.
	1.00-2.00	D					
				2.40			Orangish brown clayey SAND. Sand is fine to coarse.
				2.50			End of Trial Pit at 2.50m

1.0
2.0
3.0
4.0
5.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. No groundwater encountered.
3. Excavation sides unstable.
4. Excavation backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Trial Pit Log

No.
TP205
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** TP
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:25
CLIENT:	ATRI7 6 LTD	**DATES:** 07/11/24	**Logged** AH / **Checked** NS

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.00-0.90	ES					MADE GROUND: Brown slightly clayey gravelly sand with moderate cobble content. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse of brick, concrete, sandstone and slate with occasional plastic and metal. Cobbles are angular to sub-angular of brick and concrete up to 400mm in diameter.
	1.00-1.50 1.00	D HSV	88kPa	0.90			Soft orangish brown very sandy CLAY. Sand is fine to coarse.
	1.50-2.00 1.50	D HSV	107kPa				
	2.30-3.30	D		2.20			Orangish brown clayey gravelly SAND. Sand is fine to coarse. Gravel is sub-rounded to rounded fine to coarse of sandstone.
				3.30			End of Trial Pit at 3.30m

1.0
2.0
3.0
4.0
5.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. No groundwater encountered.
3. Excavation sides stable.
4. Excavation backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Trial Pit Log

No.
TP206
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type**: TP
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale**: 1:25
CLIENT:	ATRI7 6 LTD	**DATES:** 07/11/24	**Logged**: AH / **Checked**: NS

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.00-1.00	ES					MADE GROUND: Brown slightly clayey gravelly sand with high cobble content. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse of brick, concrete, sandstone and slate with occasional plastic, wood and metal. Cobbles are angular to sub-angular of brick and concrete up to 200mm in diameter.
	1.50-2.50	D					
				3.10			End of Trial Pit at 3.10m

1.0
2.0
3.0
4.0
5.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. No groundwater encountered.
3. Excavation sides unstable.
4. Excavation backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Trial Pit Log

No.
TP207
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** TP
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:25
CLIENT:	ATRI7 6 LTD	**DATES:** 08/11/24	**Logged** AH / **Checked** NS

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.00-1.40	ES					MADE GROUND: Brown slightly clayey gravelly sand with moderate cobble content. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse of brick, concrete, sandstone, slate and plastic with occasional wood. Cobbles are angular to sub-angular of brick and concrete up to 170mm in diameter.
				1.40			Orangish brown slightly clayey gravelly SAND. Sand is fine to coarse. Gravel is sub-rounded to rounded fine to coarse of sandstone.
				2.40			End of Trial Pit at 2.40m

1.0
2.0
3.0
4.0
5.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. No groundwater encountered.
3. Excavation sides stable.
4. Excavation backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Trial Pit Log

No.
TP208
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type**: TP
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale**: 1:25
CLIENT:	ATRI7 6 LTD	**DATES:**	08/11/24

Logged	Checked
AH	NS

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.00-1.00	ES					MADE GROUND: Brown clayey gravelly sand with moderate cobble content. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse of brick, concrete, sandstone, glass, plastic, wood and ceramics. Cobbles are angular to sub-angular of brick and concrete up to 200mm in diameter.
	1.50-1.70 1.50	D HSV	63kPa	1.40			Firm orangish brown sandy CLAY. Sand is fine to coarse.
				2.00			Orangish brown slightly clayey gravelly SAND. Sand is fine to coarse. Gravel is sub-rounded to rounded fine to coarse of sandstone.
				2.20			End of Trial Pit at 2.20m

1.0
2.0
3.0
4.0
5.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. No groundwater encountered.
3. Excavation sides stable.
4. Excavation backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Trial Pit Log

No.
TP209
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type**: TP
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale**: 1:25
CLIENT:	ATRI7 6 LTD	**DATES:** 08/11/24	**Logged**: AH / **Checked**: NS

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.00-1.00	ES					MADE GROUND: Brown slightly clayey gravelly sand with moderate cobble content. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse of brick, concrete, sandstone, slate and plastic with occasional wood. Cobbles are angular to sub-angular of brick and concrete up to 170mm in diameter.
	1.50-2.00	D					
				2.30			Orangish brown slightly clayey gravelly SAND. Sand is fine to coarse. Gravel is sub-rounded to rounded fine to coarse of sandstone.
				2.50			End of Trial Pit at 2.50m

1.0
2.0
3.0
4.0
5.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. No groundwater encountered.
3. Excavation sides stable.
4. Excavation backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS201
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:**	05/11/24

Logged	Checked
AH	NS

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.05-1.00	ES		0.05			MADE GROUND: Concrete.
								MADE GROUND: Brown very gravelly clayey sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, slate, ceramics and sandstone.
		1.20	SPT	N=9 (3,2/2,2,3,2)				
		1.30-1.70	D					
		2.00	SPT	N=5 (3,2/2,1,1,1)				
					2.40			MADE GROUND: Firm brown slightly gravelly sandy clay. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse of sandstone, brick and coal.
		2.70-2.80	D					
		3.00	SPT	N=10 (3,3/2,3,2,3)	3.00			MADE GROUND: Brown very gravelly very clayey sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, slate, ceramics and sandstone.
								Becomes very clayey between 3.20m and 3.50m bgl.
					3.60			Extremely weak moderately weathered red fine to coarse grained SANDSTONE recovered as a gravelly sand. Sand is fine to coarse. Gravel is sub-angular to sub-rounded fine to coarse of sandstone.
		3.70	SPT	N≥50 (25 for 125mm/50 for 115mm)	3.94			End of Borehole at 3.94m

1.0
2.0
3.0
4.0
5.0
6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 1.20m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 3.94m bgl within bedrock.
6. Borehole backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS202
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 05/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
		0.00-1.00	ES					MADE GROUND: Brown very gravelly clayey sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, slate, ceramics and sandstone.
		1.20	SPT	N=9 (2,1/2,2,2,3)				
		1.30-1.70	D					
		2.00	SPT	N=8 (3,3/2,1,2,3)				
		2.30-2.70	D					
		3.00	SPT	N=20 (3,3/2,4,6,8)				
					3.60			Orangish brown slightly clayey very gravelly SAND. Sand is fine to coarse. Gravel is sub-angular to sub-rounded fine to coarse of sandstone.
		3.80-4.00	D		3.70			Extremely weak partially weathered red fine to coarse grained SANDSTONE recovered as a gravelly sand. Sand is fine to coarse. Gravel is sub-angular to sub-rounded fine to coarse of sandstone.
		4.00	SPT	N≥50 (25 for 95mm/50 for 190mm)	4.29			End of Borehole at 4.28m

1.0 2.0 3.0 4.0 5.0 6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 1.20m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 4.28m bgl within bedrock.
6. Installation to 3.50m bgl: 0.50m plain 50mm, 3.00m slotted upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS203
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 05/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.00-0.30	ES		0.30			MADE GROUND: Brown very gravelly clayey sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, slate, ceramics and sandstone.
								End of Borehole at 0.30m

1.0
2.0
3.0
4.0
5.0
6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 0.30m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 0.30m bgl due to sample casing refusal in very dense made ground.
6. Borehole backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS203A
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 05/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					0.30			MADE GROUND: Brown very gravelly clayey sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, slate, ceramics and sandstone.
								End of Borehole at 0.30m

1.0
2.0
3.0
4.0
5.0
6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 0.30m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 0.30m bgl due to sample casing refusal in very dense made ground.
6. Borehole backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS203B
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 05/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.30	SPT	N≥50 (60 for 145mm/15 for 20mm)	0.47			MADE GROUND: Brown very gravelly clayey sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, slate, ceramics and sandstone.
								End of Borehole at 0.46m

1.0
2.0
3.0
4.0
5.0
6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 0.35m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 0.47m bgl due to SPT refusal in very dense made ground.
6. Borehole backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS203C
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 05/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					0.35			MADE GROUND: Brown very gravelly clayey sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, slate, ceramics and sandstone.
								End of Borehole at 0.35m

1.0
2.0
3.0
4.0
5.0
6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 0.35m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 0.35m bgl due to sample casing refusal in very dense made ground.
6. Borehole backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS203D
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 05/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.30	SPT	N≥50 (25 for 85mm/50 for 20mm)	0.40			MADE GROUND: Brown very gravelly clayey sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, slate, ceramics and sandstone.
								End of Borehole at 0.40m

1.0
2.0
3.0
4.0
5.0
6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 0.30m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 0.40m bgl due to SPT refusal in very dense made ground.
6. Borehole backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS204
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 05/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
		0.00-0.80	ES		0.05			MADE GROUND: Concrete.
								MADE GROUND: Brown very gravelly clayey sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, slate, ceramics and sandstone.
		0.80	SPT	N≥50 (75 for 90mm/0 for 0mm)	0.89			*Concrete obstruction observed at 0.89m bgl.*
								End of Borehole at 0.89m

1.0
2.0
3.0
4.0
5.0
6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 0.70m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 0.80m bgl due to concrete obstruction.
6. Borehole backfilled with araisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS204A
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 05/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					0.05			MADE GROUND: Concrete.
					0.30			MADE GROUND: Brown very gravelly clayey sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, slate, ceramics and sandstone.
								End of Borehole at 0.30m

1.0
2.0
3.0
4.0
5.0
6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 0.20m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 0.30m bgl due to sample casing refusal in very dense made ground. 6. Borehole backfilled with araisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS204B
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 05/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.80	SPT	N≥50 (25 for 95mm/50 for 105mm)	0.05			MADE GROUND: Concrete.
								MADE GROUND: Brown very gravelly clayey sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, slate, ceramics and sandstone.
					1.00			End of Borehole at 1.00m

1.0
2.0
3.0
4.0
5.0
6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 0.80m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 1.00m bgl due to sample casing refusal in very dense made ground.
6. Borehole backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS205
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 04/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					0.50			MADE GROUND: Brown slightly clayey very gravelly sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, slate, ceramics and sandstone.
								End of Borehole at 0.50m

1.0
2.0
3.0
4.0
5.0
6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 0.50m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 0.50m bgl due to sample casing refusal in very dense made ground.
6. Borehole backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS205A
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 04/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					0.40			MADE GROUND: Brown slightly clayey very gravelly sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, slate, ceramics and sandstone.
								End of Borehole at 0.40m

1.0
2.0
3.0
4.0
5.0
6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 0.40m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 0.40m bgl due to sample casing refusal in very dense made ground.
6. Borehole backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS205B
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 04/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					0.45			MADE GROUND: Brown slightly clayey very gravelly sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, slate, ceramics and sandstone.
								End of Borehole at 0.45m

1.0
2.0
3.0
4.0
5.0
6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 0.45m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 0.45m bgl due to sample casing refusal in very dense made ground.
6. Borehole backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS205C
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 04/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
		0.00-1.00	ES					MADE GROUND: Brown slightly clayey very gravelly sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, slate, ceramics and sandstone.
		1.20	SPT	N=14 (3,3/3,3,4,4)				
		1.30-1.70	D					
		2.00	SPT	N=4 (3,1/1,1,1,1)				*No SPT recovery at 2.00m bgl.* *Poor recovery between 2.00m and 3.00m bgl.*
		2.40-2.60	D					*Becomes very clayey between 2.40m and 2.60m bgl.*
		3.00-3.60	D		3.00			Orangish brown slightly gravelly SAND. Sand is fine to coarse. Gravel is sub-angular to sub-rounded fine to coarse of sandstone.
		3.00	SPT	N=17 (6,6/4,4,4,5)				
		3.80	SPT	N≥50 (25 for 145mm/50 for 145mm)	3.80			Extremely weak moderately weathered red fine to coarse grained SANDSTONE recovered as a gravelly sand. Sand is fine to coarse. Gravel is sub-angular to sub-rounded fine to coarse of sandstone.
					4.09			End of Borehole at 4.09m

1.0 2.0 3.0 4.0 5.0 6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 1.20m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 4.09m bgl within bedrock.
6. Borehole backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS206
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 04/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.00-0.50	ES		0.50			MADE GROUND: Brown slightly clayey very gravelly sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, slate, ceramics and sandstone.
								End of Borehole at 0.50m

1.0
2.0
3.0
4.0
5.0
6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 0.50m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 0.50m bgl due to sample casing refusal in very dense made ground.
6. Borehole backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS206A
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 04/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					0.50			MADE GROUND: Brown slightly clayey very gravelly sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, slate, ceramics and sandstone.
								End of Borehole at 0.50m

1.0
2.0
3.0
4.0
5.0
6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 0.50m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 0.50m bgl due to sample casing refusal in very dense made ground.
6. Borehole backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS206B
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 04/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					0.40			MADE GROUND: Brown slightly clayey very gravelly sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, slate, ceramics and sandstone.
								End of Borehole at 0.40m

1.0
2.0
3.0
4.0
5.0
6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 0.40m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 0.50m bgl due to sample casing refusal in very dense made ground.
6. Borehole backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS207
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 04/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					0.50			MADE GROUND: Brown slightly clayey very gravelly sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, coal, glass and sandstone.
								End of Borehole at 0.50m

1.0
2.0
3.0
4.0
5.0
6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 0.50m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 0.50m bgl within bedrock.
6. Borehole backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS207A
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 04/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
		0.00-1.00	ES					MADE GROUND: Brown slightly clayey very gravelly sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, coal, glass and sandstone.
		1.20	SPT	N=31 (10,8/7,9,8,7)				
		1.30-1.70	D					
		2.00	SPT	N=20 (4,4/5,6,5,4)				
		2.30-2.70	D					
		3.00	SPT	N=15 (6,6/5,4,3,3)				
					3.70			
		3.80-4.20	D					Extremely weak moderately weathered red fine to coarse grained SANDSTONE recovered as a gravelly sand. Sand is fine to coarse. Gravel is sub-angular to sub-rounded fine to coarse of sandstone.
		4.00	SPT	N≥50 (25 for 115mm/50 for 105mm)				
					4.22			End of Borehole at 4.22m

1.0 2.0 3.0 4.0 5.0 6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 1.20m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 4.22m bgl within bedrock.
6. Installation to 3.50m bgl: 0.50m plain 50mm PVC, 3.00m slotted PVC upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS208
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 04/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
		0.00-1.00	ES					MADE GROUND: Brown slightly clayey very gravelly sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete, slate, ceramics and sandstone.
		1.00-2.00	ES					
		1.20	SPT	N=17 (5,5/5,4,3,5)				
		2.00	SPT	N=5 (2,1/1,1,2,1)				
		2.50-3.00	D		2.40			Orangish brown slightly gravelly slightly clayey SAND. Sand is fine to coarse. Gravel is sub-angular to sub-rounded fine to coarse of sandstone.
		3.00	SPT	N=15 (3,3/4,3,4,4)				
		3.70-7.10	D		3.60			Extremely weak moderately weathered red fine to coarse grained SANDSTONE recovered as a gravelly sand. Sand is fine to coarse. Gravel is sub-angular to sub-rounded fine to coarse of sandstone.
		4.00	SPT	N≥50 (25 for 125mm/50 for 115mm)				
					4.24			End of Borehole at 4.24m

1.0 2.0 3.0 4.0 5.0 6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 1.20m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 4.24m bgl within bedrock.
6. Borehole backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS209
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 04/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.00-0.50	ES		0.50			MADE GROUND: Brown slightly clayey very gravelly sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete and sandstone.
								End of Borehole at 0.50m

1.0
2.0
3.0
4.0
5.0
6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 0.50m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 0.50m bgl due to sample casing refusal in very dense made ground.
6. Borehole backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS209A
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 04/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.00-1.00	ES					MADE GROUND: Brown slightly clayey very gravelly sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete and sandstone.
		1.20	SPT	N≥50 (25 for 125mm/50 for 20mm)	1.35			End of Borehole at 1.34m

1.0
2.0
3.0
4.0
5.0
6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 1.20m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 1.345m bgl due to SPT refusal in very dense made ground.
6. Borehole backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS209B
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 04/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					0.40			MADE GROUND: Brown slightly clayey very gravelly sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete and sandstone.
								End of Borehole at 0.40m

1.0
2.0
3.0
4.0
5.0
6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 0.40m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 0.40m bgl due to sample casing refusal in very dense made ground.
6. Borehole backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS209C
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 04/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					0.50			MADE GROUND: Brown slightly clayey very gravelly sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse brick, concrete and sandstone.
								End of Borehole at 0.50m

1.0
2.0
3.0
4.0
5.0
6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 0.50m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 0.50m bgl due to sample casing refusal in very dense made ground.
6. Borehole backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Borehole Log

Window Sampler No.
WS210
Sheet 1 of 1

PROJECT NO:	C5504	**CO-ORDS:**	**Hole Type** WS
PROJECT NAME:	VISION, MANCHESTER	**LEVEL:**	**Scale** 1:30
CLIENT:	ATRI7 6 LTD	**DATES:** 04/11/24	**Logged** AH / **Checked** NS

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
		0.00-0.90	ES					MADE GROUND: Brown gravelly clayey sand. Sand is fine to coarse. Gravel is angular to sub-angular fine to coarse of brick, concrete, coal, slate and sandstone.
								Becomes very clayey between 0.90m and 1.50m bgl.
		1.00-1.50	ES					
		1.20	SPT	N=24 (6,6/5,6,6,7)				
		1.50-1.80	D		1.50			Orangish brown slightly clayey slightly gravelly SAND. Sand is fine to coarse. Gravel is sub-angular to sub-rounded fine to coarse of sandstone.
								Becomes very gravelly between 1.80m and 3.10m bgl.
		2.00	SPT	N=20 (4,4/6,4,4,6)				
		2.40-2.60	D					
		3.00	SPT	N=16 (4,5/5,3,4,4)				*No SPT recovery at 3.00m bgl.*
					3.60			Extremely weak moderately weathered red fine to coarse grained SANDSTONE recovered as a gravelly sand. Sand is fine to coarse. Gravel is sub-angular to sub-rounded fine to coarse of sandstone.
		3.70-4.00	D					
		3.90	SPT	N≥50 (25 for 125mm/50 for 145mm)				
					4.17			End of Borehole at 4.17m

1.0 2.0 3.0 4.0 5.0 6.0

Remarks

1. Service clearance undertaken by a BSL engineer using CAT & Genny and GPR.
2. Hand pit excavation to 1.20m bgl.
3. No groundwater encountered.
4. Borehole sides stable.
5. Borehole terminated at 4.17m bgl within bedrock.
6. Installation to 1.50m bgl: 0.50m plain 50mm PVC, 1.00m slotted PVC upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

APPENDIX C

Chemical Testing Results

Brownfield Solutions Ltd
William Smith House
173 - 183 Witton Street
Northwich
Cheshire
CW9 5LP

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i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
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e: reception@i2analytical.com

Analytical Report Number : 24-053869

Project / Site name:	Vision, Manchester	**Samples received on:**	14/11/2024
Your job number:	C5504	**Samples instructed on/ Analysis started on:**	14/11/2024
Your order number:	638	**Analysis completed by:**	21/11/2024
Report Issue Number:	1	**Report issued on:**	22/11/2024
Samples Analysed:	6 soil samples		

Signed:

Trevor Hill
Customer Service Advisor
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 24-053869
Project / Site name: Vision, Manchester
Your Order No: 638

Lab Sample Number				379526	379527	379528	379529	379530
Sample Reference				WS201	WS205d	TP201	TP208	BH201
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.05-1.00	0.00-1.00	0.00-1.00	0.00-1.00	0.05-0.80
Date Sampled				05/11/2024	04/11/2024	07/11/2024	08/11/2024	05/11/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Stone Content	%	0.1	NONE	41.2	40.2	50.3	41.5	49.6
Moisture Content	%	0.01	NONE	7.9	9.8	9.6	17	13
Total mass of sample received	kg	0.1	NONE	1.2	0.8	0.8	0.8	0.9
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	KWB	KWB	KWB	KWB	KWB
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	11	10.2	10.7	8.4	10.1
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	660	780	760	170	3800
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	329	389	382	82.5	1890
Organic Matter (automated)	%	0.1	MCERTS	1.4	1.4	1.6	2.6	1.7
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	0.79	0.12	0.55	7.1	1.2
Acenaphthylene	mg/kg	0.05	MCERTS	0.15	< 0.05	0.14	0.23	0.17
Acenaphthene	mg/kg	0.05	MCERTS	0.58	0.17	0.38	6.7	1.7
Fluorene	mg/kg	0.05	MCERTS	0.61	0.15	0.44	5.4	1.5
Phenanthrene	mg/kg	0.05	MCERTS	4.8	1.4	3.6	32	11
Anthracene	mg/kg	0.05	MCERTS	0.96	0.32	0.71	7.9	2.7
Fluoranthene	mg/kg	0.05	MCERTS	5.4	2.3	4.2	21	10
Pyrene	mg/kg	0.05	MCERTS	5.2	2.3	4.1	22	10
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.6	1.1	2.1	11	4.6
Chrysene	mg/kg	0.05	MCERTS	2.5	1.1	2.1	10	4.4
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	2.3	1.2	1.9	9.8	4.8
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.3	0.62	1.1	3.4	1.5
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.5	1.1	2	9.1	4.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.1	0.6	0.86	3.4	1.9
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.23	0.09	0.16	0.9	0.35
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.3	0.66	1.1	4	2.2
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	32.2	13.3	25.3	154	62.8
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.1	8.1	11	24	12
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3	0.3	0.4	0.7	0.5
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	16	15	20	16	17
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17	15	20	16	17
Copper (aqua regia extractable)	mg/kg	1	MCERTS	51	30	48	110	98
Lead (aqua regia extractable)	mg/kg	1	MCERTS	78	59	78	270	100
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.4	< 0.3	< 0.3	0.9	0.4
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	15	13	16	21	15
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	67	70	100	180	120

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Analytical Report Number: 24-053869
Project / Site name: Vision, Manchester
Your Order No: 638

Lab Sample Number				379526	379527	379528	379529	379530
Sample Reference				WS201	WS205d	TP201	TP208	BH201
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.05-1.00	0.00-1.00	0.00-1.00	0.00-1.00	0.05-0.80
Date Sampled				05/11/2024	04/11/2024	07/11/2024	08/11/2024	05/11/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.01	MCERTS	-	< 0.010	-	< 0.010	-
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.01	MCERTS	-	< 0.010	-	< 0.010	-
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.01	MCERTS	-	< 0.010	-	< 0.010	-
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-	< 2.0	-	< 2.0	-
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-	< 8.0	-	< 8.0	-
TPHCWG - Aliphatic >EC16 - EC35 EH_CU_1D_AL	mg/kg	10	MCERTS	-	20	-	< 10	-
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-	20	-	< 8.0	-
TPHCWG - Aliphatic >EC35 - EC40 EH_CU_1D_AL	mg/kg	10	NONE	-	< 10	-	< 10	-
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	-	20	-	< 10	-
TPHCWG - Aliphatic >EC5 - EC40 EH_CU+HS_1D_AL	mg/kg	10	NONE	-	20	-	< 10	-
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	MCERTS	-	< 0.010	-	< 0.010	-
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	MCERTS	-	< 0.010	-	< 0.010	-
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.02	MCERTS	-	< 0.020	-	< 0.020	-
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-	< 1.0	-	4.6	-
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	4	-	21	-
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-	10	-	73	-
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-	37	-	88	-
TPHCWG - Aromatic >EC35 - EC40 EH_CU_1D_AR	mg/kg	10	NONE	-	13	-	13	-
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	-	51	-	190	-
TPHCWG - Aromatic >EC5 - EC40 EH_CU+HS_1D_AR	mg/kg	10	NONE	-	64	-	200	-
TPH (>EC5 - EC10) HS_1D_TOTAL	mg/kg	1	NONE	-	< 1.0	-	< 1.0	-
TPH (>EC16 - EC40) EH_CU_1D_TOTAL	mg/kg	10	NONE	-	89	-	170	-
TPH Total >EC5 - EC40 EH_CU+HS_1D_TOTAL	mg/kg	10	NONE	-	84	-	200	-
VOCs								
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.005	MCERTS	-	< 0.005	-	< 0.005	-
Benzene	mg/kg	0.005	MCERTS	-	< 0.005	-	< 0.005	-
Toluene	mg/kg	0.005	MCERTS	-	< 0.005	-	< 0.005	-
Ethylbenzene	mg/kg	0.005	MCERTS	-	< 0.005	-	< 0.005	-
p & m-xylene	mg/kg	0.008	MCERTS	-	< 0.008	-	< 0.008	-
o-Xylene	mg/kg	0.005	MCERTS	-	< 0.005	-	< 0.005	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 24-053869
Project / Site name: Vision, Manchester
Your Order No: 638

Lab Sample Number				379531
Sample Reference				BH202
Sample Number				None Supplied
Depth (m)				0.00-1.00
Date Sampled				04/11/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**	
Stone Content	%	0.1	NONE	50.6
Moisture Content	%	0.01	NONE	8.8
Total mass of sample received	kg	0.1	NONE	1

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	KWB

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	11.1
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	2000
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	989
Organic Matter (automated)	%	0.1	MCERTS	1.6

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.39
Acenaphthylene	mg/kg	0.05	MCERTS	0.12
Acenaphthene	mg/kg	0.05	MCERTS	0.49
Fluorene	mg/kg	0.05	MCERTS	0.46
Phenanthrene	mg/kg	0.05	MCERTS	3.8
Anthracene	mg/kg	0.05	MCERTS	0.89
Fluoranthene	mg/kg	0.05	MCERTS	4.1
Pyrene	mg/kg	0.05	MCERTS	4.1
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.9
Chrysene	mg/kg	0.05	MCERTS	1.9
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	2.1
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.7
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.9
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.14
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.1

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	25.1

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.5
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (III)	mg/kg	1	NONE	19
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19
Copper (aqua regia extractable)	mg/kg	1	MCERTS	100
Lead (aqua regia extractable)	mg/kg	1	MCERTS	120
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	16
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	140

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Analytical Report Number: 24-053869
Project / Site name: Vision, Manchester
Your Order No: 638

Lab Sample Number				379531
Sample Reference				BH202
Sample Number				None Supplied
Depth (m)				0.00-1.00
Date Sampled				04/11/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**	
Petroleum Hydrocarbons				
TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.01	MCERTS	-
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.01	MCERTS	-
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.01	MCERTS	-
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	-
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	-
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	-
TPHCWG - Aliphatic >EC16 - EC35 EH_CU_1D_AL	mg/kg	10	MCERTS	-
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	-
TPHCWG - Aliphatic >EC35 - EC40 EH_CU_1D_AL	mg/kg	10	NONE	-
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	-
TPHCWG - Aliphatic >EC5 - EC40 EH_CU+HS_1D_AL	mg/kg	10	NONE	-
TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	MCERTS	-
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	MCERTS	-
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.02	MCERTS	-
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	-
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	-
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	-
TPHCWG - Aromatic >EC35 - EC40 EH_CU_1D_AR	mg/kg	10	NONE	-
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	-
TPHCWG - Aromatic >EC5 - EC40 EH_CU+HS_1D_AR	mg/kg	10	NONE	-
TPH (>EC5 - EC10) HS_1D_TOTAL	mg/kg	1	NONE	-
TPH (>EC16 - EC40) EH_CU_1D_TOTAL	mg/kg	10	NONE	-
TPH Total >EC5 - EC40 EH_CU+HS_1D_TOTAL	mg/kg	10	NONE	-
VOCs				
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.005	MCERTS	-
Benzene	mg/kg	0.005	MCERTS	-
Toluene	mg/kg	0.005	MCERTS	-
Ethylbenzene	mg/kg	0.005	MCERTS	-
p & m-xylene	mg/kg	0.008	MCERTS	-
o-Xylene	mg/kg	0.005	MCERTS	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number : 24-053869
Project / Site name: Vision, Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
379526	WS201	None Supplied	0.05-1.00	Brown gravelly sand with brick and stones
379527	WS205d	None Supplied	0.00-1.00	Brown loam and sand with gravel and brick
379528	TP201	None Supplied	0.00-1.00	Brown loam and clay with vegetation and stones
379529	TP208	None Supplied	0.00-1.00	Brown loam and clay with vegetation and stones
379530	BH201	None Supplied	0.05-0.80	Brown gravelly sand with brick and stones
379531	BH202	None Supplied	0.00-1.00	Brown loam and clay with brick and stones

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Analytical Report Number : 24-053869
Project / Site name: Vision, Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088-PL	D/W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088-PL	D/W	NONE
Chromium III in soil	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080-PL/L130B	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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Analytical Report Number : 24-053869
Project / Site name: Vision, Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

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Sample Deviation Report

Analytical Report Number : 24-053869

Project / Site name: Vision, Manchester

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH201	N/A	S	379530	c	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	c
BH202	N/A	S	379531	c	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	c
TP201	N/A	S	379528	c	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	c
WS201	N/A	S	379526	c	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	c
WS205d	N/A	S	379527	c	BTEX and/or Volatile organic compounds in soil	L073B	c
WS205d	N/A	S	379527	c	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	c
WS205d	N/A	S	379527	c	Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	L076B/L088-PL	c
WS205d	N/A	S	379527	c	Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	L076B/L088-PL	c

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APPENDIX D

Geotechnical Testing Results

MURRAY RIX
CONSULTANCY, SITE INVESTIGATION
CONSTRUCTION MATERIALS TESTING

TEST REPORT

Client Brownfield Solutions Ltd

Address William Smith House
173-183 Witton Street
Northwich
Cheshire
CW9 5LP

Contract C5504 -
Vision, Manchester

Job Number MRN 24032/40
Date of Issue 29 November 2024

Approved Signatories

S J Hutchings, O P Davies

Notes

1 All remaining samples and remnants from this contract will be disposed 28 days from the date of this report unless you notify us to the contrary.

2 Result certificates, in this report, not bearing a UKAS mark, are not included in our UKAS accreditation schedule.

3 Opinions and interpretations expressed herein are outside the scope of our UKAS accreditation.

4 Certified that the samples have been examined and tested in accordance with the terms of the contract/order and unless otherwise stated conform to the standards/specifications quoted.

5 The results included within the report are representative of the samples submitted for analysis.

6 This certificate should not be reproduced, except in full, without the express permission of the laboratory.

M U R R A Y R I X

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

TEST CERTIFICATE

DETERMINATION OF THE COMPRESSIVE STRENGTH OF INTACT ROCK CORE SPECIMENS

ASTM D7012 - 14 Method C

CLIENT	Brownfield Solutions Ltd
SITE	C5504 - Vision, Manchester
JOB NUMBER	MRN 24032/40

DATE RECEIVED	21-Nov-24	DATE SAMPLED	5, 6, 7-Nov-24
DATE TESTED	25-Nov-24	SAMPLED BY	Client
MATERIAL TESTED	Rock Core		

Sample Number	B/H No.	Sample Depth	Tested By	Diameter (mm)	Length* (mm)	L/D Ratio	Method of Preparation	Load at Failure (kN)	Compressive Strength (N/mm^2)	Description after Test
602203	BH201	12.22-12.52	M.R.	86	172	2.00	Saw / Grinding	82.2	**14.2**	Split vertically top to bottom with no visible end defects
602205	BH201	15.00-15.52	M.R.	86	172	2.00	Saw / Grinding	69.4	**11.9**	Split vertically top to bottom with no visible end defects
602207	BH201	22.40-22.73	M.R.	86	172	2.00	Saw / Grinding	89.8	**15.5**	Split vertically top to bottom with no visible end defects
602211	BH201	29.20-29.55	M.R.	86	172	2.00	Saw / Grinding	104.2	**17.9**	Split vertically top to bottom with no visible end defects
602222	BH202	12.65-13.00	M.R.	86	172	2.00	Saw / Grinding	90.1	**15.5**	Split vertically top to bottom with no visible end defects
602217	BH202	19.22-19.46	M.R.	86	172	2.00	Saw / Grinding	89.4	**15.4**	Split vertically top to bottom with no visible end defects
602220	BH202	27.17-27.42	M.R.	86	172	2.00	Saw / Grinding	117.3	**20.2**	Split vertically top to bottom with no visible end defects
602221	BH202	29.09-29.36	M.R.	86	172	2.00	Saw / Grinding	101.3	**17.4**	Split vertically top to bottom with no visible end defects

Comments / Deviation from standard method / Abnormalities noted during visual inspection.

*Length after sample preparation

NAME O.P. Davies BA (Hons) (Director / Head of Laboratory) SIGNED  DATE 29-Nov-24

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

TEST CERTIFICATE

DETERMINATION OF POINT LOAD STRENGTH INDEX OF ROCK
METHOD IN ACCORDANCE WITH ASTM STANDARD D 5731

CLIENT	Brownfield Solutions Ltd
SITE	C5504 - Vision, Manchester
JOB NUMBER	MRN 24032/40

DATE RECEIVED	21-Nov-24	DATE SAMPLED	5, 6, 7-Nov-24
DATE TESTED	25-Nov-24	SAMPLED BY	Client

MATERIAL	Rock Core
ADVISED SOURCE	Site Investigation Sample

Sample Number	B/H No.	Depth (m)	Test Type*	D (mm)	W** (mm)	Load (P) (kN)	D_e^2 (mm^2)	D_e (mm)	Is (MPa)	F	$I_{s(50)}$ (MPa)
602201	BH201	4.95-5.14	D	85.9		1.2	7378.81	85.90	0.16	1.28	0.21
602202	BH201	8.11-8.27	D	85.4		0.8	7293.16	85.40	0.11	1.27	0.14
602204	BH201	13.51-13.76	D	85.8		1.2	7361.64	85.80	0.16	1.28	0.21
602206	BH201	18.57-18.73	D	85.7		0.4	7344.49	85.70	0.05	1.27	0.07
602208	BH201	22.97-23.12	D	85.9		0.6	7378.81	85.90	0.08	1.28	0.10
602209	BH201	25.60-25.74	D	85.9		1.1	7378.81	85.90	0.15	1.28	0.19
602210	BH201	27.97-28.12	D	85.4		0.9	7293.16	85.40	0.12	1.27	0.16
602212	BH202	7.16-7.32	D	85.9		0.7	7378.81	85.90	0.09	1.28	0.12
602213	BH202	11.41-11.50	D	86.0		1.4	7396.00	86.00	0.19	1.28	0.24
602214	BH202	14.55-14.72	D	85.9		0.7	7378.81	85.90	0.09	1.28	0.12
602216	BH202	18.55-18.71	D	85.8		0.9	7361.64	85.80	0.12	1.28	0.16
602218	BH202	21.00-21.12	D	86.3		1.5	7447.69	86.30	0.20	1.28	0.26
602219	BH202	25.60-25.76	D	86.1		1.0	7413.21	86.10	0.13	1.28	0.17
602215	BH202	15.42-15.66	D	86.2		0.8	7430.44	86.20	0.11	1.28	0.14

Test Type *			
A	Axial Test	D	Diametral Test
B	Block Test	I	Irregular Lump Test

**W Entry required if test type is not Diametral

REMARKS

SIGNED

NAME O.P. Davies BA (Hons) DATE 29-Nov-24
(Director / Head of Laboratory)

Brownfield Solutions Ltd
William Smith House
173 - 183 Witton Street
Northwich
Cheshire
CW9 5LP

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WD18 8YS

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Analytical Report Number : 24-054270

Project / Site name:	Vision, Manchester	**Samples received on:**	18/11/2024
Your job number:	C5504	**Samples instructed on/ Analysis started on:**	18/11/2024
Your order number:	611	**Analysis completed by:**	28/11/2024
Report Issue Number:	1	**Report issued on:**	29/11/2024
Samples Analysed:	10 soil samples		

Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 24-054270
Project / Site name: Vision, Manchester
Your Order No: 611

Lab Sample Number				381744	381745	381746	381747	381748
Sample Reference				TP205	WS207b	WS208	WS210	BH201
Sample Number				CLAY	SDST	SAND	SAND	SDST
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				1.50-2.00	3.80-4.20	2.50-3.00	1.50-1.80	6.70-6.80
Date Sampled				07/11/2024	04/11/2024	04/11/2024	04/11/2024	06/11/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	18	7.8	6.6	4.4	8
Total mass of sample received	kg	0.1	NONE	0.8	0.8	0.8	0.8	0.8
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	7.8	8.1	7.7	7.7	5.7
Total Sulphate as SO_4	%	0.005	MCERTS	-	-	-	-	-
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	160	490	280	99	230
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	-	-	-	-
Water Soluble SO_4 16hr extraction (2:1)	mg/l	1.25	MCERTS	78	247	138	49.4	114
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-	-	-	-
Total Sulphur	mg/kg	50	MCERTS	-	-	-	-	-
Total Sulphur	%	0.005	MCERTS	-	-	-	-	-
Ammoniacal Nitrogen as NH_4^+	mg/kg	0.5	MCERTS	-	-	-	-	-
Ammonium as NH_4^+ (10:1 leachate equivalent)	mg/l	0.05	MCERTS	-	-	-	-	-
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	-	-	-	-	-
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	-	-	-	-	-
Heavy Metals / Metalloids								
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-	-	-	-
Magnesium (water soluble)	mg/kg	5	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 24-054270
Project / Site name: Vision, Manchester
Your Order No: 611

Lab Sample Number				381749	381750	381751	381752	381753
Sample Reference				BH201	BH201	BH202	BH202	WS205d
Sample Number				SDST	SDST	SDST	SDST	SAND
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				10.00-10.20	17.72-17.80	14.00-14.20	24.00-24.10	3.00-3.60
Date Sampled				06/11/2024	06/11/2024	05/11/2024	05/11/2024	05/11/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	6.7
Moisture Content	%	0.01	NONE	9.3	9.3	8.3	8.7	5.1
Total mass of sample received	kg	0.1	NONE	0.8	0.9	0.9	0.8	0.8
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	7.8	8.5	8.5	8.6	8.2
Total Sulphate as SO_4	%	0.005	MCERTS	-	-	0.01	-	0.029
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	200	29	39	45	120
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	-	19.6	-	59.5
Water Soluble SO_4 16hr extraction (2:1)	mg/l	1.25	MCERTS	98.1	14.3	-	22.7	-
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	-	2	-	1.2
Total Sulphur	mg/kg	50	MCERTS	-	-	53	-	83
Total Sulphur	%	0.005	MCERTS	-	-	0.005	-	0.008
Ammoniacal Nitrogen as NH_4^+	mg/kg	0.5	MCERTS	-	-	< 0.5	-	< 0.5
Ammonium as NH_4^+ (10:1 leachate equivalent)	mg/l	0.05	MCERTS	-	-	< 0.05	-	< 0.05
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	-	-	< 2.0	-	< 2.0
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	-	-	< 2.0	-	< 2.0
Heavy Metals / Metalloids								
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	-	3.5	-	2.7
Magnesium (water soluble)	mg/kg	5	NONE	-	-	7	-	5.4

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 24-054270
Project / Site name: Vision, Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
381744	TP205	CLAY	1.50-2.00	Brown clay with gravel
381745	WS207b	SDST	3.80-4.20	Brown sand
381746	WS208	SAND	2.50-3.00	Brown sand with gravel
381747	WS210	SAND	1.50-1.80	Brown sand with gravel
381748	BH201	SDST	6.70-6.80	Brown clay and sand
381749	BH201	SDST	10.00-10.20	Brown clay and sand
381750	BH201	SDST	17.72-17.80	Brown clay and sand
381751	BH202	SDST	14.00-14.20	Brown clay and sand
381752	BH202	SDST	24.00-24.10	Brown clay and sand
381753	WS205d	SAND	3.00-3.60	Brown sand with gravel and stones

Analytical Report Number : 24-054270
Project / Site name: Vision, Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES	In-house method based on TRL 447	L038B	D	NONE
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES	In-house method	L038B	D	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08, 2:1 extraction	L078-PL	W	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
Ammonium as NH4 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

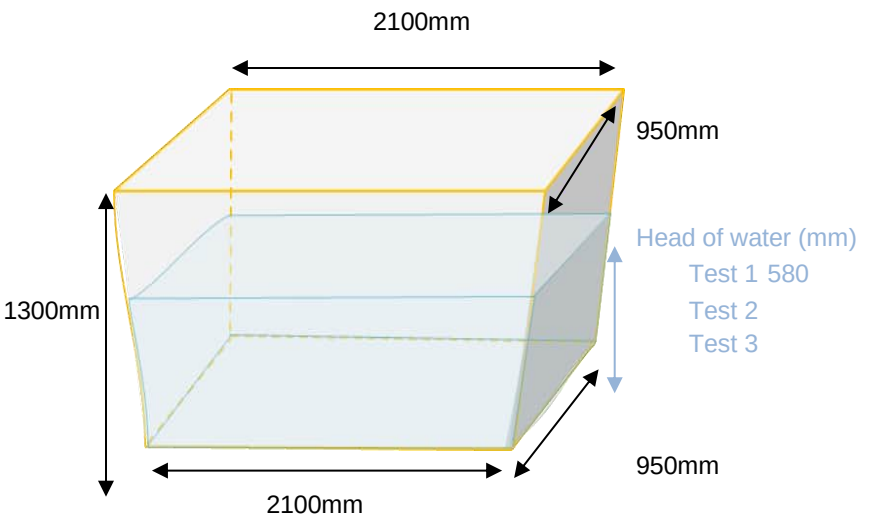
Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

Percolation Test	ATRI7 6 LTD	Date of Test: 03/11/2024
	VISION	Logged By: SJ
SA201A	C5504	Checked By: NS

BROWNFIELD SOLUTIONS LTD

Dimensions (mm)	TEST 1	TEST 2	TEST 3
Length at Top	2100		
Length at Bottom	2100		
Width at Top	950		
Width at Bottom	950		
Depth Tested (Head of Water)	580		
Depth of Excavation	1300		
Volume of Water (m3)	1.1571		
Void Ratio	1		
Factored Volume of Water (m3)	1.1571		
Strata Description	Made Ground: Brown slightly clayey very gravelly sand with moderate cobble content.		
Pit Details	Open with no stone filling See associated log for stratum details		

Test Pit Construction

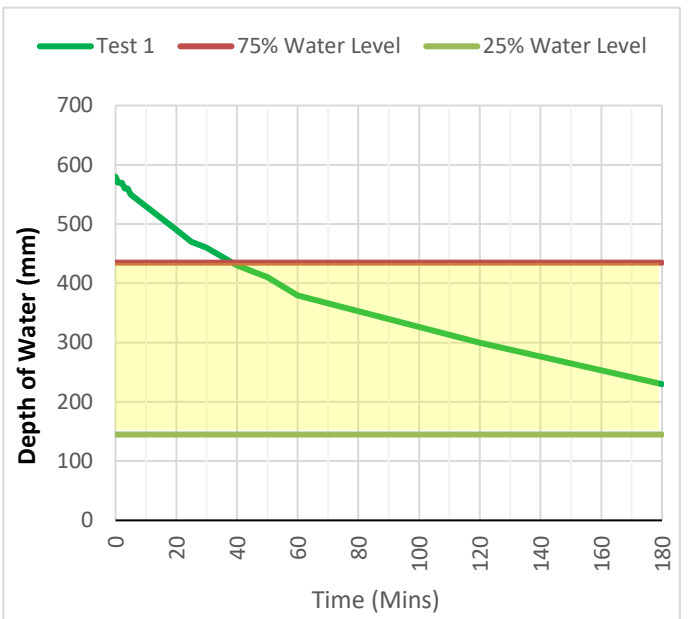


Site Recorded Data

Test 1			Test 2			Test 3		
Time (mins)	Depth to water (mm)	Head of water (mm)	Time (mins)	Depth to water (mm)	Head of water (mm)	Time (mins)	Depth to water (mm)	Head of water (mm)
0.00	720	580						
0.17	722	578						
0.25	724	576						
0.33	725	575						
0.42	726	574						
0.50	728	572						
0.67	729	571						
0.83	730	570						
1.00	730	570						
2.00	730	570						
3.00	740	560						
4.00	740	560						
5.00	750	550						
10.00	770	530						
15.00	790	510						
20.00	810	490						
25.00	830	470						
30.00	840	460						
40.00	870	430						
50.00	890	410						
60.00	920	380						
90.00	960	340						
120.00	1000	300						
180.00	1070	230						

Percolation Test	**ATRI7 6 LTD**	Date of Test: 03/11/2024	BROWNFIELD SOLUTIONS LTD
	VISION	Logged By: SJ	
SA201A	C5504	Checked By: NS	

Data Analysis



Soil Infiltration Rate Calculation

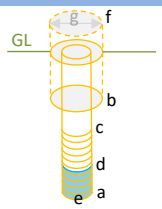
	Test 1	Test 2	Test 3
Water Level 1	1070.000		
Water Level 2	720.000		
Time to drain from Water Level 1 to Level 2 (mi	180.000		
Volume of Water Discharged m3)	0.6982500		
Discharge Area (m3)	7.455		
Soil Infiltration Rate (m/min)	0.0005204		
Soil Infiltration Rate (m/sec)	8.67E-06		

Compliancy Check

	Test 1	Test 2	Test 3
Water Level at 75% effective depth (mm)	435		
Water Level at 25% effective depth (mm)	145		
	Not Compliant with BRE 365 - Insufficient time to drain past 25% effective depth		

Falling Head Permeability Test	**ATRI7 6 LTD**	Date of Test: 27/11/2024	BROWNFIELD SOLUTIONS LTD
	VISION	Logged By: GK	
BH201	C5504	Checked By: NS	

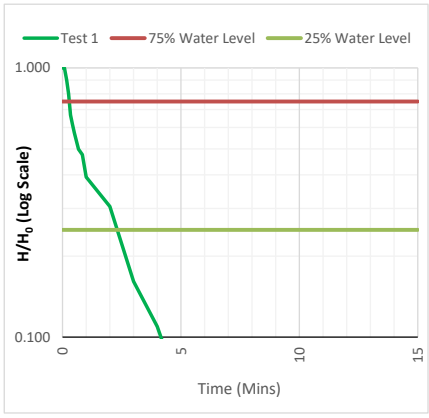
Dimensions (mm)	Test 1	Test 2	Test 3
Bottom of Borehole (a)	12900	12900	12900
Top of Filter Material (c)	6000	6000	6000
Initial Groundwater Level or Base of Hole (d)	9190	9190	9190
Centre of Piezometer Tip (e)			
Height of Casing/Standpipe Above Surface (f)	0	0	0
Diameter of Casing/Standpipe (g)	150	150	150
Length of Filter (above GW table/base of hole)	3190	3190	3190

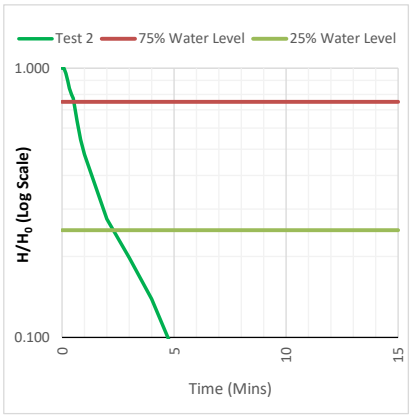


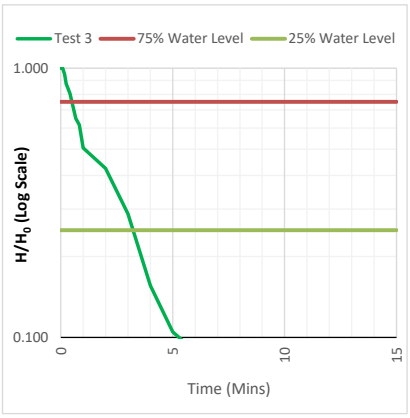
Site Recorded Data

Test 1				Test 2				Test 3			
Time (mins)	Depth to water (mm)	Head of water (mm)	Head Ratio H/H_0	Time (mins)	Depth to water (mm)	Head of water (mm)	Head Ratio H/H_0	Time (mins)	Depth to water (mm)	Head of water (mm)	Head Ratio H/H_0
0.00	6080	3110	1.000	0.00	5450	3740	1.000	0.00	5470	3720	1.000
0.08	6080	3110	1.000	0.08	5450	3740	1.000	0.08	5470	3720	1.000
0.17	6390	2800	0.900	0.17	5610	3580	0.957	0.17	5660	3530	0.949
0.25	6700	2490	0.801	0.25	5840	3350	0.896	0.25	5940	3250	0.874
0.33	7110	2080	0.669	0.33	6040	3150	0.842	0.33	6070	3120	0.839
0.42	7270	1920	0.617	0.42	6210	2980	0.797	0.42	6200	2990	0.804
0.50	7410	1780	0.572	0.50	6300	2890	0.773	0.50	6410	2780	0.747
0.67	7640	1550	0.498	0.67	6810	2380	0.636	0.67	6770	2420	0.651
0.83	7710	1480	0.476	0.83	7160	2030	0.543	0.83	6900	2290	0.616
1.00	7970	1220	0.392	1.00	7400	1790	0.479	1.00	7310	1880	0.505
2.00	8240	950	0.305	2.00	8160	1030	0.275	2.00	7610	1580	0.425
3.00	8690	500	0.161	3.00	8450	740	0.198	3.00	8120	1070	0.288
4.00	8850	340	0.109	4.00	8670	520	0.139	4.00	8610	580	0.156
5.00	9000	190	0.061	5.00	8860	330	0.088	5.00	8800	390	0.105
10.00	9160	30	0.010	10.00	9150	40	0.011	10.00	9020	170	0.046
15.00	9190	0	0.000	15.00	9190	0	0.000	15.00	9190	0	0.000

Data Analysis







Falling Head Permeability Test	ATRI7 6 LTD	Date of Test: 27/11/2024
	VISION	Logged By: GK
BH201	C5504	Checked By: NS

BROWNFIELD SOLUTIONS LTD

Calculation of Intake Factor (F)

		Test 1	Test 2	Test 3
m^2	Cross sectional area of base	0.018	0.018	0.018
m	Diameter	0.150	0.150	0.150
m	Length	3.190	3.190	3.190
	Intake Factor Scenario	Soil flush with bottom in uniform soil		
	Intake Factor, F	**0.4125**	**0.4125**	**0.4125**

Soil Infiltration Rate Calculation

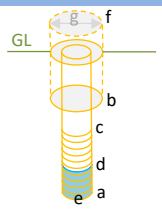
		Test 1	Test 2	Test 3
75% Effective Level	Head (m)	2.333	2.805	2.790
	Depth to water (m bgl)	6.858	6.385	6.380
	Time (mins)	0.30	0.50	0.50
	Time (sec)	18	30	30
25% effective Level	Head (m)	0.778	0.935	0.930
	Depth to water (m bgl)	8.413	8.255	8.260
	Time (mins)	2.50	2.50	3.50
	Time (sec)	150	150	210
m (bgl)	Initial groundwater level	9.19	9.19	9.19
m (bgl)	At time (t_1) Depth to water	6.858	6.385	6.380
seconds	t_1	18	30	30
m (bgl)	Depth of water H_1	2.333	2.805	2.810
m (bgl)	At time (t_2) Depth to water	8.413	8.255	8.260
seconds	t_2	150	150	210
m (bgl)	Depth of water H_2	0.778	0.935	0.930

$$Permeability = k = \frac{A}{F(t_2 - t_1)} Log_e \frac{H_1}{H_2}$$

	Test 1	Test 2	Test 3
Permeability, k (m/s)	**3.57E-04**	**3.92E-04**	**2.63E-04**

Falling Head Permeability Test	**ATRI7 6 LTD**	Date of Test: 27/11/2024	BROWNFIELD SOLUTIONS LTD
	VISION	Logged By: GK	
BH201	C5504	Checked By: NS	

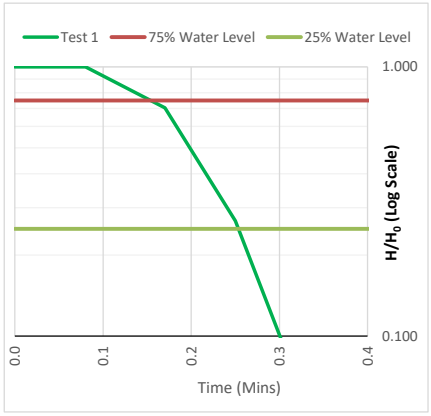
Dimensions (mm)	Test 1	Test 2	Test 3
Bottom of Borehole (a)	3410	3410	3410
Top of Filter Material (c)	500	500	500
Initial Groundwater Level or Base of Hole (d)	3410	3410	3410
Centre of Piezometer Tip (e)			
Height of Casing/Standpipe Above Surface (f)	0	0	0
Diameter of Casing/Standpipe (g)	100	100	100
Length of Filter (above GW table/base of hole)	2910	2910	2910

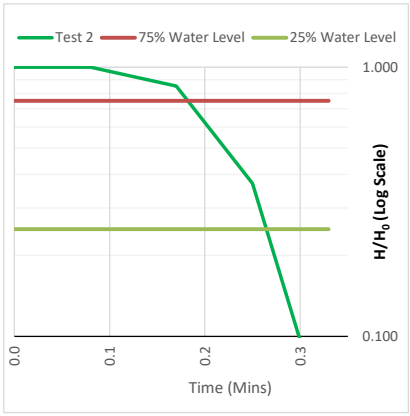


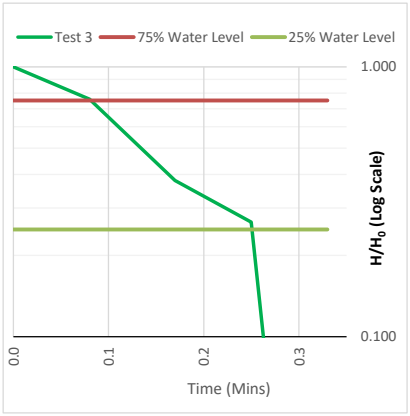
Site Recorded Data

Test 1				Test 2				Test 3			
Time (mins)	Depth to water (mm)	Head of water (mm)	Head Ratio H/H_0	Time (mins)	Depth to water (mm)	Head of water (mm)	Head Ratio H/H_0	Time (mins)	Depth to water (mm)	Head of water (mm)	Head Ratio H/H_0
0.00	2700	710	1.000	0.00	2600	810	1.000	0.000	2620	790	1.000
0.08	2700	710	1.000	0.08	2600	810	1.000	0.080	2810	600	0.759
0.17	2910	500	0.704	0.17	2720	690	0.852	0.170	3110	300	0.380
0.25	3220	190	0.268	0.25	3110	300	0.370	0.250	3200	210	0.266
0.33	3370	40	0.056	0.32	3409	1	0.056	0.320	3409	1	0.001
0.42	3410	0	0.000	0.33	3410	0	0.000	0.330	3410	0	0.000

Data Analysis







Falling Head Permeability Test	ATRI7 6 LTD	Date of Test: 27/11/2024
	VISION	Logged By: GK
BH201	C5504	Checked By: NS

BROWNFIELD SOLUTIONS LTD

Calculation of Intake Factor (F)

		Test 1	Test 2	Test 3
m^2	Cross sectional area of base	0.008	0.008	0.008
m	Diameter	0.100	0.100	0.100
m	Length	2.910	2.910	2.910
	Intake Factor Scenario	Soil flush with bottom in uniform soil		
	Intake Factor, F	**0.275**	**0.275**	**0.275**

Soil Infiltration Rate Calculation

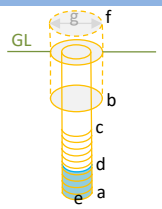
		Test 1	Test 2	Test 3
75% Effective Level	Head (m)	0.533	0.608	0.593
	Depth to water (m bgl)	2.878	2.803	2.798
	Time (mins)	0.15	0.18	0.08
	Time (sec)	9	11	5
25% effective Level	Head (m)	0.178	0.203	0.198
	Depth to water (m bgl)	3.233	3.208	3.213
	Time (mins)	0.25	0.26	0.26
	Time (sec)	15	16	16
m (bgl)	Initial groundwater level	3.41	3.41	3.41
m (bgl)	At time (t_1) Depth to water	2.878	2.803	2.798
seconds	t_1	9	11	5
m (bgl)	Depth of water H_1	0.533	0.608	0.613
m (bgl)	At time (t_2) Depth to water	3.233	3.208	3.213
seconds	t_2	15	16	16
m (bgl)	Depth of water H_2	0.178	0.203	0.198

$$Permeability = k = \frac{A}{F(t_2 - t_1)} Log_e \frac{H_1}{H_2}$$

	Test 1	Test 2	Test 3
Permeability, k (m/s)	**5.23E-03**	**6.54E-03**	**2.99E-03**

Falling Head Permeability Test	**ATRI7 6 LTD**	Date of Test: 27/11/2024	BROWNFIELD SOLUTIONS LTD
	VISION	Logged By: GK	
WS210	C5504	Checked By: NS	

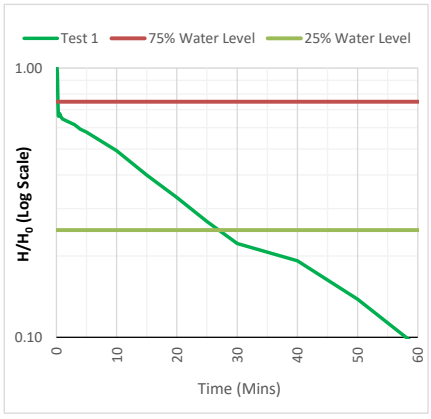
Dimensions (mm)	Test 1	Test 2	Test 3
Bottom of Borehole (a)	1650	1640	
Bottom of Casing (b)			
Top of Filter Material (c)	500	500	
Initial Groundwater Level or Base of Hole (d)	1650	1640	
Centre of Piezometer Tip (e)			
Height of Casing/Standpipe Above Surface (f)	0	0	
Diameter of Casing/Standpipe (g)	100	100	
Length of Filter (above GW table/base of hole)	1150	1150	

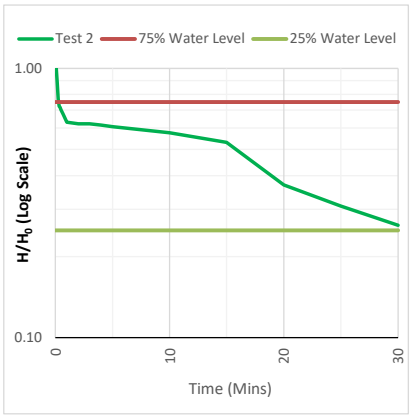


Site Recorded Data

Test 1				Test 2				Test 3			
Time (mins)	Depth to water (mm)	Head of water (mm)	Head Ratio H/H_0	Time (mins)	Depth to water (mm)	Head of water (mm)	Head Ratio H/H_0	Time (mins)	Depth to water (mm)	Head of water (mm)	Head Ratio H/H_0
0.00	350	1300	1.00	0.00	340	1300	1.00				
0.08	350	1300	1.00	0.08	340	1300	1.00				
0.17	410	1240	0.95	0.17	490	1150	0.88				
0.25	710	940	0.72	0.25	640	1000	0.77				
0.33	790	860	0.66	0.33	700	940	0.72				
0.42	790	860	0.66	0.42	710	930	0.72				
0.50	770	880	0.68	0.50	730	910	0.70				
0.67	790	860	0.66	0.67	760	880	0.68				
0.83	800	850	0.65	0.83	790	850	0.65				
1.00	810	840	0.65	1.00	820	820	0.63				
2.00	830	820	0.63	2.00	830	810	0.62				
3.00	850	800	0.62	3.00	830	810	0.62				
4.00	880	770	0.59	4.00	840	800	0.62				
5.00	900	750	0.58	5.00	850	790	0.61				
10.00	1010	640	0.49	10.00	890	750	0.58				
15.00	1130	520	0.40	15.00	950	690	0.53				
20.00	1220	430	0.33	20.00	1160	480	0.37				
25.00	1300	350	0.27	25.00	1240	400	0.31				
30.00	1360	290	0.22	30.00	1300	340	0.26				
40.00	1400	250	0.19								
50.00	1470	180	0.14								
60.00	1530	120	0.09								
90.00	1650	0	0.00								

Data Analysis





Falling Head Permeability Test	**ATRI7 6 LTD**	Date of Test: 27/11/2024 Logged By: GK Checked By: NS	BROWNFIELD SOLUTIONS LTD
	VISION		
WS210	C5504		

Calculation of Intake Factor (F)

		Test 1	Test 2	Test 3
m^2	Cross sectional area of base	0.008	0.008	
m	Diameter	0.100	0.100	
m	Length	1.150	1.150	
	Intake Factor Scenario	Soil flush with bottom in uniform soil		
	Intake Factor, F	**0.275**	**0.275**	-

Soil Infiltration Rate Calculation

		Test 1	Test 2	Test 3
75% Effective Level	Head (m)	0.975	0.975	
	Depth to water (m bgl)	0.675	0.665	
	Time (mins)	0.25	0.30	
	Time (sec)	15	18	
25% effective Level	Head (m)	0.325	0.325	
	Depth to water (m bgl)	1.325	1.315	
	Time (mins)	27.00	30.00	
	Time (sec)	1620	1800	
m (bgl)	Initial groundwater level	1.65	1.64	
m (bgl)	At time (t_1) Depth to water	0.675	0.665	
seconds	t_1	15	18	
m (bgl)	Depth of water H_1	0.975	0.975	
m (bgl)	At time (t_2) Depth to water	1.325	1.315	
seconds	t_2	1620	1800	
m (bgl)	Depth of water H_2	0.325	0.325	

$$Permeability = k = \frac{A}{F(t_2 - t_1)} Log_e \frac{H_1}{H_2}$$

	Test 1	Test 2	Test 3
Permeability, k (m/s)	**1.95E-05**	**1.76E-05**	-

APPENDIX E

Monitoring Results

Ground Gas Monitoring Results

BROWNFIELD SOLUTIONS LTD

CLIENT:	Date	Operator	Analsyer	Weather Observations			Temp (°C)	Pressure Trend	Min Barometric Pressure (mb)	Notes
ATRI7 6 LTD	19/11/2024	AR	GFM436	Overcast	No wind	Cold	3	Rising	996	
JOB NO.	03/12/2024	AR	GFM436	Sunny	No wind	Cold	2	Falling	1017	
C5540	16/12/2024	TW	GFM436	Overcast	No wind	Cool	11	Falling	1023	
SITE:										
VISION, MANCHESTER										

Notes: mb = milibars; CH_4 = methane; LEL = lower explosive limit = 5%v/v; CO_2 = carbon dioxide; O_2 = oxygen; CO=carbon monoxide; H_2S = hydrogen sulphide; TVOC= Total volatile organic compounds; PPM = parts per million. Where the flow is less than the limit of detection of the instrument, the detection limit is reported (Highlighted in **green**). Gas Screening Values (GSVs) are rounded to 3 decimal places. Calibration Records for analysers used availble on request.

Date	Time	Location	Response zone (m)			Pressures (mb)		Gas flows (l/hr)		CH_4 (%v/v)		CH_4 (%LEL)		CO_2 (%v/v)		O_2 (%v/v)		Other Gases (PPM)			Depth to Water (m)	Well Base (m)	Gas Screening Value (CH_4) (l/hr)	Gas Screening Value (CO_2) (l/hr)	Notes
						Atmospheric Pressure	Relative Well Pressure	Initial	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	CO	H_2S	TVOC (PID)					
						Summary Statistcs																			
				Max. values:		1023	0.0	3.1	0.0	0.0	0.0	8.0	6.0	1.0	0.5	20.0	20.0	0.0	0.0	0.0	9.3	13.0	0.000	0.000	**Highlight Box - Methane >1.0% v/v**
				Min. values:		996	0.0	0.0	0.0	-0.4	-0.3	0.0	0.0	0.0	0.0	7.2	8.0	0.0	0.0	0.0	1.3	1.6	0.000	0.000	**Highlight Box - Carbon Dioxide >5.0% v/v**
				Top	Bottom	Worst-case (note - not worst credible) GSVs based on maximum recorded steady flow and maximum individual peak concentrations:																	0.000	0.001	**Highlight Box - Water above Response Zone**
19/11/2024	PM	Ambient				997																			
		BH201		6.00	13.00		0.0	0.0	0.0	-0.3	-0.3	6.0	6.0	0.3	0.0	12.5	19.1	0.0	0.0		9.27	12.73	0.000	0.000	
		WS202		0.50	3.50		0.0	3.1	0.0	-0.3	-0.3	6.0	6.0	0.0	0.0	7.8	9.0	0.0	0.0		NGW	3.37	0.000	0.000	
		WS207A		0.50	3.50		0.0	0.0	0.0	-0.3	-0.3	6.0	6.0	0.0	0.0	8.1	12.5	0.0	0.0		NGW	3.39	0.000	0.000	
		BH202		6.00	13.00		0.0	0.0	0.0	-0.4	-0.3	8.0	6.0	0.7	0.1	13.9	19.7	0.0	0.0		9.25	12.74	0.000	0.000	
		WS210		0.5	1.50		0.0	0.0	0.0	-0.3	-0.3	6.0	6.0	0.0	0.0	17.1	18.3	0.0	0.0		NGW	1.61	0.000	0.000	
		Ambient				996																			
03/12/2024	AM	Ambient				1019				0.0		0.0		0.0		20.0									
		BH201		6.00	13.00		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.1	18.5	20.0	0.0	0.0		9.24	12.75	0.000	0.000	
		WS202		0.50	3.50		0.0	0.0	0.0	-0.1	-0.1	2.0	2.0	0.0	0.0	7.2	11.1	0.0	0.0		NGW	3.30	0.000	0.000	
		WS207A		0.50	3.50		0.0	0.0	0.0	-0.1	-0.1	2.0	2.0	0.3	0.0	14.7	18.1	0.0	0.0		NGW	3.39	0.000	0.000	
		BH202		6.00	13.00																				Inaccessable due to puddle.
		WS210		0.5	1.50		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.0	18.9	0.0	0.0		NGW	1.59	0.000	0.000	
		Ambient				1017																			
16/12/2024	AM	Ambient				1023																			
		BH201		6.00	13.00			0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5	18.3	19.7	0.0	0.0		8.02	13.00	0.000	0.000	
		WS202		0.50	3.50			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3	8.0	0.0	0.0		2.40	3.30	0.000	0.000	
		WS207A		0.50	3.50			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6	12.4	0.0	0.0		1.30	3.40	0.000	0.000	
		BH202		6.00	13.00																				Inaccessable due to puddle.
		WS210		0.50	1.50			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.0	19.7	0.0	0.0		NGW	1.60	0.000	0.000	
		Ambient				1023																			

APPENDIX F

Waste Assessment Report

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

a) understand the origin of the waste
b) select the correct List of Waste code(s)
c) confirm that the list of determinands, results and sampling plan are fit for purpose
d) select and justify the chosen metal species (Appendix B)
e) correctly apply moisture correction and other available corrections
f) add the meta data for their user-defined substances (Appendix A)
g) check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

EZ1I1-RSBVZ-2UR4Y

Report is invalid if pages are removed.

Job name

C5504 Vision

Description/Comments

Project

C5504

Site

Vision

Classified by

Name:
Jack Mather
Date:
16 Dec 2024 13:31 GMT
Telephone:
01606334844

Company:
Brownfield Solutions Limited
173-183 Witton Street
Northwich
CW9 5LP

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification: **CERTIFIED**

Course	Date
Hazardous Waste Classification	09 Feb 2023

Next 3 year Refresher due by Feb 2026

Purpose of classification

2 - Material Characterisation

Address of the waste

Whitworth Street West, Manchester **Post Code** M1 5NZ

SIC for the process giving rise to the waste

41100 Development of building projects

Description of industry/producer giving rise to the waste

Redevelopment of brownfield site currently used as a storage area for building materials.

Description of the specific process, sub-process and/or activity that created the waste

Waste created during the excavation of soils for ground investigation.

Description of the waste

A mixture of made ground comprising brown gravelly clayey sand, natural sand and clay and sandstone.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS201	0.05-1.00	Non Hazardous		3
2	WS205d	0.00-1.00	Non Hazardous		5
3	TP201	0.00-1.00	Non Hazardous		8
4	TP208	0.00-1.00	Non Hazardous		10
5	BH201	0.05-0.80	Non Hazardous		13
6	BH202	0.00-1.00	Non Hazardous		15
7	TP205	1.50-2.00	Non Hazardous		17
8	WS207b	3.80-4.20	Non Hazardous		18
9	WS208	2.50-3.00	Non Hazardous		19
10	WS210	1.50-1.80	Non Hazardous		20
11	BH201[2]	6.70-6.80	Non Hazardous		21
12	BH201[3]	10.00-10.20	Non Hazardous		22
13	BH201[4]	17.72-17.80	Non Hazardous		23
14	BH202[2]	14.00-14.20	Non Hazardous		24
15	BH202[3]	24.00-24.10	Non Hazardous		25
16	WS205d[2]	3.00-3.60	Non Hazardous		26

Related documents

#	Name	Description
1	BSL Suite	waste stream template used to create this Job

Report

Created by: Jack Mather

Created date: 16 Dec 2024 13:31 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	27
Appendix B: Rationale for selection of metal species	28
Appendix C: Version	28

Classification of sample: WS201

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS201
Sample Depth:
0.05-1.00 m
Moisture content:
7.9%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 7.9% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	pH			PH		11	pH		11	pH	11pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.1	mg/kg	1.32	11.066	mg/kg	0.00111 %	✓	
3	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.3	mg/kg	1.285	0.355	mg/kg	0.0000276 %	✓	
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<**LOD**
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		16	mg/kg	1.462	21.537	mg/kg	0.00215 %	✓	
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		51	mg/kg	1.126	52.884	mg/kg	0.00529 %	✓	
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	78	mg/kg		71.838	mg/kg	0.00718 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.4	mg/kg	1.353	0.499	mg/kg	0.0000499 %	✓	
9	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		15	mg/kg	1.579	21.821	mg/kg	0.00218 %	✓	
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<**LOD**
11	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		67	mg/kg	2.469	152.373	mg/kg	0.0152 %	✓	
12	naphthalene	601-052-00-2	202-049-5	91-20-3		0.79	mg/kg		0.728	mg/kg	0.0000728 %	✓	
13	acenaphthylene		205-917-1	208-96-8		0.15	mg/kg		0.138	mg/kg	0.0000138 %	✓	
14	acenaphthene		201-469-6	83-32-9		0.58	mg/kg		0.534	mg/kg	0.0000534 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		fluorene				0.61	mg/kg		0.562	mg/kg	0.0000562 %	✓	
			201-695-5	86-73-7									
16		phenanthrene				4.8	mg/kg		4.421	mg/kg	0.000442 %	✓	
			201-581-5	85-01-8									
17		anthracene				0.96	mg/kg		0.884	mg/kg	0.0000884 %	✓	
			204-371-1	120-12-7									
18		fluoranthene				5.4	mg/kg		4.973	mg/kg	0.000497 %	✓	
			205-912-4	206-44-0									
19		pyrene				5.2	mg/kg		4.789	mg/kg	0.000479 %	✓	
			204-927-3	129-00-0									
20		benzo[a]anthracene				2.6	mg/kg		2.395	mg/kg	0.000239 %	✓	
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				2.5	mg/kg		2.303	mg/kg	0.00023 %	✓	
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				2.3	mg/kg		2.118	mg/kg	0.000212 %	✓	
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				1.3	mg/kg		1.197	mg/kg	0.00012 %	✓	
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				2.5	mg/kg		2.303	mg/kg	0.00023 %	✓	
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				1.1	mg/kg		1.013	mg/kg	0.000101 %	✓	
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				0.23	mg/kg		0.212	mg/kg	0.0000212 %	✓	
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				1.3	mg/kg		1.197	mg/kg	0.00012 %	✓	
			205-883-8	191-24-2									
										Total:	0.0367 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS205d

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS205d
Sample Depth:
0.00-1.00 m
Moisture content:
9.8%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 9.8% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	pH			PH		10.2	pH		10.2	pH	10.2 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.1	mg/kg	1.32	9.647	mg/kg	0.000965 %	✓	
3	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.3	mg/kg	1.285	0.348	mg/kg	0.0000271 %	✓	
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<**LOD**
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		15	mg/kg	1.462	19.775	mg/kg	0.00198 %	✓	
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		30	mg/kg	1.126	30.467	mg/kg	0.00305 %	✓	
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	59	mg/kg		53.218	mg/kg	0.00532 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<**LOD**
9	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		13	mg/kg	1.579	18.521	mg/kg	0.00185 %	✓	
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<**LOD**
11	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		70	mg/kg	2.469	155.911	mg/kg	0.0156 %	✓	
12	naphthalene	601-052-00-2	202-049-5	91-20-3		0.12	mg/kg		0.108	mg/kg	0.0000108 %	✓	
13	acenaphthylene		205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
14	acenaphthene		201-469-6	83-32-9		0.17	mg/kg		0.153	mg/kg	0.0000153 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		fluorene				0.15	mg/kg		0.135	mg/kg	0.0000135 %	✓	
			201-695-5	86-73-7									
16		phenanthrene				1.4	mg/kg		1.263	mg/kg	0.000126 %	✓	
			201-581-5	85-01-8									
17		anthracene				0.32	mg/kg		0.289	mg/kg	0.0000289 %	✓	
			204-371-1	120-12-7									
18		fluoranthene				2.3	mg/kg		2.075	mg/kg	0.000207 %	✓	
			205-912-4	206-44-0									
19		pyrene				2.3	mg/kg		2.075	mg/kg	0.000207 %	✓	
			204-927-3	129-00-0									
20		benzo[a]anthracene				1.1	mg/kg		0.992	mg/kg	0.0000992 %	✓	
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				1.1	mg/kg		0.992	mg/kg	0.0000992 %	✓	
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				1.2	mg/kg		1.082	mg/kg	0.000108 %	✓	
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				0.62	mg/kg		0.559	mg/kg	0.0000559 %	✓	
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				1.1	mg/kg		0.992	mg/kg	0.0000992 %	✓	
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				0.6	mg/kg		0.541	mg/kg	0.0000541 %	✓	
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				0.09	mg/kg		0.0812	mg/kg	0.00000812 %	✓	
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				0.66	mg/kg		0.595	mg/kg	0.0000595 %	✓	
			205-883-8	191-24-2									
28		TPH (C6 to C40) petroleum group				84	mg/kg		75.768	mg/kg	0.00758 %	✓	
				TPH									
29		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-020-00-8	200-753-7	71-43-2									
30		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-021-00-3	203-625-9	108-88-3									
31		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-023-00-4	202-849-4	100-41-4									
32		xylene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
										Total:	0.0381 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: Concentration too low to be considered flammable. Low concentrations of short chain hydrocarbons. Discounted as this is a solid waste without a free draining liquid phase.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00758%)

Classification of sample: TP201

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP201
Sample Depth:
0.00-1.00 m
Moisture content:
9.6%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 9.6% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	pH			PH		10.7	pH		10.7	pH	10.7 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11	mg/kg	1.32	13.129	mg/kg	0.00131 %	✓	
3	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.4	mg/kg	1.285	0.465	mg/kg	0.0000362 %	✓	
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<**LOD**
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		20	mg/kg	1.462	26.425	mg/kg	0.00264 %	✓	
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		48	mg/kg	1.126	48.855	mg/kg	0.00489 %	✓	
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	78	mg/kg		70.512	mg/kg	0.00705 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<**LOD**
9	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		16	mg/kg	1.579	22.846	mg/kg	0.00228 %	✓	
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<**LOD**
11	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		100	mg/kg	2.469	223.224	mg/kg	0.0223 %	✓	
12	naphthalene	601-052-00-2	202-049-5	91-20-3		0.55	mg/kg		0.497	mg/kg	0.0000497 %	✓	
13	acenaphthylene		205-917-1	208-96-8		0.14	mg/kg		0.127	mg/kg	0.0000127 %	✓	
14	acenaphthene		201-469-6	83-32-9		0.38	mg/kg		0.344	mg/kg	0.0000344 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		fluorene				0.44	mg/kg		0.398	mg/kg	0.0000398 %	✓	
			201-695-5	86-73-7									
16		phenanthrene				3.6	mg/kg		3.254	mg/kg	0.000325 %	✓	
			201-581-5	85-01-8									
17		anthracene				0.71	mg/kg		0.642	mg/kg	0.0000642 %	✓	
			204-371-1	120-12-7									
18		fluoranthene				4.2	mg/kg		3.797	mg/kg	0.00038 %	✓	
			205-912-4	206-44-0									
19		pyrene				4.1	mg/kg		3.706	mg/kg	0.000371 %	✓	
			204-927-3	129-00-0									
20		benzo[a]anthracene				2.1	mg/kg		1.898	mg/kg	0.00019 %	✓	
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				2.1	mg/kg		1.898	mg/kg	0.00019 %	✓	
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				1.9	mg/kg		1.718	mg/kg	0.000172 %	✓	
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				1.1	mg/kg		0.994	mg/kg	0.0000994 %	✓	
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				2	mg/kg		1.808	mg/kg	0.000181 %	✓	
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				0.86	mg/kg		0.777	mg/kg	0.0000777 %	✓	
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				0.16	mg/kg		0.145	mg/kg	0.0000145 %	✓	
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				1.1	mg/kg		0.994	mg/kg	0.0000994 %	✓	
			205-883-8	191-24-2									
										Total:	0.0434 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP208

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP208
Sample Depth:
0.00-1.00 m
Moisture content:
17%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 17% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	pH			PH		8.4	pH		8.4	pH	8.4 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		24	mg/kg	1.32	26.301	mg/kg	0.00263 %	✓	
3	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.7	mg/kg	1.285	0.747	mg/kg	0.0000581 %	✓	
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<**LOD**
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		16	mg/kg	1.462	19.409	mg/kg	0.00194 %	✓	
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		110	mg/kg	1.126	102.794	mg/kg	0.0103 %	✓	
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	270	mg/kg		224.1	mg/kg	0.0224 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.9	mg/kg	1.353	1.011	mg/kg	0.000101 %	✓	
9	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		21	mg/kg	1.579	27.531	mg/kg	0.00275 %	✓	
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<**LOD**
11	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		180	mg/kg	2.469	368.913	mg/kg	0.0369 %	✓	
12	naphthalene	601-052-00-2	202-049-5	91-20-3		7.1	mg/kg		5.893	mg/kg	0.000589 %	✓	
13	acenaphthylene		205-917-1	208-96-8		0.23	mg/kg		0.191	mg/kg	0.0000191 %	✓	
14	acenaphthene		201-469-6	83-32-9		6.7	mg/kg		5.561	mg/kg	0.000556 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		fluorene				5.4	mg/kg		4.482	mg/kg	0.000448 %	✓	
			201-695-5	86-73-7									
16		phenanthrene				32	mg/kg		26.56	mg/kg	0.00266 %	✓	
			201-581-5	85-01-8									
17		anthracene				7.9	mg/kg		6.557	mg/kg	0.000656 %	✓	
			204-371-1	120-12-7									
18		fluoranthene				21	mg/kg		17.43	mg/kg	0.00174 %	✓	
			205-912-4	206-44-0									
19		pyrene				22	mg/kg		18.26	mg/kg	0.00183 %	✓	
			204-927-3	129-00-0									
20		benzo[a]anthracene				11	mg/kg		9.13	mg/kg	0.000913 %	✓	
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				10	mg/kg		8.3	mg/kg	0.00083 %	✓	
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				9.8	mg/kg		8.134	mg/kg	0.000813 %	✓	
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				3.4	mg/kg		2.822	mg/kg	0.000282 %	✓	
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				9.1	mg/kg		7.553	mg/kg	0.000755 %	✓	
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				3.4	mg/kg		2.822	mg/kg	0.000282 %	✓	
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				0.9	mg/kg		0.747	mg/kg	0.0000747 %	✓	
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				4	mg/kg		3.32	mg/kg	0.000332 %	✓	
			205-883-8	191-24-2									
28		TPH (C6 to C40) petroleum group				199.6	mg/kg		165.668	mg/kg	0.0166 %	✓	
				TPH									
29		benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-020-00-8	200-753-7	71-43-2									
30		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-021-00-3	203-625-9	108-88-3									
31		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-023-00-4	202-849-4	100-41-4									
32		xylene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
										Total:	0.107 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the threshold of: 1000 mg/kg (0.1%) because: Concentration too low to be considered flammable. Low concentrations of short chain hydrocarbons. Discounted as this is a solid waste without a free draining liquid phase.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0166%)

Classification of sample: BH201

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH201
Sample Depth:
0.05-0.80 m
Moisture content:
13%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 13% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	pH			PH		10.1 pH		10.1 pH	10.1 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		12 mg/kg	1.32	13.784 mg/kg	0.00138 %	✓	
3	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.5 mg/kg	1.285	0.559 mg/kg	0.0000435 %	✓	
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %		<**LOD**
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		17 mg/kg	1.462	21.616 mg/kg	0.00216 %	✓	
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		98 mg/kg	1.126	95.993 mg/kg	0.0096 %	✓	
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	100 mg/kg		87 mg/kg	0.0087 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.4 mg/kg	1.353	0.471 mg/kg	0.0000471 %	✓	
9	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		15 mg/kg	1.579	20.612 mg/kg	0.00206 %	✓	
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<**LOD**
11	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		120 mg/kg	2.469	257.795 mg/kg	0.0258 %	✓	
12	naphthalene	601-052-00-2	202-049-5	91-20-3		1.2 mg/kg		1.044 mg/kg	0.000104 %	✓	
13	acenaphthylene		205-917-1	208-96-8		0.17 mg/kg		0.148 mg/kg	0.0000148 %	✓	
14	acenaphthene		201-469-6	83-32-9		1.7 mg/kg		1.479 mg/kg	0.000148 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		fluorene				1.5	mg/kg		1.305	mg/kg	0.000131 %	✓	
			201-695-5	86-73-7									
16		phenanthrene				11	mg/kg		9.57	mg/kg	0.000957 %	✓	
			201-581-5	85-01-8									
17		anthracene				2.7	mg/kg		2.349	mg/kg	0.000235 %	✓	
			204-371-1	120-12-7									
18		fluoranthene				10	mg/kg		8.7	mg/kg	0.00087 %	✓	
			205-912-4	206-44-0									
19		pyrene				10	mg/kg		8.7	mg/kg	0.00087 %	✓	
			204-927-3	129-00-0									
20		benzo[a]anthracene				4.6	mg/kg		4.002	mg/kg	0.0004 %	✓	
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				4.4	mg/kg		3.828	mg/kg	0.000383 %	✓	
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				4.8	mg/kg		4.176	mg/kg	0.000418 %	✓	
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				1.5	mg/kg		1.305	mg/kg	0.000131 %	✓	
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				4.4	mg/kg		3.828	mg/kg	0.000383 %	✓	
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				1.9	mg/kg		1.653	mg/kg	0.000165 %	✓	
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				0.35	mg/kg		0.305	mg/kg	0.0000305 %	✓	
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				2.2	mg/kg		1.914	mg/kg	0.000191 %	✓	
			205-883-8	191-24-2									
										Total:	0.0557 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: BH202

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH202
Sample Depth:
0.00-1.00 m
Moisture content:
8.8%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 8.8% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	pH			PH		11.1	pH		11.1	pH	11.1 pH		
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11	mg/kg	1.32	13.246	mg/kg	0.00132 %	✓	
3	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.5	mg/kg	1.285	0.586	mg/kg	0.0000456 %	✓	
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<**LOD**
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		19	mg/kg	1.462	25.326	mg/kg	0.00253 %	✓	
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		100	mg/kg	1.126	102.681	mg/kg	0.0103 %	✓	
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	120	mg/kg		109.44	mg/kg	0.0109 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<**LOD**
9	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		16	mg/kg	1.579	23.048	mg/kg	0.0023 %	✓	
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<**LOD**
11	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		140	mg/kg	2.469	315.28	mg/kg	0.0315 %	✓	
12	naphthalene	601-052-00-2	202-049-5	91-20-3		0.39	mg/kg		0.356	mg/kg	0.0000356 %	✓	
13	acenaphthylene		205-917-1	208-96-8		0.12	mg/kg		0.109	mg/kg	0.0000109 %	✓	
14	acenaphthene		201-469-6	83-32-9		0.49	mg/kg		0.447	mg/kg	0.0000447 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		fluorene				0.46	mg/kg		0.42	mg/kg	0.000042 %	✓	
			201-695-5	86-73-7									
16		phenanthrene				3.8	mg/kg		3.466	mg/kg	0.000347 %	✓	
			201-581-5	85-01-8									
17		anthracene				0.89	mg/kg		0.812	mg/kg	0.0000812 %	✓	
			204-371-1	120-12-7									
18		fluoranthene				4.1	mg/kg		3.739	mg/kg	0.000374 %	✓	
			205-912-4	206-44-0									
19		pyrene				4.1	mg/kg		3.739	mg/kg	0.000374 %	✓	
			204-927-3	129-00-0									
20		benzo[a]anthracene				1.9	mg/kg		1.733	mg/kg	0.000173 %	✓	
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				1.9	mg/kg		1.733	mg/kg	0.000173 %	✓	
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				2.1	mg/kg		1.915	mg/kg	0.000192 %	✓	
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				0.7	mg/kg		0.638	mg/kg	0.0000638 %	✓	
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				2	mg/kg		1.824	mg/kg	0.000182 %	✓	
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				0.9	mg/kg		0.821	mg/kg	0.0000821 %	✓	
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				0.14	mg/kg		0.128	mg/kg	0.0000128 %	✓	
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				1.1	mg/kg		1.003	mg/kg	0.0001 %	✓	
			205-883-8	191-24-2									
										Total:	0.0618 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP205

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP205
Sample Depth:
1.50-2.00 m
Moisture content:
18%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 18% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	•	pH				7.8 pH		7.8 pH	7.8 pH		
				PH							
								Total:	0%		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: WS207b

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS207b
Sample Depth:
3.80-4.20 m
Moisture content:
7.8%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 7.8% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	•	pH				8.1 pH		8.1 pH	8.1 pH		
				PH							
								Total:	0%		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: WS208

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS208
Sample Depth:
2.50-3.00 m
Moisture content:
6.6%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 6.6% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	●	pH				7.7 pH		7.7 pH	7.7 pH		
				PH							
								Total:	0%		

Key

	User supplied data
●	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: WS210

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS210
Sample Depth:
1.50-1.80 m
Moisture content:
4.4%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 4.4% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	•	pH		PH		7.7 pH		7.7 pH	7.7 pH		
								Total:	0%		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: BH201[2]

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH201[2]
Sample Depth:
6.70-6.80 m
Moisture content:
8%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 8% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	•	pH		PH		5.7 pH		5.7 pH	5.7 pH		
								Total:	0%		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: BH201[3]

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH201[3]
Sample Depth:
10.00-10.20 m
Moisture content:
9.3%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 9.3% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	●	pH				7.8 pH		7.8 pH	7.8 pH		
				PH							
								Total:	0%		

Key

	User supplied data
●	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: BH201[4]

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH201[4]
Sample Depth:
17.72-17.80 m
Moisture content:
9.3%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 9.3% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	•	pH		PH		8.5 pH		8.5 pH	8.5 pH		
								Total:	0%		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: BH202[2]

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH202[2]
Sample Depth:
14.00-14.20 m
Moisture content:
8.3%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 8.3% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	●	pH				8.5 pH		8.5 pH	8.5 pH		
				PH							
								Total:	0%		

Key

	User supplied data
●	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: BH202[3]

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH202[3]
Sample Depth:
24.00-24.10 m
Moisture content:
8.7%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 8.7% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	•	pH		PH		8.6 pH		8.6 pH	8.6 pH		
								Total:	0%		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: WS205d[2]

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS205d[2]
Sample Depth:
3.00-3.60 m
Moisture content:
5.1%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 5.1% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1	●	pH				8.2 pH		8.2 pH	8.2 pH		
				PH							
								Total:	0%		

Key

	User supplied data
●	Determinand defined or amended by HazWasteOnline (see Appendix A)

Appendix A: Classifier defined and non GB MCL determinands

pH (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

chromium(III) oxide (worst case) (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H332 , Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Resp. Sens. 1; H334 , Skin Sens. 1; H317 , Repr. 1B; H360FD , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

lead compounds with the exception of those specified elsewhere in this Annex

GB MCL index number: 082-001-00-6
Description/Comments: Least-worst case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers many simple lead compounds to be Carcinogenic category 2
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html. Review date 29/09/2015

acenaphthylene (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

acenaphthene (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

fluorene (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

phenanthrene (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

anthracene (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

fluoranthene (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

pyrene (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2; H351

- **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **TPH (C6 to C40) petroleum group** (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

- **ethylbenzene** (EC Number: 202-849-4, CAS Number: 100-41-4)

GB MCL index number: 601-023-00-4
Description/Comments:
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Worst case species based on hazard statements

cadmium {cadmium sulfide}

Worst case species based on hazard statements

chromium in chromium(VI) compounds {chromium(VI) oxide}

Worst case species based on hazard statements

chromium in chromium(III) compounds {chromium(III) oxide (worst case)}

Worst case species based on hazard statements

copper {dicopper oxide; copper (I) oxide}

Most likely common species

lead {lead compounds with the exception of those specified elsewhere in this Annex}

Absence of hexavalent chromium indicates it unlikely that lead chromate is present within the site soils.

mercury {mercury dichloride}

Worst case species based on hazard statements

nickel {nickel dihydroxide}

Worst case species based on hazard statements

selenium {selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex}

Worst case species based on hazard statements

zinc {zinc sulphate}

Absence of hexavalent chromium indicates it unlikely that zinc chromate is present within the site soils.

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2024.347.6405.11699 (12 Dec 2024)
HazWasteOnline Database: 2024.347.6405.11699 (12 Dec 2024)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
GB MCL List - version 1.1 of 09 June 2021
GB MCL List v2.0 - version 2.0 of 20th October 2023
GB MCL List v3.0 - version 3.0 of 11th January 2024
GB MCL List v4.0 - version 4.0 of 2nd March 2024
GB MCL List v5.0 - version 5.0 of 26th June 2024

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Analytical Report Number : 24-053872

Project / Site name:	Vision, Manchester	**Samples received on:**	14/11/2024
Your job number:	C5504	**Samples instructed on/ Analysis started on:**	14/11/2024
Your order number:	638	**Analysis completed by:**	21/11/2024
Report Issue Number:	1	**Report issued on:**	21/11/2024
Samples Analysed:	2 10:1 WAC samples		

Signed:

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 24-053872
Project / Site name: Vision, Manchester
Your Order No: 638

Lab Sample Number				379534	379535
Sample Reference				WS205d	TP208
Sample Number				None Supplied	None Supplied
Depth (m)				0.00-1.00	0.00-1.00
Date Sampled				04/11/2024	08/11/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
Stone Content	%	0.1	NONE	40.2	41.5
Moisture Content	%	0.01	NONE	9.8	17
Total mass of sample received	kg	0.1	NONE	0.8	0.8
General Inorganics					
pH (L005B)	pH Units	N/A	MCERTS	9.6	8.1
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.8	1.5
Loss on Ignition @ 450°C	%	0.2	MCERTS	2.4	4.6
Acid Neutralisation Capacity	+/- mmol/kg	-9999	NONE	43	17
Speciated PAHs					
Naphthalene	mg/kg	0.05	MCERTS	0.12	7.1
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.23
Acenaphthene	mg/kg	0.05	MCERTS	0.17	6.7
Fluorene	mg/kg	0.05	MCERTS	0.15	5.4
Phenanthrene	mg/kg	0.05	MCERTS	1.4	32
Anthracene	mg/kg	0.05	MCERTS	0.32	7.9
Fluoranthene	mg/kg	0.05	MCERTS	2.3	21
Pyrene	mg/kg	0.05	MCERTS	2.3	22
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.1	11
Chrysene	mg/kg	0.05	MCERTS	1.1	10
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	1.2	9.8
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.62	3.4
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.1	9.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.6	3.4
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.09	0.9
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.66	4
Coronene	mg/kg	0.05	NONE	0.27	1.6
Total PAH					
Total WAC-17 PAHs	mg/kg	0.85	NONE	13.6	155
Petroleum Hydrocarbons					
Mineral Oil (EC10 - EC40) EH_CU_1D_AL	mg/kg	10	NONE	31	< 10
VOCs					
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
Total BTEX	µg/kg	10	MCERTS	< 10	< 10

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Analytical Report Number: 24-053872
Project / Site name: Vision, Manchester
Your Order No: 638

Lab Sample Number				379534	379535
Sample Reference				WS205d	TP208
Sample Number				None Supplied	None Supplied
Depth (m)				0.00-1.00	0.00-1.00
Date Sampled				04/11/2024	08/11/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
PCBs by GC-MS					
PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	< 0.001
Total PCBs	mg/kg	0.007	MCERTS	< 0.007	< 0.007

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Waste Acceptance Criteria Analytical Results

Report No:	**24-053872**						
					Client:	**BSL**	
Location	**Vision, Manchester**						
Lab Reference (Sample Number)	379534				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	04/11/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS205d						
Depth (m)	0.00-1.00						
Solid Waste Analysis							
TOC (%)**	0.8				3%	5%	6%
Loss on Ignition (%) **	2.4				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	31				500	--	--
Total PAH (WAC-17) (mg/kg)	13.6				100	--	--
pH (units)**	9.6				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	43				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
	mg/l			mg/kg			
Arsenic *	0.00106			0.0106	0.5	2	25
Barium *	0.00725			0.0725	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0022			0.022	0.5	10	70
Copper *	0.019			0.19	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00110			0.0110	0.5	10	30
Nickel *	0.00033			0.0033	0.4	10	40
Lead *	< 0.0010			< 0.010	0.5	10	50
Antimony *	0.0031			0.031	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0010			0.010	4	50	200
Chloride *	0.92			9.2	800	15000	25000
Fluoride*	0.15			1.5	10	150	500
Sulphate *	26			260	1000	20000	50000
TDS*	99			990	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	4.71			47.1	500	800	1000
Leach Test Information							
Stone Content (%)	40.2						
Sample Mass (kg)	0.8						
Dry Matter (%)	90						
Moisture (%)	9.8						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.
*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation
** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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The results included within the report are representative of the samples submitted for analysis.

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Waste Acceptance Criteria Analytical Results

Report No:	**24-053872**						
					Client:	**BSL**	
Location	**Vision, Manchester**						
Lab Reference (Sample Number)	379535				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	08/11/2024				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	TP208						
Depth (m)	0.00-1.00						
Solid Waste Analysis							
TOC (%)**	1.5				3%	5%	6%
Loss on Ignition (%) **	4.6				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	155				100	--	--
pH (units)**	8.1				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	17				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1			10:1	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
	mg/l			mg/kg			
Arsenic *	0.00548			0.0548	0.5	2	25
Barium *	0.0159			0.159	20	100	300
Cadmium *	< 0.000100			< 0.00100	0.04	1	5
Chromium *	0.0025			0.025	0.5	10	70
Copper *	0.019			0.19	2	50	100
Mercury *	< 0.000500			< 0.00500	0.01	0.2	2
Molybdenum *	0.00206			0.0206	0.5	10	30
Nickel *	0.0011			0.011	0.4	10	40
Lead *	0.011			0.11	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.018			0.18	4	50	200
Chloride *	2.2			22	800	15000	25000
Fluoride*	0.25			2.5	10	150	500
Sulphate *	4.8			48	1000	20000	50000
TDS*	48			480	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	7.96			79.6	500	800	1000
Leach Test Information							
Stone Content (%)	41.5						
Sample Mass (kg)	0.8						
Dry Matter (%)	83						
Moisture (%)	17						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.

*= UKAS accredited (liquid eluate analysis only)

Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation

** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Analytical Report Number : 24-053872
Project / Site name: Vision, Manchester

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
379534	WS205d	None Supplied	0.00-1.00	Brown loam and sand with gravel and brick
379535	TP208	None Supplied	0.00-1.00	Brown loam and clay with vegetation and stones

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Analytical Report Number : 24-053872
Project / Site name: Vision, Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH at 20°C in soil	Determination of pH in soil by addition of water followed by electrometric measurement	In-house method	L005B	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with hexane followed by GC-MS	In-house method based on USEPA 8082	L027B	D	MCERTS
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031B	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination	L033B	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR Analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Sample Preparation		In-house method	L043B	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046B	W	NONE
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047-PL	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088-PL	D/W	NONE
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025

Analytical Report Number : 24-053872
Project / Site name: Vision, Manchester

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

Sample Deviation Report

Analytical Report Number : 24-053872
Project / Site name: Vision, Manchester

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
WS205d	N/A	S	379534	c	BTEX and/or Volatile organic compounds in soil	L073B	c
WS205d	N/A	S	379534	c	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	c
WS205d	N/A	S	379534	c	Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	L076B/L088-PL	c

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Appendix F

Townscape Character Area Plan

TOWNSCAPE CHARACTER AREA PLAN

- Application Site
- 1 Petersfield
- 2 First Street
- 3 Castlefield
- 4 Great Jackson Street
- 5 St John's
- 6 Hulme Park

500 m

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LOCATION:
10–12 Whitworth Street West, Manchester

DATE:
April 2025

SCALE:
1:5,000 @ A3

FIGURE:

▲ **NORTH**

MONTAGU EVANS
CHARTERED SURVEYORS
70 ST MARY AXE,
LONDON, EC3A 8BE
T: +44 (0)20 7493 4002
WWW.MONTAGU-EVANS.CO.UK

Appendix G

Viewpoint Location Plan

VIEWPOINT LOCATION PLAN

- Application Site
1. Mosley Street / Art Gallery
2. St Peter's Square
3. Lower Mosely Street
4. Albion Street / Great Bridgewater Street
5. Whitworth Street West – eastern end
6. Medlock Street
7. Whitworth Street West – west end
8. St George's Church/Chester Road
9. Castle Street, Castlefield
10. Albert Square
11. Windmill Street
12. St Ann's Square



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LOCATION:
10–12 Whitworth Street West, Manchester

DATE:
April 2025

SCALE:
1:6,000 @ A3

FIGURE:

▲ **NORTH**

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70 ST MARY AXE,
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Appendix H

Address Map



PROJECT
10 - 12 Whitworth Street

PROJECT NUMBER
20231

DRAWING TITLE
Address Map

DATE
4 April 2025

Appendix 4.2

Scoping Opinion

MANCHESTER CITY COUNCIL

Julie Roscoe
Director of Planning, Building Control and Licensing
PO Box 532
Town Hall
Manchester M60 2LA

Contact: Lucy Harrison
Tel: 0161 234 5795
Email:
lucy.harrison1@manchester.gov.uk

23 July 2025

Our reference: EIASCO/25/006

Wardell Armstrong LLP
Sir Henry Doulton House
Forge Lane
Etruria
Stoke-on-Trent
ST1 5BD

FAO: Thomas Hackett

Dear Mr Hackett

Environmental Impact Assessment Regulations, the Town and Country Planning (EIA) (England) Regulations 2017 (as amended) (the "EIA Regulations")
Opinion on Scope of an Environmental Statement under Regulation 15
10-12 Whitworth Street West, Manchester

I write further to your request in respect of the above received on 9 June 2025.

It is noted that the site is approximately 0.12ha and is a cleared site comprising made ground and concrete. It is bounded by Whitworth Street West to the north, City Road Inn to the east, Cameron Street to the west and the Grade II listed Manchester South Junction and Altrincham Railway Line railway viaduct to the south. Hewitt Street lies beyond the viaduct to the south. Cameron Street, to the west, runs north/south providing vehicle and pedestrian links between Whitworth Street West and Hewitt Street via the railway viaduct arches.

Knott Mill, which is characterised by a mix of employment and residential buildings, lies beyond the viaduct to the south. A live music venue (Rebellion) and Deansgate train station are situated to the west of the site and the entertainment venues at Deansgate Locks lie to the north within the Grade II listed Castlefield Railway Viaduct arches, with outdoor seating areas fronting Rochdale Canal, along with Deansgate/Castlefield tram station on top of the

viaduct. Other listed buildings within the vicinity include Rochdale Canal Locks Numbers 90 and 91, and the Rochdale Canal Lock Keepers Cottage, all Grade II listed. The AXIS apartment building also lies to the north. The site is not in a conservation area but is close to Castlefield Conservation Area, which lies to the west. The site sits among a broad range of uses, including residential, entertainment, commercial and office uses.

The site is in a strategically important location for the city, close to public transport hubs and in an area that has witnessed significant investment and regeneration over the last 20 years. It is within the Whitworth Street West Strategic Regeneration Framework area (2008) and is within the zone of interest of the Knott Mill Masterplan. The Great Northern Manchester Central and Castlefield Quay Strategic Regeneration Framework (2017) areas lie to the north of the site.

The proposal is for full planning permission for a 40 storey purpose built student accommodation building. The development would provide student accommodation, along with communal uses such as lounge areas, work stations, a café, cold storage space, concierge, gym, dinner party rooms and communal roof space.

Pedestrian access to the building would be via Whitworth Street West. There would be access for cyclists to a dedicated cycle store off Cameron Street. A drop-off bay is also proposed on Cameron Street for deliveries and taxi drop-offs. It is anticipated that the proposed development would be car-free, although there is the potential for accessible parking to be included.

In coming to a formal opinion on the scope of the Environmental Impact Assessment (EIA), Manchester City Council, as Local Planning Authority, has taken into account the supporting information contained within your Scoping Report.

I have now had a chance to consider your scoping request and I outline my response below. The scoping report has been the subject of consultation in accordance with the EIA Regulations.

Overall, I can confirm that the content of the submitted 'Formal Scoping Opinion Request' is considered to be appropriate and will form a generally appropriate structure for the Environmental Statement (ES). This is also reflected in the nature of the consultation responses, although there are some issues that should be scoped in, which is set out below. You should note the specific points which have been made and particular regard should be given to these.

The following consultees were asked to comment on your request and full copies of the comments from those who responded are provided to you with this letter:

- Manchester City Council (MCC), Head of Regulatory and Enforcement Services (Contaminated Land Section and Pollution Services)
- MCC, Head of Engineering Services (Highways)
- MCC, Flood Risk Management Team (Lead Local Flood Authority (LLFA))

- Greater Manchester Archaeological Advisory Service
- Environment Agency
- Transport for Greater Manchester (TfGM) (included in the MCC Highways response)
- Natural England
- Canal and River Trust
- United Utilities
- Historic England
- Manchester Airport Safeguarding (MAGS)
- National Air Traffic Services (NATS)

Scoping Report

I have the following specific comments to make in respect of the scoping report:

Items Proposed to be Included as Technical Chapters and Scoped In

Air Quality

The comments within your scoping report are noted and are acceptable in terms of their consideration within the ES. Please also note the Environment Agency comments under 'Installations', which refers to impacts from the Manchester Civic Quarter Energy Centre being taken into account. This should be included for consideration within the EIA.

Noise and Vibration

The comments within your scoping report are noted and are acceptable in terms of their consideration in the ES. Please also note the Environment Agency comments under 'Installations', which refers to impacts from the Manchester Civic Quarter Energy Centre being taken into account. This should be included for consideration within the EIA.

Built Heritage, Townscape and Visual Impact Assessment

The comments within your scoping report are noted and are acceptable in terms of their consideration within the ES.

Daylight/Sunlight/Overshadowing

The comments within your scoping report are noted and are acceptable in terms of their consideration within the ES. However, the following should also be included for consideration within the assessment:

Overshadowing of the outdoor terrace of the Lock 91 venue on Century Street.

Wind Microclimate

The comments within your scoping report are noted and are acceptable in terms of their consideration within the ES.

Socio-Economic

The comments within your scoping report are noted and are acceptable in terms of their consideration in the ES.

Cumulative Impacts

The scope of developments listed within Table 3.2 of the Scoping Report and the assessment of cumulative effects are considered to be acceptable and there are no additional schemes that would need to be included at this time.

Items Proposed to be Scoped Out

Within your scoping opinion, you have identified Transport; Ecology; Water Resources and Flood Risk; Ground Conditions and Contamination; Waste; Human Health; Climate Change; Risks of Major Accidents and/or Disasters; Lighting; Aviation; TV, Radio, & Broadband Connectivity as items to be scoped out of the EIA.

I consider that, given the type and magnitude of the development, the following matters should be **scoped into** the EIA.

Traffic and Transport in relation to Construction Phase – Further to the comments of the Local Highway Authority, the EIA and following Construction Management Plan (CMP) should identify any mitigation measures necessary to address any significant effects during the construction phase of the proposed development. Assessment should not only consider construction trip generation but also traffic redistribution impacts associated with any required traffic management/temporary road closures during the construction phase. Assessment should consider any required traffic management/temporary road closure impacts on pedestrians during the construction phase. Appropriate traffic data should be provided to inform the associated assessments.

Demographics, Socio-economics and Health - It is considered that the demographic, socio-economic and health impacts of this scheme are significant enough to warrant assessment through the EIA process. This should include an assessment of direct and indirect construction and operational effects on the local and regional environment, including the economy, housing provision, student housing, education, employment, health and healthcare, crime, and on-going regeneration within the City.

Water Resources and Flood Risk – Further to the comments from the Lead Local Flood Authority, the proposed EIA scoping out of flood risk is not accepted unless: the planning submission provides a standalone drainage strategy to restrict runoff in line with Manchester City Council policy; and demonstrates consultation with United Utilities to gain their support on appropriate safeguards for the public sewer assets indicated onsite.

Solar Glare – An assessment of the impact of any glazed facades of the proposal on highway and train/tram safety, based on a worst-case scenario, should be scoped into the EIA.

Climate Change – An assessment of the impact of the development on climate change is required and should be scoped into the EIA.

The City Council has considered the following remaining matters which you have scoped out of the EIA:

Transport (operational phase); Ecology; Ground Conditions and Contamination; Waste; Risks of Major Accidents and/or Disasters; Lighting; Aviation; TV, Radio, & Broadband Connectivity.

With regard to these matters, the comments within your scoping report and addendum are noted and the City Council is in agreement that these matters can be scoped out of the EIA. This is provided that the applications are supported by the appropriate documentation as detailed within your scoping report, including details of any mitigation to minimise any effects as a result of the development, and including any details raised by the statutory consultees in their responses (copies attached).

The Canal and Rivers Trust have requested that the impact of piling works on the stability of neighbouring properties, in particular the retaining wall that supports Whitworth Street West above the Rochdale Canal, be scoped into the EIA under the Noise and Vibration chapter. I do not consider that this matter needs to be scoped into the EIA, but it should be given consideration as part of the planning submission.

As a result of consultation with statutory consultees at this time, additional areas of work are not expected to form part of any EIA, other than those mentioned above. However, the Local Planning Authority reserves the right to seek further information in connection with the Environmental Statement as matters arise.

Should you wish to discuss any of the above, please contact Lucy Harrison.

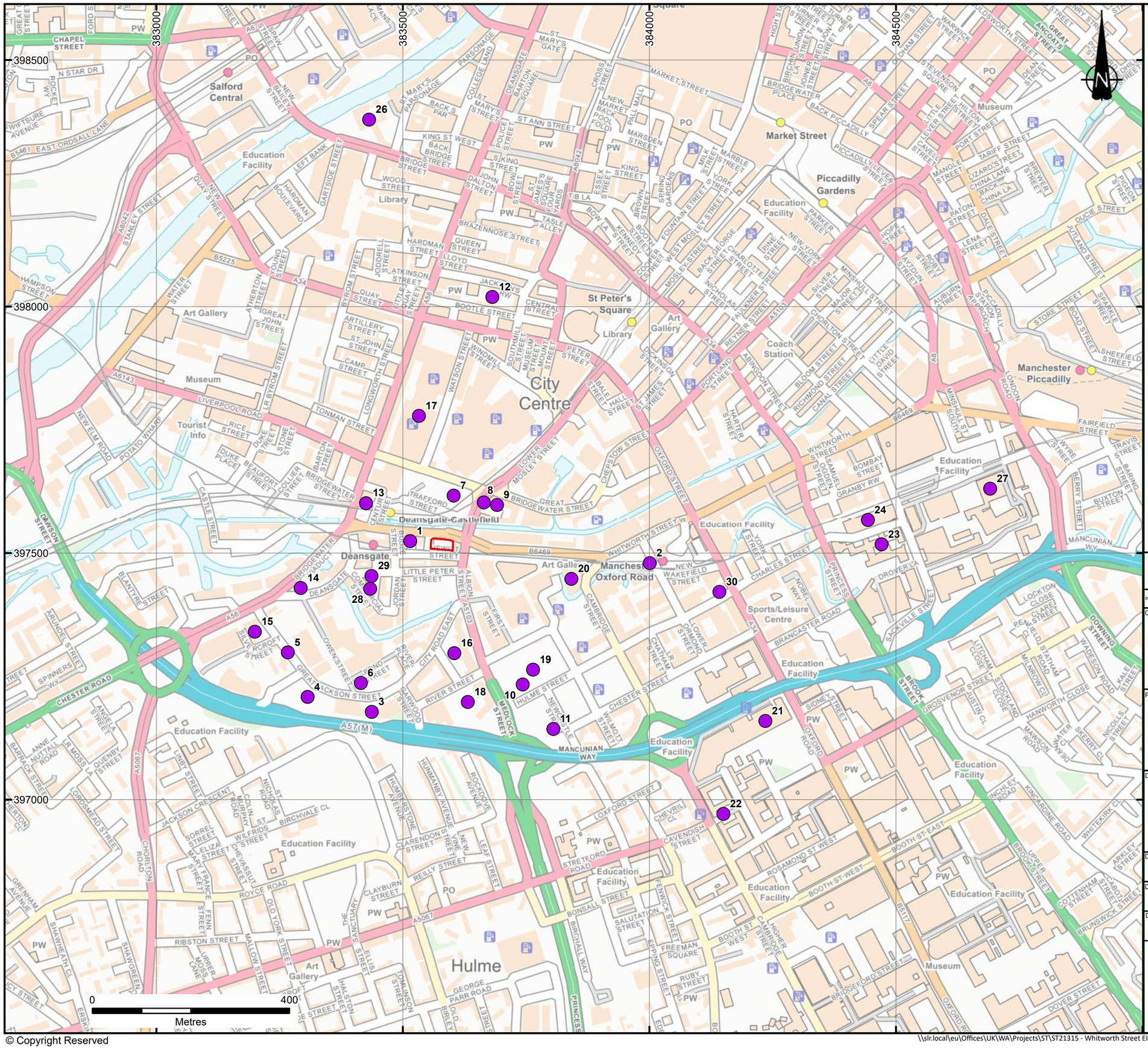
Yours sincerely



Julie Roscoe
Director of Planning, Licensing and Building Control

Appendix 4.3

Cumulative Scheme Plan



KEY

Site Boundary

Cumulative Scheme

Notes:

Boundaries are indicative.

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REVISION	DETAILS	DATE	DRAWN	CHKD	APPD
A	FIRST ISSUE	24/04/26	CP	TH	SR

CLIENT

FUSION STUDENTS AND ATRI7 6 LIMITED

PROJECT

WHITWORTH STREET WEST

DRAWING TITLE

CUMULATIVE SCHEME PLAN

DRG No.	REV	SUIT. CODE
ST21315-007	A	--

DRG SIZE	SCALE	DATE
A3	1:7,500	24/04/2026

DRAWN BY	CHECKED BY	APPROVED BY
CP	TH	SR

wardell armstrong

PART OF SLR

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Appendix 6.1

Legislation, Policy and Guidance

1.1 Legislation, Policy and Guidance

1.1.1 The following legislation, guidance and policy will be considered and adhered to during the preparation of the Air Screening Quality Assessment:

- European Union (EU) Directive 2008/50/EC;
- The NPPF, updated on 7th February 2025);
- The National Planning Practice Guidance (NPPG), relevant chapters produced on 14th February 2024;
- Section 82 of the Environment Act (Part IV), updated 9th November 2021;
- The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, Department for Environment, Food and Rural Affairs (DEFRA), 2007;
- The Air Quality Standards (Amendment) Regulations (2016);
- Local Air Quality Management Technical Guidance 2022 LAQM.TG(22), DEFRA, August 2022;
- Guidance on the Assessment of Dust from Demolition and Construction, Institute of Air Quality Management (IAQM), v2.2, January 2024;
- Land-Use Planning and Development Control: Planning for Air Quality, Environmental Protection UK (EPUK) and IAQM, January 2017;

UK Legislation and Guidance

1.1.2 The Air Quality Standards (Amendment) Regulations (2016) came into force on 31st December 2016. These Regulations amend the Air Quality Standards Regulations 2010 and transpose the EU Directive 2008/50/EC into UK law. Air Quality Limit Values (AQLVs) were published in these regulations for 7 pollutants, as well as Target Values for an additional 6 pollutants.

1.1.3 Part IV of the Environment Act (2021) requires UK government to produce a national Air Quality Strategy (AQS) which contains standards, objectives and measures for improving ambient air quality. The most recent AQS was produced by the Department for Environment, Food and Rural Affairs (DEFRA) and published in July 2007**Error! Bookmark not defined.**. The AQS sets out Air Quality Objectives (AQOs) that are maximum ambient pollutant concentrations that are not to be exceeded either

without exception or with a permitted number of exceedances over a specified timescale. These are generally in line with the AQLVs, although the requirements for compliance vary slightly.

1.1.4 Appendix Table 6.1.1 presents the AQOs for pollutants considered within this assessment.

Appendix Table 6.1.1: Air Quality Objectives		
Pollutant	**Air Quality Objectives**	
	Concentration (µg/m³)	**Averaging Periods**
NO_2	40	Annual mean
	200	1-hour mean; not to be exceeded more than 18 times a year
PM_{10}	40	Annual mean
	50	24-hour mean; not to be exceeded more than 35 times a year
$PM_{2.5}$	25	Annual mean

1.1.5 Appendix Table 6.1.2 summarises the advice provided in DEFRA guidance LAQM.TG(22)**Error! Bookmark not defined.** on where the AQOs for pollutants considered within this report apply.

Appendix Table 6.1.2: Examples of Where the Air Quality Objectives Apply		
Averaging Periods	**Objectives Should Apply At**	**Objectives Should Not Apply At**
Annual mean	All locations where members of the public might be regularly exposed Building façades of residential properties, schools, hospitals, care homes etc.	Building façades of offices or other places of work where members of the public do not have regular access Hotels, unless people live there as their permanent residence Gardens of residential properties Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term
24-hour mean	All locations where the annual mean objective	Kerbside sites (as opposed to locations at the building façade), or any other

Appendix Table 6.1.2: Examples of Where the Air Quality Objectives Apply		
Averaging Periods	**Objectives Should Apply At**	**Objectives Should Not Apply At**
	would apply, together with hotels. Gardens of residential properties	location where public exposure is expected to be short term
1-hour mean	All locations where the annual mean and 24-hour mean objectives apply. Kerbside sites (for example, pavements of busy shopping streets) Those parts of car parks, bus stations and railway stations etc. which are not fully enclosed, where members of the public might reasonably be expected to spend one hour or more Any outdoor locations where members of the public might reasonably be expected to spend one hour or longer	Kerbside sites where the public would not be expected to have regular access

1.1.6 The monitoring results provided by GMCA and MCC and background concentrations provided by DEFRA will be compared against the relevant AQOs detailed in Appendix Table 6.1.1.

Local Planning Policy

1.1.7 The Manchester City Council Core Strategy was adopted on the 11th July 2012 (updated in March 2024) and is the key document in the Manchester Local Plan. It sets out the long-term strategic policies for Manchester's future development until 2027

and will form the framework that planning applications will be assessed against. A review of the core strategy provided the following policies in relation to Air Quality.

- Policy EN 7 – Energy Infrastructure opportunities
- Policy EN 16 – Air Quality
- Policy DM 1 – Development Management

1.1.8 Reference has been made to these policies during the undertaking of this Air Quality Assessment by assessing the impacts of road vehicle exhaust emissions on future site users and on nearby existing sensitive locations.

Appendix 6.2

Baseline

1.1 Baseline

1.1.1 Existing air quality conditions in the vicinity of the application site were identified in order to provide a baseline for assessment. These are detailed in the following sections.

Local Air Quality Management

1.1.2 As required by the Environment Act (2021), MCC, has undertaken review and assessment of air quality within their area of administration. This process has indicated that annual mean concentrations of NO_2 are above the AQO within their administration. As such, 1 AQMA has been declared, described as:

- Manchester AQMA – part of the Greater Manchester Combined Authority AQMA located within the Manchester City Council area.

1.1.3 The application site is located within the AQMA. As such, there is potential for the Proposed Development to introduce future site users into an area of elevated annual mean NO2 concentrations, and to cause air quality impacts within this sensitive area during the construction and operational phases. This has been considered within this report.

1.1.4 MCC and GMCA has concluded that concentrations of all other pollutants considered within the AQS are currently below the relevant AQOs and as such no further AQMAs have been designated.

Air Quality Monitoring

1.1.5 Monitoring of pollutant concentrations is undertaken by GMCA using continuous and passive methods throughout their areas of administration. A review of GMCA's most recent Air Quality Monitoring Data indicated that there is currently 1 automatic analyser operated by GMCA within the vicinity of the Proposed Development. Recent monitoring results from this location are shown in Appendix Table 6.2.1.

Appendix Table 6.2.1: NO_2 Automatic Monitoring Results

ID	Site Name	Type	NGR (m)		Distance to Site (m)	Annual Mean Concentration (µg/m³)		
			X	Y		2022	2023	2024
MAN1	Manchester Oxford Road	Kerbside	384239	397276	699	43.0	40.9	44.2

1.1.6 As indicated in Appendix Table 6.2.1, there were exceedances of annual mean AQOs for NO_2 at the monitoring locations in recent years. Reference should be made to Figure 6.2 within Appendix 6.6 for a graphical representation of the monitoring locations.

1.1.7 GMCA also monitor annual mean NO_2 concentrations across the borough using passive diffusion tubes. A review of the most recent air quality monitoring data indicated 3 diffusion tubes located within the vicinity of the application site, presented in Appendix Table 6.2.2.

Appendix Table 6.2.2: NO_2 Diffusion Tube Monitoring Results

ID	Site Name	Type	NGR (m)		Dist' to Site (m)	Annual Mean Concentration (µg/m³)		
			X	Y		2022	2023	2024
MA29ANO	Oxford Street	Roadside	384119	397503	536	49.8	49.6	51.3
MA77NO	Hewitt Street	Urban Background	383576	397489	28	33.10	31.60	28.40
MA82/83/84NO	Manchester Oxford Road	Roadside	384239	397276	699	42.6	41.4	41.7

1.1.8 As indicated in Appendix Table 6.2.2, there were exceedances of annual mean AQOs for NO_2 at two monitoring locations in recent years. Reference should be made to Figure 6.2 within Appendix 6.6 for a graphical representation of the monitoring locations.

Background Pollutant Concentrations

1.1.9 The total concentration of a pollutant is comprised of explicit local emission sources (such as roads and industrial sources) and the background component. The background component consists of indeterminate sources which are transported into an area from further away by meteorological conditions. Background pollutant concentrations are therefore the ambient level of pollution that is not affected by local sources of pollution.

1.1.10 In reality, it is not usually practical to obtain a true representation of background levels in urban areas due to corruption by local sources; background levels used in assessments may contain a mixture of both sources.

1.1.11 Predictions of background pollutant concentrations on a 1km by 1km grid basis have been produced by DEFRA for the entire of the UK to assist LAs in their Review and

Assessment of air quality. The Proposed Development site is located across grid square:

- NGR: 383500, 397500

1.1.12 Data for this location was downloaded from the DEFRA website. For the purpose of this assessment, background concentrations are summarised in Appendix Table 6.2.3 for the current base year (2024) and the predicted development opening year (2029).

Appendix Table 6.2.3: Predicted Background Pollutant Concentrations		
Pollutant	**Predicted Background Concentration (µg/m³)**	
	2024	**2029**
NO_X	31.83	23.17
NO_2	21.87 (28.40*)	16.68
PM_{10}	14.37	14.04
$PM_{2.5}$	8.13	7.75

*Based on local background diffusion tube monitoring

1.1.13 As indicated in Appendix Table 6.2.3, background pollutant concentrations of NO_2, PM_{10} and $PM_{2.5}$ are below the relevant AQOs detailed in 6.1.1.

Appendix 6.3

Construction Phase Methodology

1.1 Construction Phase Methodology

1.1.1 There is the potential for fugitive dust emissions to occur as a result of construction phase activities. These have been assessed in accordance with the methodology outlined within the Institute of Air Quality Management (IAQM) document 'Guidance on the Assessment of Dust from Demolition and Construction'.

1.1.2 Activities are divided into four types to reflect their different potential impacts. These are:

- Demolition
- Earthworks;
- Construction; and
- Trackout.

1.1.3 The potential for dust emissions was assessed for each activity that is likely to take place and considered three separate dust effects:

- Annoyance due to dust soiling;
- Harm to ecological receptors; and
- The risk of health effects due to a significant increase in exposure to PM_{10} and $PM_{2.5}$.

1.1.4 The assessment steps are detailed below.

***Step* 1**

1.1.5 Step 1 screens the requirement for a more detailed assessment. Should human receptors be identified within 250m from the site boundary or 50m from the construction vehicle route up to 250m from the site entrance, then the assessment should proceed to Step 2. Additionally, should ecological receptors be identified within 50m of the boundary site or 50m from the construction vehicle route up to 250m from the site entrance, then the assessment should also proceed to Step 2.

1.1.6 Should sensitive receptors not be present within the relevant distances then negligible impacts would be expected and further assessment is not necessary.

***Step* 2**

1.1.7 Step 2 assesses the risk of potential dust impacts. A site is allocated to a risk category based on two factors:

- The scale and nature of the works, which determines the magnitude of dust arising as: small, medium or large (Step 2A); and
- The sensitivity of the area to dust impacts, which can be defined as low, medium or high sensitivity (Step 2B).

1.1.8 The two factors are combined in Step 2C to determine the risk of dust impacts without mitigation applied. Step 2A defines the potential magnitude of dust emission through the construction phase. The relevant criteria are summarised in Table 6.3.1

Table 6.3.1: Construction Dust - Magnitude of Emission

Magnitude	Activity	Criteria
Large	Demolition	Total building volume greater than 75,000m3 Potentially dusty construction material (e.g. concrete) On-site crushing and screening Demolition activities greater than 12m above ground level
	Earthworks	Total site area greater than 110,000m2 Potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size) More than 10 heavy earth moving vehicles active at any one time Formation of bunds greater than 6m in height
	Construction	Total building volume greater than 75,000m3 On site concrete batching Sandblasting
	Trackout	More than 50 Heavy Duty Vehicle (HDV) trips per day Potentially dusty surface material (e.g. high clay content) Unpaved road length greater than 100m
Medium	Demolition	Total building volume 12,000m3 to 75,000m3 Potentially dusty construction material Demolition activities 6m to 12m above ground level
	Earthworks	Total site area 18,000m2 to 110,000m2 Moderately dusty soil type (e.g. silt) 5 to 10 heavy earth moving vehicles active at any one time Formation of bunds 3m to 6m in height
	Construction	Total building volume 12,000m3 to 75,000m3 Potentially dusty construction material (e.g. concrete) On site concrete batching

Table 6.3.1: Construction Dust - Magnitude of Emission		
Magnitude	**Activity**	**Criteria**
	Trackout	20 to 50 HDV trips per day Moderately dusty surface material (e.g. high clay content) Unpaved road length 50m to 100m
Small	Demolition	Total building volume under 12,000m3 Construction material with low potential for dust release (e.g. metal cladding or timber) Demolition activities less than 6m above ground level Demolition during wetter months
	Earthworks	Total site area less than 18,000m2 Soil type with large grain size (e.g. sand) Less than 5 heavy earth moving vehicles active at any one time Formation of bunds less than 3m in height
	Construction	Total building volume less than 12,000m3 Construction material with low potential for dust release (e.g. metal cladding or timber)
	Trackout	<20 HDV (3.5t) outward movements in any one day Surface material with low potential for dust release Unpaved road length <50m

1.1.9 Step 2B defines the sensitivity of the area around the development site for construction, earthworks and trackout. The factors influencing the sensitivity of the area are shown in Table 6.3.2.

Table 6.3.2: Examples of Factors Defining Sensitivity of an Area		
Sensitivity	**Examples**	
	Human Receptors	**Ecological Receptors**
High	Users expect of high levels of amenity High aesthetic or value property People expected to be present continuously for extended periods of time Locations where members of the public are exposed over a time period relevant to the AQO for PM10 e.g. residential properties, hospitals, schools and residential care homes	Internationally or nationally designated site e.g. Special Area of Conservation
Medium	Users would expect to enjoy a reasonable level of amenity Aesthetics or value of their property could be diminished by soiling People or property wouldn't reasonably be expected to be present here continuously or regularly for extended	Nationally designated site e.g. Sites of Special Scientific Interest

Table 6.3.2: Examples of Factors Defining Sensitivity of an Area		
Sensitivity	**Examples**	
	Human Receptors	**Ecological Receptors**
	periods as part of the normal pattern of use of the land e.g. parks and places of work	
Low	Enjoyment of amenity would not reasonably be expected Property would not be expected to be diminished in appearance Transient exposure, where people would only be expected to be present for limited periods. e.g. public footpaths, playing fields, shopping streets, playing fields, farmland, footpaths, short term car park and roads	Locally designated site e.g. Local Nature Reserve

1.1.10 The guidance also provides the following factors to consider when determining the sensitivity of an area to potential dust impacts during the construction phase:

- Any history of dust generating activities in the area;
- The likelihood of concurrent dust generating activity on nearby sites;
- Any pre-existing screening between the source and the receptors;
- Any conclusions drawn from analysing local meteorological data which accurately represent the area; and if relevant the season during which works will take place;
- Any conclusions drawn from local topography;
- Duration of the potential impact, as a receptor may become more sensitive over time; and
- Any known specific receptor sensitivities which go beyond the classifications given in the document.

1.1.11 These factors were considered in the undertaking of this assessment.

1.1.12 The sensitivity of the area to dust soiling effects on people and property is shown in Table 6.3.3.

Table 6.3.3: Sensitivity of the Area to Dust Soiling Effects on People and Property					
Receptor Sensitivity	**Number of Receptors**	**Distance from the Source (m)**			
		Less than 20	**Less than 50**	**Less than 100**	**Less than 250**
High	More than 100	High	High	Medium	Low

Table 6.3.3: Sensitivity of the Area to Dust Soiling Effects on People and Property					
Receptor Sensitivity	**Number of Receptors**	**Distance from the Source (m)**			
		Less than 20	**Less than 50**	**Less than 100**	**Less than 250**
	10 - 100	High	Medium	Low	Low
	1 - 10	Medium	Low	Low	Low
Medium	More than 1	Medium	Low	Low	Low
Low	More than 1	Low	Low	Low	Low

1.1.13 Table 6.3.4 outlines the sensitivity of the area to human health impacts.

Table 6.3.4: Sensitivity of the Area to Human Health Impacts						
Receptor Sensitivity	**Annual Mean PM10 Concentration**	**Number of Receptors**	**Distance from the Source (m)**			
			Less than 20	**Less than 50**	**Less than 100**	**Less than 250**
High	Greater than 32µg/m3	More than 100	High	High	High	Medium
		10 - 100	High	High	Medium	Low
		1 - 10	High	Medium	Low	Low
	28 - 32µg/m3	More than 100	High	High	Medium	Low
		10 - 100	High	Medium	Low	Low
		1 - 10	High	Medium	Low	Low
	24 - 28µg/m3	More than 100	High	Medium	Low	Low
		10 - 100	High	Medium	Low	Low
		1 - 10	Medium	Low	Low	Low
	Less than 24µg/m3	More than 100	Medium	Low	Low	Low
		10 - 100	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low
Medium	Greater than 32µg/m3	More than 10	High	Medium	Low	Low
		1 - 10	Medium	Low	Low	Low
	28 - 32µg/m3	More than 10	Medium	Low	Low	Low
		1 - 10	Low	Low	Low	Low
	24 - 28µg/m3	More than 10	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low
	Less than 24µg/m3	More than 10	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low
Low	-	More than 1	Low	Low	Low	Low

1.1.14 Table 6.3.5 outlines the sensitivity of the area to ecological impacts.

Table 6.3.5: Sensitivity of the Area to Ecological Impacts		
Receptor Sensitivity	**Distance from the Source (m)**	
	Less than 20	**Less than 50**
High	High	Medium
Medium	Medium	Low
Low	Low	Low

1.1.15 Step 2C combines the dust emission magnitude with the sensitivity of the area to determine the risk of unmitigated impacts.

1.1.16 Table 6.3.6 outlines the risk category from demolition activities.

Table 6.3.6: Dust Risk Category from Demolition			
Receptor Sensitivity	**Dust Emission Magnitude**		
	Large	**Medium**	**Small**
High	High	Medium	Medium
Medium	High	Medium	Low
Low	Medium	Low	Negligible

1.1.17 Table 6.3.7 outlines the risk category from earthworks and construction activities.

Table 6.3.7: Dust Risk Category from Earthworks and Construction			
Receptor Sensitivity	**Dust Emission Magnitude**		
	Large	**Medium**	**Small**
High	High	Medium	Low
Medium	Medium	Medium	Low
Low	Low	Low	Negligible

1.1.18 Table 6.3.8 outlines the risk category from trackout.

Table 6.3.8: Dust Risk Category from Trackout			
Receptor Sensitivity	**Dust Emission Magnitude**		
	Large	**Medium**	**Small**
High	High	Medium	Low
Medium	Medium	Medium	Low
Low	Low	Low	Negligible

***Step* 3**

1.1.19 Step 3 requires the identification of site-specific mitigation measures within the IAQM guidance to reduce potential dust impacts based upon the relevant risk categories

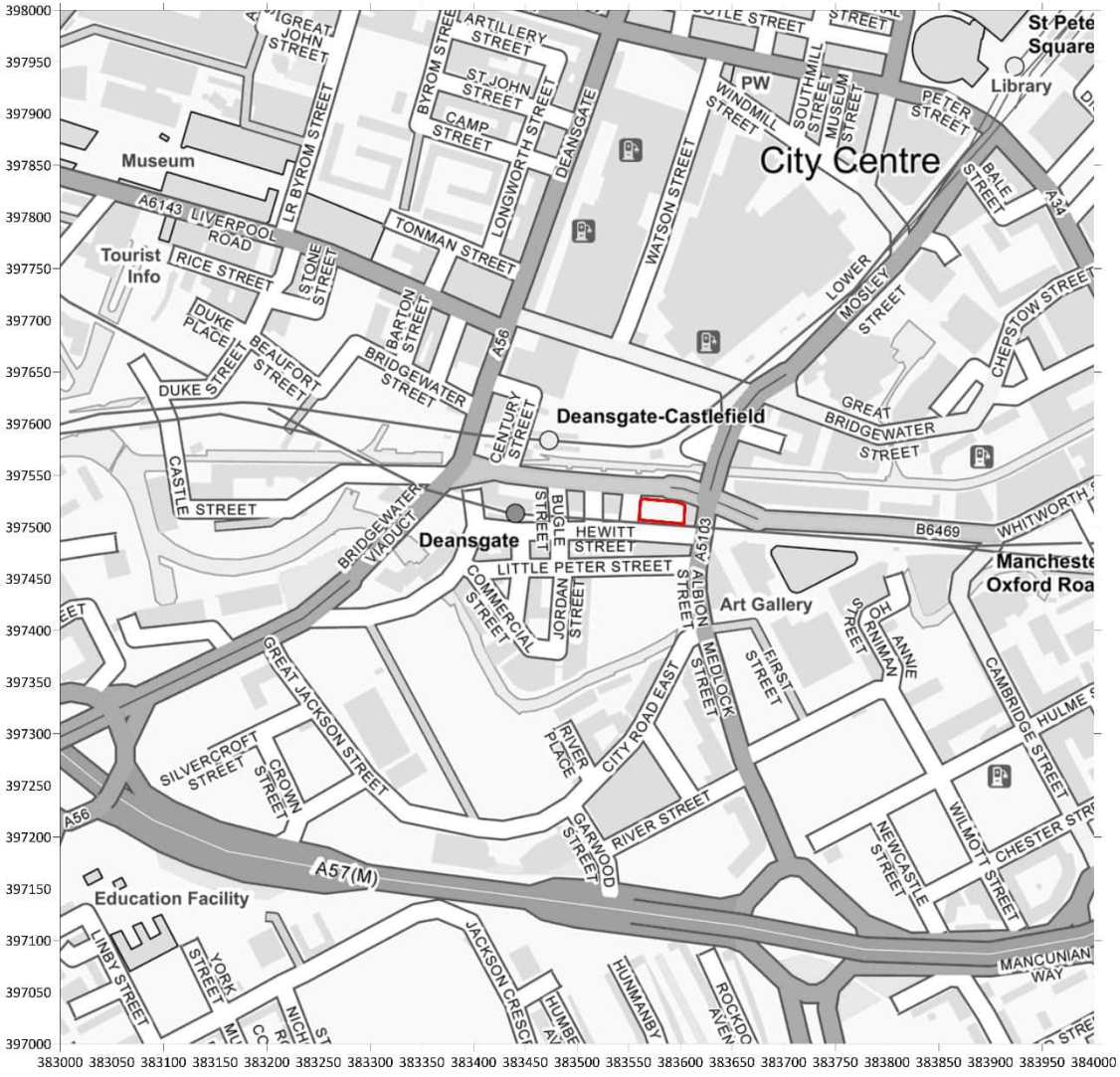
identified in Step 2. For sites with negligible risk mitigation measures beyond those required by legislation are not required. However, additional controls may be applied as part of good practice.

***Step* 4**

1.1.20 Once the risk of dust impacts has been determined and the appropriate mitigation measures identified, the final step is to determine the significance of any residual impacts. For almost all construction activity, the aim should be to control effects through the use of effective mitigation. Experience shows that this is normally possible. Hence the residual effect will normally be 'not significant'.

Appendix 6.4

Air Quality Figures



Legend

Site Boundary

Title

Figure 6.1

Site Location

Project

Whitworth Street West

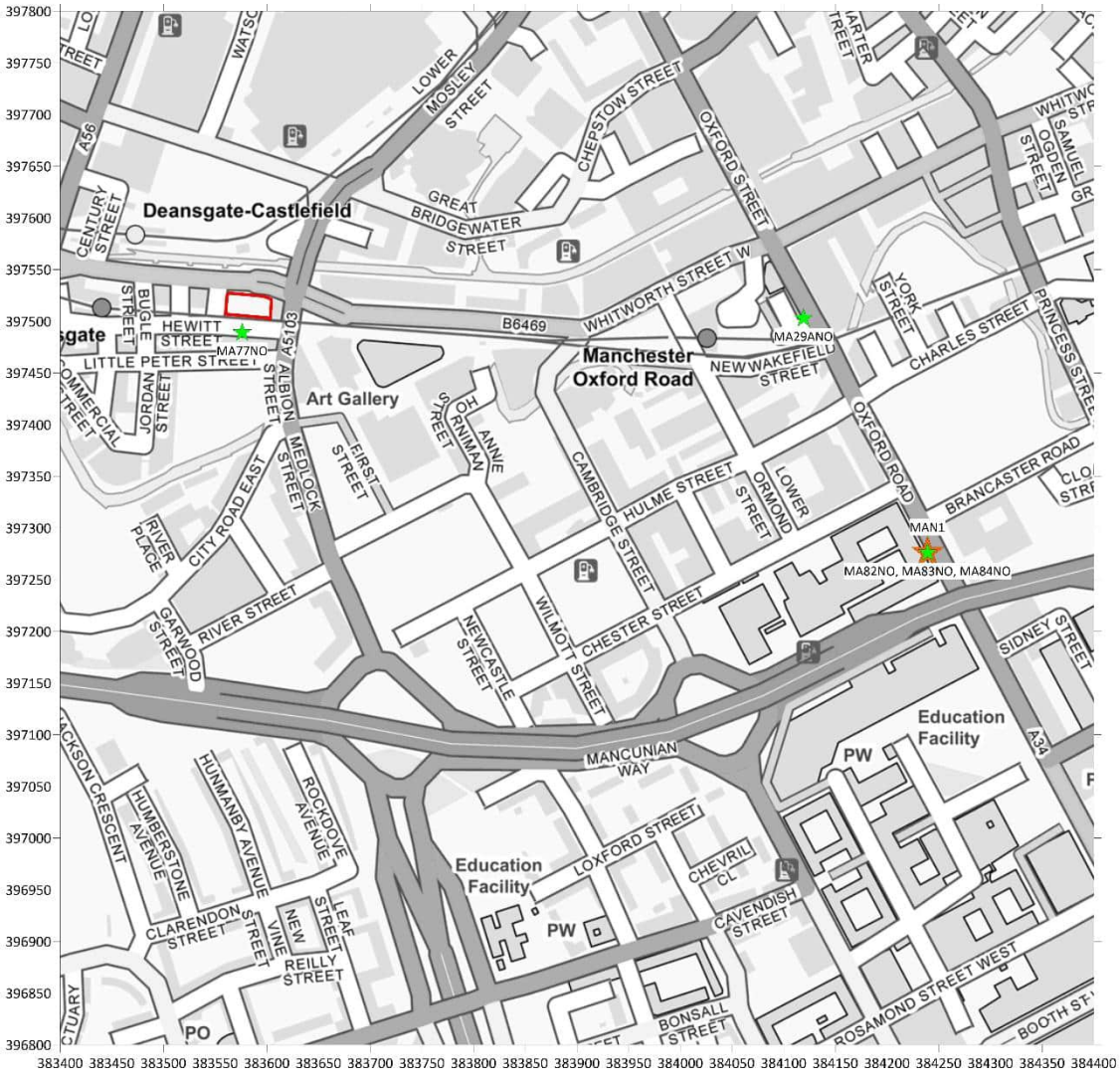
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Legend

- Site Boundary
- Diffusion Tube Monitoring Locations
- Automatic Analyser Monitoring Location

Title

Figure 6.2

Monitoring Locations

Project

Whitworth Street West

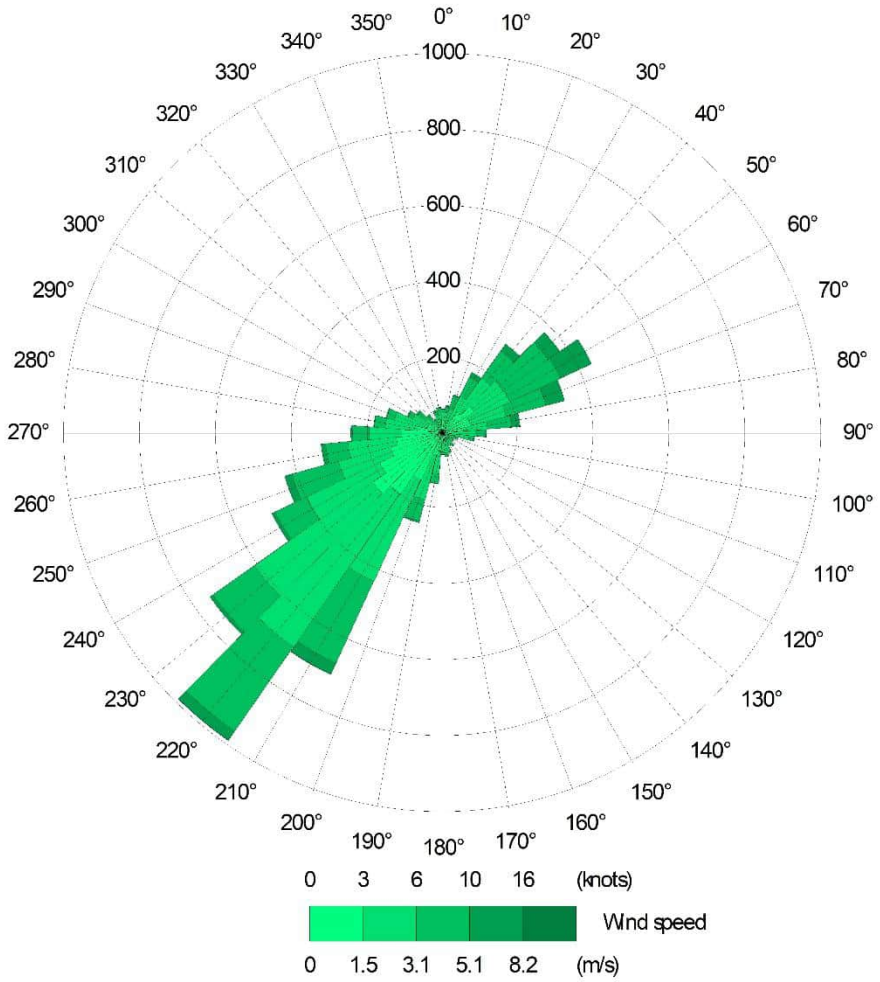
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Legend

Title

Figure 6.3

Wind Rose
Rochdale 2024 Meteorological Station

Project

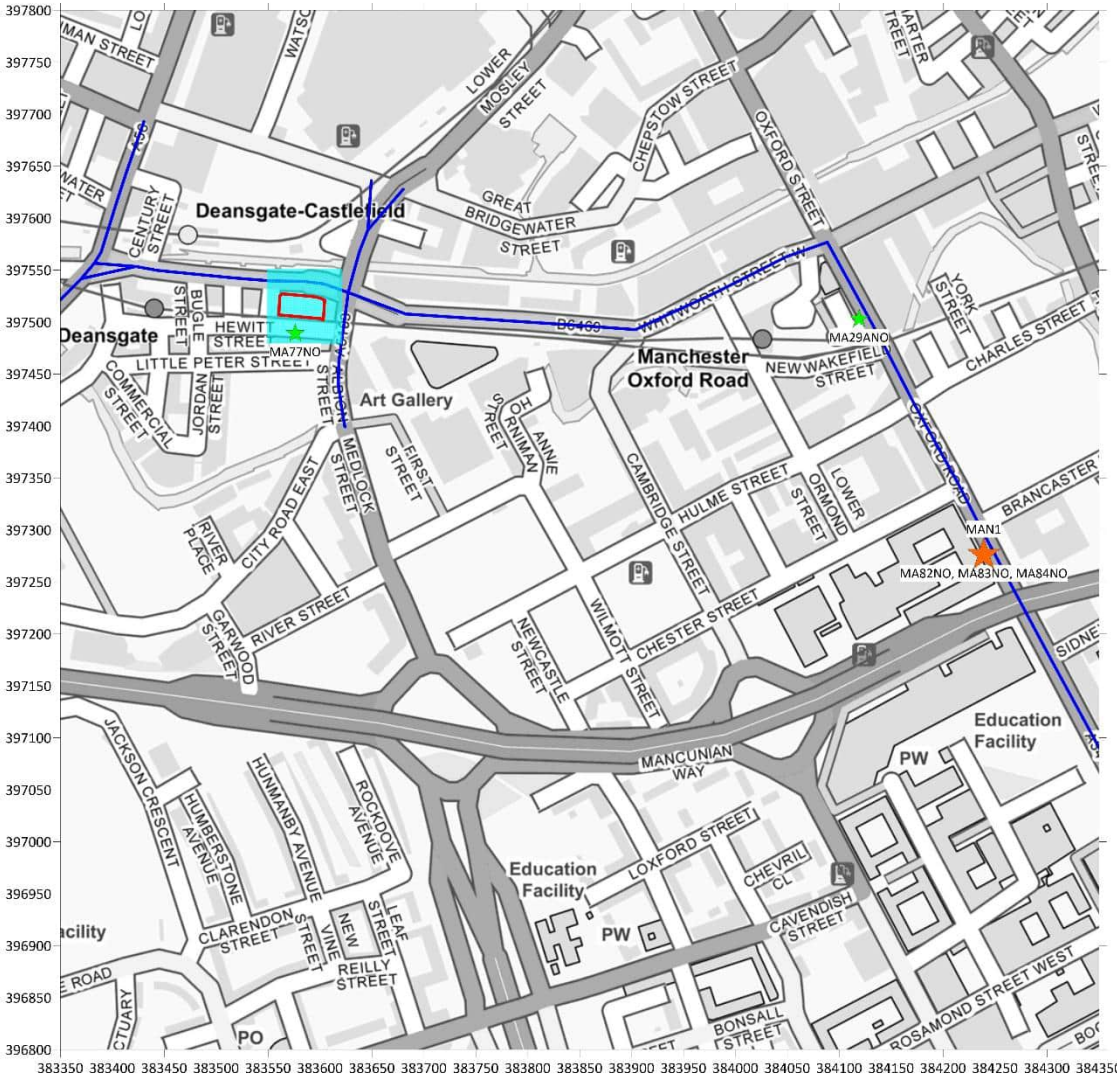
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Legend

- Site Boundary
- Modelled Road Link
- Cartesian Grid
- Diffusion Tube Monitoring
- Automatic Monitoring Station

Title

Figure 6.4

ADMS-Roads Input

Project

Whitworth Street West

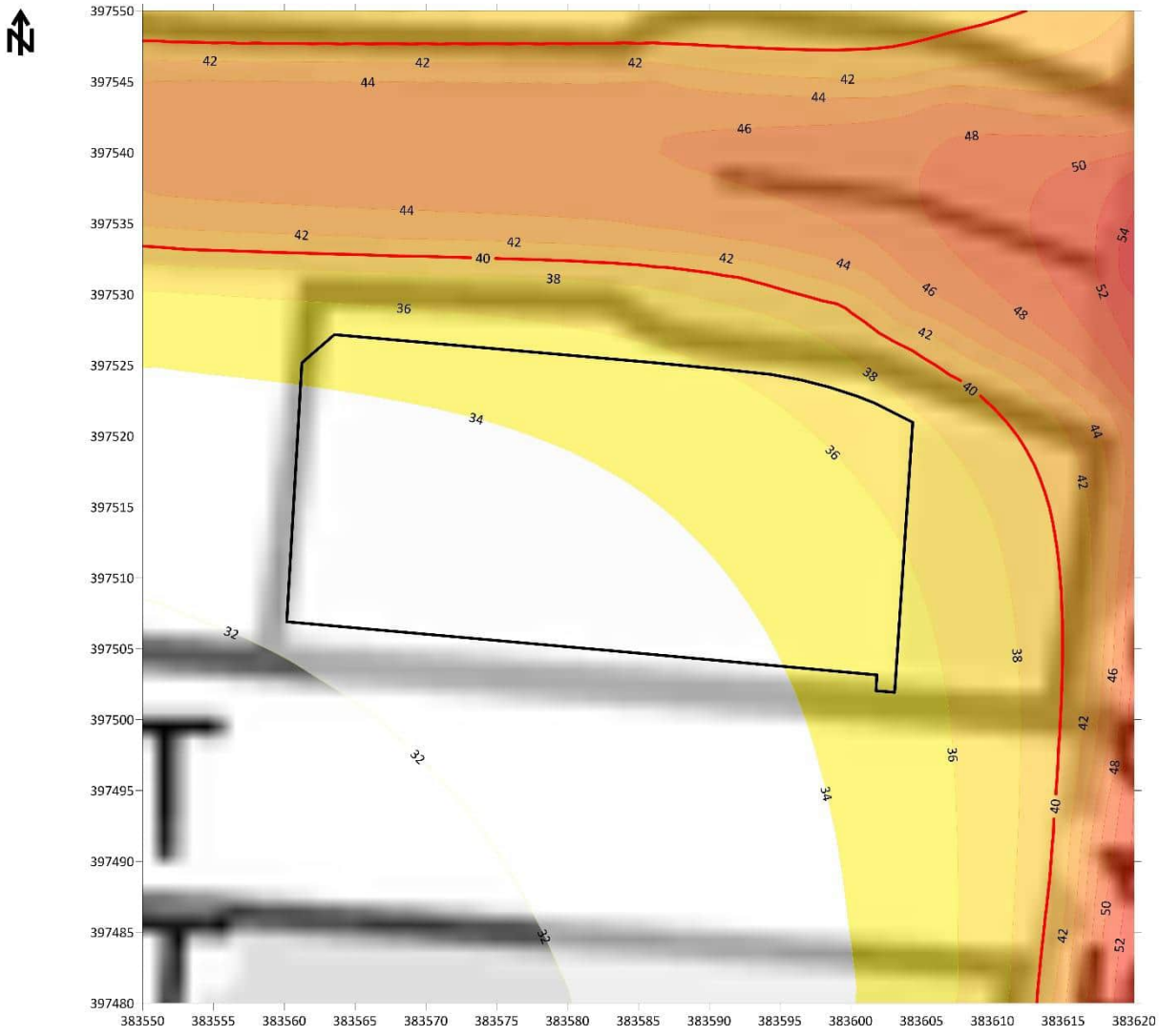
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Legend

Site Boundary

Predicted Annual Mean NO_2 Concentration (µg/m³)

54
52
50
48
46
44
42
40
38
36
34
32

Title

Figure 6.5

Predicted Annual Mean NO_2 Concentrations (µg/m³) 2029

Project

Whitworth Street West

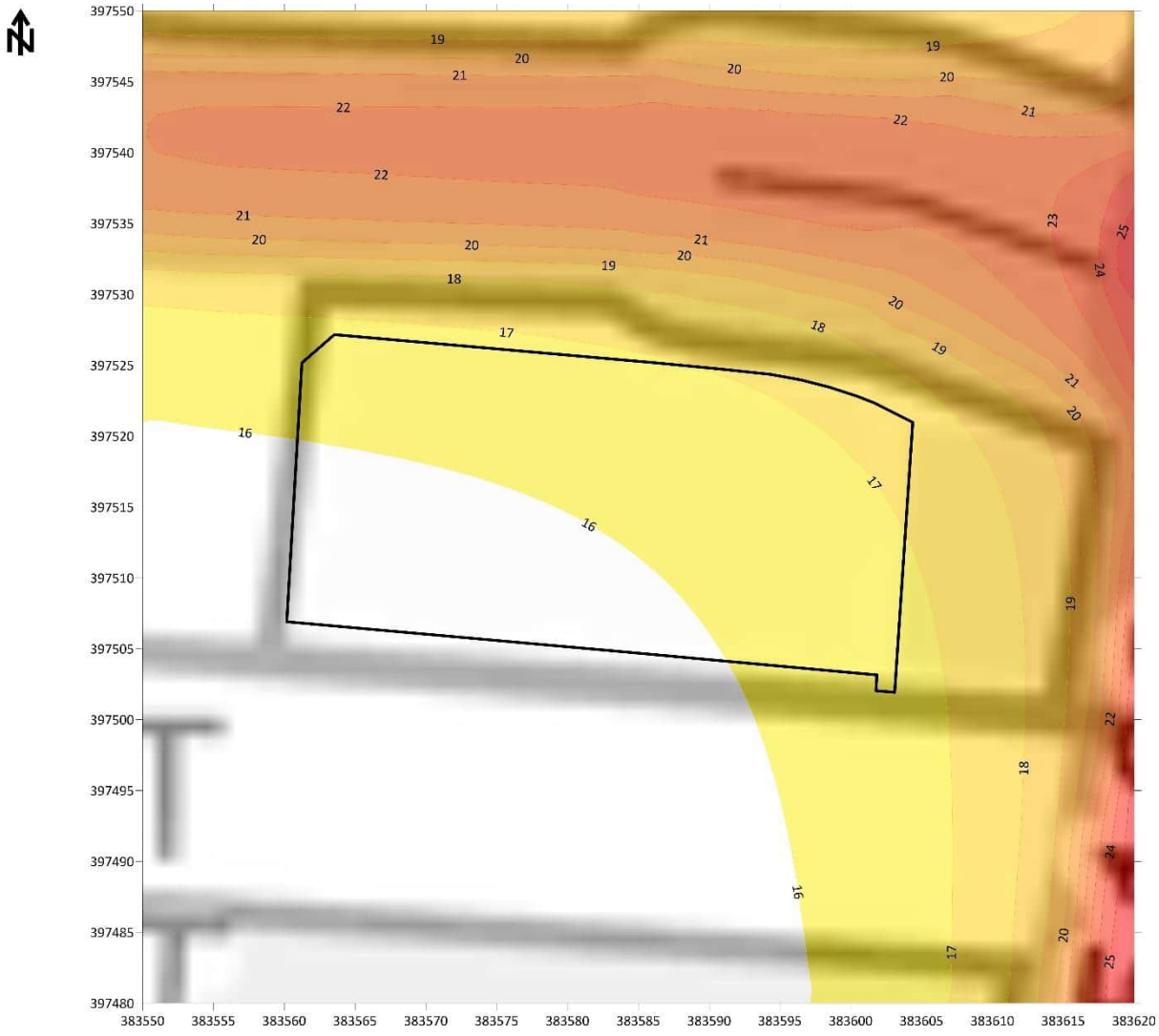
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Legend

Site Boundary

Predicted Annual Mean PM_{10} Concentration (µg/m³)

25
24
23
22
21
20
19
18
17
16
15

Title

Figure 6.6

Predicted Annual Mean PM_{10} Concentrations (µg/m³) 2029

Project

Whitworth Street West

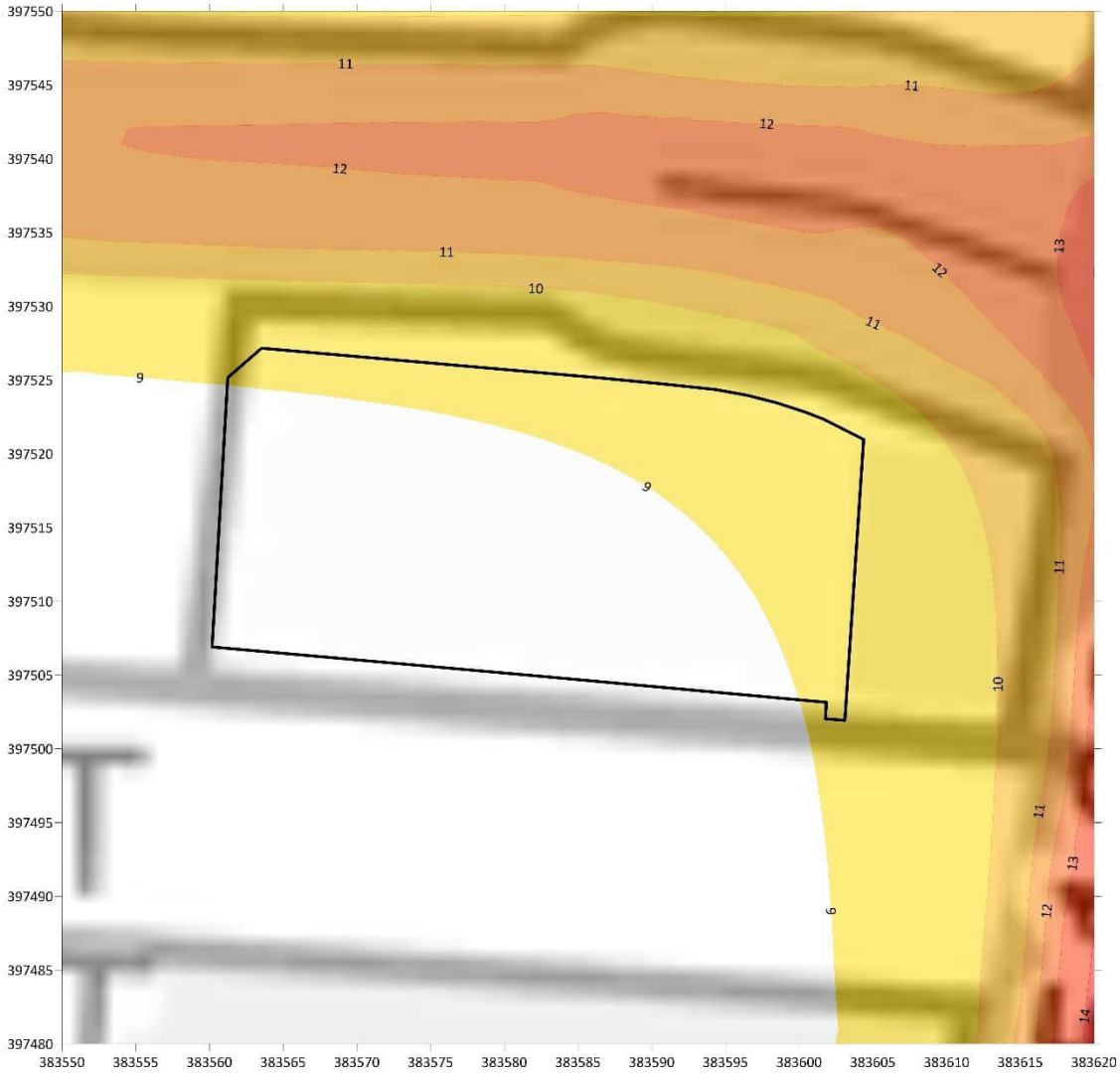
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Legend

Site Boundary

Predicted Annual Mean $PM_{2.5}$ Concentration (µg/m³)

14
13
12
11
10
9
8

Title

Figure 6.7

Predicted Annual Mean $PM_{2.5}$ Concentrations (µg/m³) 2029

Project

Whitworth Street West

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Appendix 7.1

Legislation, Planning Policy and Other Relevant Standards and Guidance

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Appendix 7.1 Legislation, Planning Policy and Other Relevant Standards and Guidance

Legislation

Control of Pollution Act 1974

Powers are given to Local Planning Authorities (LPAs) under the Control of Pollution Act 1974 (COPA) for the control of noise from construction sites. Sections 60 and 61 of COPA 1974 allow LPAs to serve notices imposing conditions on the way in which construction work is conducted. It is a criminal offence to contravene such a notice without a reasonable excuse, which can be avoided provided the work is carried out under a consent issued under Section 61 of the Act. Such consents may be applied for in advance of construction work being carried out.

LPAs can produce Regulations to control noise from plant or machinery under Section 68 of COPA 1974, but the preference is generally to use codes of practice issued under Section 71 to minimise noise. Although breach of a code of practice is not a criminal offence, these may be taken into account in legal proceedings.

The Health and Safety at Work Act 1974

The Health and Safety at Work etc. Act 1974 is the primary legislation covering occupational health and safety in the UK. The act sets out key duties and responsibilities.

Section 6 places obligations on designers, manufacturers, importers, or suppliers to ensure that articles for use at work are safe and without risks to health when properly used. The Environmental Protection Act 1990

The Environmental Protection Act 1990 establishes a framework for controlling pollution and protecting public health. For construction works, the Act outlines the best practicable means (BPM) required to minimise noise and vibration as the most feasible measures to be implemented during the design, installation / construction and maintenance of plant, machinery or buildings, with a view to reduce the effect of noise and vibration from these on the worst affected nearby sensitive premises.

The Control of Noise at Work Regulations 2005

The Control of Noise at Work Regulations 2005 provides guidance on daily and weekly personal noise exposure levels for an employee. These take into account the level and duration of noise exposure whilst at work.

Lower exposure action values

The lower exposure action values are:

(a) A daily or weekly personal noise exposure of 80 dB(A); and

(b) A peak sound pressure of 135 dB(C).

Where employees are likely to be exposed to these lower exposure action values, the employer must carry out suitable assessment of the risk from noise to the health and safety of those employees, identifying measures which need to be taken.

Assessment of the health and safety risk from noise exposure to staff is provided within this report.

Upper exposure action values

The upper exposure action values are:

(a) A daily or weekly personal noise exposure of 85 dB(A); and

(b) A peak sound pressure of 137 dB(C).

Where employees are likely to be exposed to these upper exposure action values, the employer must reduce exposure to as low a level as is reasonably practicable by establishing a programme of organisational and technical measures.

If any area is likely to be exposed to noise at or above the upper exposure action values, the employer must ensure that:

- The area is a designated hearing protection zone
- Signage is provided to indicate that ear protection must be worn, in line with Health and Safety (Signs and Signals) Regulations 1996
- Access to the area is restricted where practicable.

Exposure limit values

The exposure limit values, which must not be exceeded, are:

(a) A daily or weekly personal noise exposure of 87 dB(A); and

(b) A peak sound pressure of 140 dB(C).

The employer must ensure that employees are not exposes to noise above these exposure limit values.

If an exposure limit value is exceeded, the employer must:

- Reduce exposure to below the limit value
- Identify why the exposure limit was exceeded
- Modify the organisational and technical measures for controlling noise exposure to prevent the limit value being exceeded again.

Weekly personal noise exposure

Where exposure to noise varies markedly from day to day, weekly personal noise exposure can be used in place of daily personal noise exposure.

Guidance

ANC Acoustics, Ventilation and Overheating Guide January 2020 v1.1

Guidance on external noise levels from transport noise sources and the assessment of risk in an overheating condition is given in the Association of Noise Consultants *Acoustics Ventilation and Overheating, Residential Design Guide* (AVO Guide). The guidance for internal noise levels during the night for an overheating condition set out in AVO Guide is superseded by the requirements set out in ADO2021 and therefore is provided for information only.

A Level 1 assessment comprises assessing the external free-field noise levels to guideline thresholds. External noise levels and the associated risk categories for a Level 1 assessment are adapted and summarised in Table 1, though consideration also has to be given the duration and frequency of any overheating periods.

Table 1 Guidance for Level 1 assessment of noise from transport sources relating to overheating condition

Risk category for Level 1 assessment	External free-field noise level	
	Day (07:00–23:00)	Night (23:00–07:00)
Negligible	L_{Aeq} ≤ 52 dB	L_{Aeq} ≤ 47 dB
Low	L_{Aeq} > 52 dB and L_{Aeq} ≤ 57 dB	L_{Aeq} > 47 dB and L_{Aeq} ≤ 52 dB
Medium	L_{Aeq} > 57 dB and L_{Aeq} ≤ 62 dB	L_{Aeq} > 52 dB and L_{Aeq} ≤ 55 dB
High	L_{Aeq} > 62 dB	L_{Aeq} > 55 dB

If a Level 1 assessment finds that the development falls into a 'Medium' or 'High' risk category a Level 2 assessment should be carried out, assessing the expected internal noise levels for an overheating condition and the associated risk of adverse effect.

ProPG

Internal noise ingress criteria in ProPG are the same as in BS 8233:2014 but additional guidance is provided. In relation to regular individual noise events the following additional guidance is provided:

'In most circumstances in noise sensitive rooms at night (e.g. bedrooms) good acoustic design can be used so that individual noise events do not normally exceed 45dB $L_{Amax,F}$ more than 10 times a night. However, where it is not reasonably practicable to achieve this guideline then the judgement of acceptability will depend not only on the maximum noise levels but also on factors such as the source, number, distribution, predictability and regularity of noise events.'

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National Planning Policy

National Planning Policy Framework, 2024

The National Planning Policy Framework (NPPF) sets out the government planning requirements. No specific noise criteria are set out in the NPPF, or in the Noise Policy Statement for England (NPSE) to which it refers.

The NPPF states:

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

- *Mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and quality of life;*
- *Identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason…'*

In addition, the following is noted:

'Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed.'

National Planning Practice Guidance, 2019

The National Planning Practice Guidance (NPPG) provides further context to the NPPF and the two documents should be read together. The document provides guidance on how to recognise when noise could be a concern and the factors that influence this, along with outline guidance on noise mitigation through engineering and design, etc.

Noise Policy Statement for England, 2010

The Noise Policy Statement for England (NPSE) sets out the long-term vision of Government noise policy. The NPSE states that its aims are as follows:

"*Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:*

- *Avoid significant adverse impacts on health and quality of life;*
- *Mitigate and minimise adverse impacts on health and quality of life; and*
- *Where possible, contribute to the improvement of health and quality of life."*

The NPSE adopts established concepts from toxicology that can be applied to noise impacts. The concept details noise levels, at which the effects of an exposure may be classified into a specific category. The classification categories as detailed within the NPSE are as follows:

- No Observed Effect Level (NOEL) - the level below which no effect can be detected. Below this level no detectable effect on health and quality of life due to noise can be established;
- Lowest Observable Adverse Effect Level (LOAEL) - the level above which adverse effects on health and quality of life can be detected; and
- Significant Observed Adverse Effect Level (SOAEL) - the level above which significant adverse effects on health and quality of life occur.

The SOAEL does not have a single objective noise level that is applicable to all sources of noise in all situations and therefore, the SOAEL is likely to be different for different sources, different receptors and at different times of the day.

The first aim of the NPSE is to avoid significant adverse effects on health and quality of life, taking into account the guiding principles of sustainable development. The second aim considers situations where impacts are established between the LOAEL and SOAEL. In such circumstances, all reasonable steps should be taken to mitigate and minimise the effects. However, this does not mean that such adverse effects cannot occur. The third aim seeks to improve health and quality of life, where possible, through the pro-active management of noise, whilst also taking account of the guiding principles of sustainable development.

DEFRA have led a study to identify the SOAEL and LOAEL for a limited range of noise sources. The study was understood to have ended in 2012. However, no guidance from this research has been issued at the time of writing (April 2020).

Building regulations 2010

Approved Document O 2021 Edition (to the Building Regulations 2010) states the following in relation to noise ingress during overheating periods:

'In locations where external noise may be an issue (for example, where the local planning authority considered external noise to be an issue at the planning stage), the overheating

mitigation strategy should take account of the likelihood that windows will be closed during sleeping hours (23:00-07:00 hours).

Windows are likely to be closed during sleeping hours if noise within bedrooms exceeds the following limits.

a. $L_{Aeq,T}$ 40 dB average over 8 hours (between 23:00-07:00)

b. L_{AFmax} 55 dB more than 10 times a night (between 23:00-07:00).'

The above applies to residential dwellings, institutional residential accommodation, and other types of residential accommodation, such as student accommodation.

Local Planning Policy

Plant noise egress

Manchester City Council (MCC) provides guidance in relation to plant noise emissions in their *Planning and Noise* document October 2022. The following is stipulated:

> *'Externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (L_{Aeq}) below the typical background (L_{A90}) level at the nearest noise sensitive location.'*

External noise intrusion

Section 3.7.7.1 of MCC document *Planning and Noise* dated October 2022 provides the following internal noise limits for residential premises.

- Bedrooms (night— 23:00–07:00), L_{Aeq} 30 dB (individual noise events should not normally exceed L_{AFmax} 45 dB by more than 10 times
- Living rooms (day— 07:00–23:00), L_{Aeq} 45 dB
- Gardens and terraces (day), L_{Aeq} 55 dB.

These criteria are based on the guidance provided in BS 8233:2014 (discussed below).

Section 3.7.1.2 of the same document stipulates the following low-frequency internal noise limits for new residential developments close to entertainment venues:

> *'Music noise levels in the 63 Hz and 125 Hz octave centre frequency bands should be controlled so as not to exceed (in habitable rooms) 47 dB and 41 dB (L_{eq}), respectively.'*

From discussions with Manchester City Council it is understood that the low frequency noise criteria only apply to living-areas during the day (07:00-23:00) and to bedrooms during night (23:00-07:00).

Tactile vibration

Manchester City Council do not provide specific criteria for tactile vibration, however they do state the following in their standard planning guidance:

> *'A vibration assessment (which is usually based on BS 6472: 2008) will be required where railway/tramlines are within 20 m of a proposed development site. It is important that vibration issues are considered, and measurement data supplied in the report, together with mitigation proposals if vibration without these works has been identified as a potential problem.'*

As the proposed development is with 20 m of the railway line, tactile vibration has been assessed in line with the criteria outlined in BS 6472-1:2008.

British standards and guidance

The following paragraphs summarise the outline assessment British Standards and guidance documents used to set target criteria for the identification of noise and vibration impacts:

Construction noise and vibration

Estimation of noise and vibration generated during each principal phase of the construction works and an assessment of the likely significant effects on surrounding sensitive receptors using the methodology set out in British Standard BS 5228:2009 Code of Practice for Noise and Vibration on Construction and Open Sites (Part 1: Noise, Part 2: Vibration).

Road traffic noise

For the assessment of noise associated with road traffic, reference will be made to the Calculation of Road Traffic Noise (CRTN). Further advice is also given in the Design Manual for Roads and Bridges (DMRB) for road traffic noise assessments. Each of these documents offer a means of predicting noise levels and changes in noise level and assessment of the impact of the changes. Guidance on the impact assessment of traffic noise is provided within the Institute of Environmental Management and Assessment (IEMA) Guidance Note No. 1 Guidelines for the Environmental Assessment of Road Traffic.

Human response to vibration

British Standard BS 6472-1: Guide to Evaluation of Human Exposure to Vibration in Buildings. Part 1: Vibration Sources other than Blasting. BS 6472-1 provides guidance on the measurement and assessment of vibration levels affecting humans in buildings resulting from sources such as road and rail traffic or building services systems. The probability of adverse comment is assessed by considering the vibration dose value (VDV), which quantifies the total exposure to vibration over a specified period.

Noise egress

BS 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound* (BS 4142) provides a method for assessing noise from items such as building services plant against the existing background sound levels at the nearest noise sensitive premises.

BS 4142 suggests that if the noise level is 10 dB or more higher than the existing background sound level, it is likely to be an indication of a significant adverse impact. If the level is 5 dB above the existing background sound level, it is likely to be an indication of an adverse impact. If the level does not exceed the background sound level, it is an indication of having a low impact.

If the noise contains 'attention catching features' such as tones, bangs etc, a penalty, based on the type and impact of those features, is applied.

IEMA Guidelines for Environmental Noise Impact Assessment, 2014

IEMA Guidelines for Environmental Noise Impact Assessment 2014. The IEMA guidelines set out guidance on significance criteria for noise impact based on the changes in noise levels.

Appendix 7.2

Summary of construction plant assumptions

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Appendix 7.3 Summary of construction plant assumptions

This annex presents a summary of the construction plant assumptions which forms the basis of the construction noise and vibration assessments for 10-12 Whitworth Street West

It was confirmed by Alex Haddow at Rhomco via e-mail on 12 February 2026 that the construction assumptions are considered appropriate for this assessment.

Substructure

Assumed construction items for this phase are set out in Table 1.

Table 1 Substructure construction plant assumptions

Construction plant	Number	% activity	BS5228-1 reference	L_{Ap} at 10 m (dB)
Tipper lorry	1	50	C.8-20	79
360 excavators	1	50	C.2-2	77
Tracked excavators with breakers	1	25	C.1-9	90
Tower Crane	1	50	C.4-47	76
Generator	1	100	C.4-76	61
CFA piling rigs	3-5	70	C.3-21	79
Concrete pump and boom	1	35	C.4-32	78
Water pump	1	100	C.2-45	65
Deliveries	(18)	10	D7-121	70
Platform hoists	2	70	C.4-62	66
Hand tools – petrol saw	2	5	C.4-70	91
Vibratory roller (4 tonne)	1	50	C.2-39	74
Compressor	1	50	C.3-19	75

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Assumed construction items for this phase are set out in Table 2.

Table 2 Superstructure construction plant assumptions

Construction plant	Number	% activity	BS5228-1 reference	L_{Ap} at 10 m (dB)
Tipper lorry	1	50	C.8-20	79
Tower Crane	1	50	C.4-47	76
Concrete lorry uploading	1	25	C.4-18	75
Generator	1	100	C.4-76	61
Platform hoists	4	70	C.4-62	66
Concrete pump and boom	2	35	C.4-32	78
Water pump	1	100	C.2-45	65
Hand tools – petrol saw	2	5	C.4-70	91
Deliveries	(20)	10	D.7-121	70
Circular bench saw	2	5	C.4-71	85
Compressor	1	50	C.3-19	75

Fit-out

Fit-out activities are expected to be internal and would not cause external construction noise egress contributions.

Appendix 7.3

Noise and vibration planning report

025214-R03-C

8 May 2026

10-12 Whitworth Street West

Noise and vibration planning report

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Version	Date	Comments	Author	Reviewer
A	6 Mar 26		SC	MR
B	9 Mar 26	Minor updates to the facade sound insulation assessment	SC	MR
C	8 May 26	Revision following comments	SC	MR

Disclaimer

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Summary

Sandy Brown has been commissioned by Atri7 6 Limited to provide acoustic advice in relation to the proposed development at 10-12 Whitworth Street West, Manchester, M1 5WY.

An environmental noise and vibration survey has been carried out at the site. The noise survey was carried out between 13 January 2023 and 17 January 2023. The ground-borne vibration survey was undertaken on 6 March 2025.

Based on the requirements of Manchester City Council and on the results of the noise survey, all plant must be designed such that the cumulative noise level at 1 m from the worst affected windows of the nearby noise sensitive premises does not exceed $L_{Aeq,15min}$ 49 dB during the day and $L_{Aeq,15min}$ 42 dB during the night.

The average ambient noise levels measured during the survey were $L_{Aeq,16h}$ 64 dB during the day and $L_{Aeq,8h}$ 63 dB at night.

Predicted incident maximum noise levels are between $L_{AFmax,2min}$ 55 dB and $L_{AFmax,2min}$ 85 dB.

The nightclub El Diablo was not open on the night of 13 January 2023, and the dominant entertainment noise source was the nightclub, Lola Lo.

An initial assessment has been carried out to determine required acoustic performances for the facades and provide guidance on the ventilation strategy. The required overall facade sound insulation performances range from R'_w+C_{tr} 24 dB to R'_w+C_{tr} 40 dB, with specific low frequency sound insulation performance requirements for spaces affected by entertainment noise ingress.

Open windows to bedrooms at night can likely not be relied upon as a method to remove excess heat, and the 'dynamic thermal modelling method' will need to be used to demonstrate compliance with the requirements of ADO2021.

For tactile vibration from the nearby railway, the predicted equivalent VDVs, during the day and night periods are lower than the thresholds of the BS 6472 'low probability of adverse comment' categories.

Levels experienced may vary depending on the type of train and position of the future buildings. However, the majority of the calculated VDVs are below the lowest BS 6472 threshold, and a significant increase in the number of trains would be required for the threshold to be exceeded. Based on this, tactile vibration due to trains is unlikely to be problematic for this development.

Of the train passes captured during the survey period, all the predicted ground-borne noise levels were lower than criteria proposed by MCC. The predicted values are for worst-case lower-level student accommodation. Noise levels from this source are expected to be lower at upper floor levels.

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Contents

1 Introduction 6
2 Site description 6
3 Development proposals 8
4 Assessment criteria 8
5 Survey method 15
6 Measurement results 17
7 Plant noise egress 30
8 Facade sound insulation 31
9 Acoustics, ventilation and overheating 36
10 Vibration assessment 38
11 Conclusion 40
Appendix A 41
Survey details 41
Appendix B 45
Results of unattended measurements at Position L 45
Appendix C 47
Measurements of RMS vibration at position V1 (exposed existing pile) 47
Appendix D 51
Measured RMS acceleration results at position V2 (unmade ground) 51
Appendix E 55
Predicted incident ambient noise levels 55
Appendix F 60
Predicted maximum noise levels 60
Appendix G 63
Minimum overall facade sound insulation performance requirements 63

Appendix H 68
BS 4142 corrections for attention catching features 68

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1 Introduction

Sandy Brown has been commissioned by Atri7 6 Limited to provide acoustic advice in relation to the proposed development at 10-12 Whitworth Street West, Manchester, M1 5WY.

Environmental noise and vibration surveys have been carried out to establish:

- background sound levels around the site and by nearby noise sensitive premises
- ambient and maximum noise levels at the site
- vibration levels affecting the site.

The background sound levels measured during the survey are used as the basis for setting limits for noise emission from proposed building services plant. These limits are set in accordance with the requirements of the Manchester City Council.

Ambient and maximum noise levels are used to assess building envelope sound insulation requirements to achieve appropriate internal noise levels for residences. These follow standards set in accordance with Manchester City Council guidelines.

Vibration levels are used to assess the degree to which the proposed development will be affected by tactile vibration and ground-borne noise from the railway adjacent to the site.

This report provides details of the noise and vibration surveys, including measurement results, and provides recommendations.

2 Site description

2.1 The site and its surroundings

The site location in relation to its surroundings is shown outlined in red in Figure 1.

The proposed site is on the south-west corner of the intersection between Whitworth Street West and Albion Street.



Figure 1 Aerial view of site (courtesy of Google Earth Pro)

2.2 Adjacent premises

The site is close to the following premises:

- Hilltop apartments – residential (highlighted in green in Figure 1)
- Bars and clubs on Deansgate Locks – noted as a noise source during the survey (highlighted in blue in Figure 1). From east to west:
    - El Diablo (closed during measurement period) – Typical opening hours, 17:00-02:00 (weekday), 17:00-04:00 (Friday), 12:00-17:00 (Saturday). No longer operational as of October 2023.
    - Lola Lo (open during measurement period) – Typical opening hours, 20:00-03:00 (Thursday), 18:00-03:00 (Friday), 17:00-03:00 (Saturday). No longer operational as of January 2024.
    - Salsa En (open during measurement period) – Typical opening hours, 19:00-03:00 (Friday)
    - Popworld (open during measurement period) – Typical opening hours, 21:00-04:00 (Thursday), 20:00-04:00 (Friday), 17:00-04:00 (Saturday)
- 2 Whitworth Street West – Commercial unit (highlighted in pink in Figure 1).

Additionally, Rebellion (music venue and club space) is located at2B Whitworth Street west, 92 m to the west.

Additionally, there is a railway line forming the southern boundary of the site, including Deansgate railway station (highlighted in yellow in Figure 1).

3 Development proposals

The development is proposed to be redeveloped to form student accommodation over 39 storeys. The accommodation is proposed to comprise studio apartments, and social suites.

3.1 Potential noise sources

The potential noise sources associated with the scheme can be broadly divided into two categories:

- Building services plant
- Internal activity in amenity areas

The potential impact of these sources has been assessed and mitigation measures have been proposed to minimise impact on existing noise sensitive premises around the development.

4 Assessment criteria

4.1 NPPF and NPSE

The National Planning Policy Framework, December 2024 (NPPF) sets out the UK government's planning policies for England. It supersedes previous guidance notes such as PPG24. No specific noise criteria are set out in the NPPF, or in the Noise Policy Statement for England (NPSE) to which it refers.

The NPPF, clause 198 states:

> *'Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:*
>
> - *mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life.*
> - *identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.'*

and clause 200 states:

> *'Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed.'*

The NPSE states that its aims are as follows:

> *'Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:*
>
> - *Avoid significant adverse impacts on health and quality of life*
> - *Mitigate and minimise adverse impacts on health and quality of life and*
> - *Where possible, contribute to the improvement of health and quality of life.'*

As such, neither document sets out specific acoustic criteria for new residential developments, but they require consideration of the effect of existing noise on the new development and the effect of noise from the development on the surroundings.

4.2 Noise egress

4.2.1 Standard guidance

BS 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound* (BS 4142) provides a method for assessing noise from items such as building services plant against the existing background sound levels at the nearest noise sensitive premises.

BS 4142 suggests that if the noise level is 10 dB or more higher than the existing background sound level, it is likely to be an indication of a significant adverse impact. If the level is 5 dB above the existing background sound level, it is likely to be an indication of an adverse impact. If the level does not exceed the background sound level, it is an indication of having a low impact.

If the noise contains 'attention catching features' such as tones, bangs etc, a penalty, based on the type and impact of those features, is applied.

4.2.2 Local Authority criteria

Manchester City Council (MCC) provides guidance in relation to plant noise emissions in their *Planning and Noise* document October 2022. The following is stipulated:

> *'Externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (L_{Aeq}) below the typical background (L_{A90}) level at the nearest noise sensitive location.'*

4.3 Noise ingress

4.3.1 Local Authority requirements

Section 3.7.7.1 of MCC document *Planning and Noise* dated October 2022 provides the following internal noise limits for residential premises.

- Bedrooms (night— 23:00–07:00), L_{Aeq} 30 dB (individual noise events should not normally exceed L_{AFmax} 45 dB by more than 10 times
- Living rooms (day— 07:00–23:00), L_{Aeq} 45 dB
- Gardens and terraces (day), L_{Aeq} 55 dB.

These criteria are based on the guidance provided in BS 8233:2014 (discussed below).

Section 3.7.1.2 of the same document stipulates the following low-frequency internal noise limits for new residential developments close to entertainment venues:

> *'Music noise levels in the 63 Hz and 125 Hz octave centre frequency bands should be controlled so as not to exceed (in habitable rooms) 47 dB and 41 dB (L_{eq}), respectively.'*

From discussions with Manchester City Council it is understood that the low frequency noise criteria only apply to living-areas during the day (07:00-23:00) and to bedrooms during night (23:00-07:00).

4.3.2 British Standard guidance

Guidance on acceptable internal noise levels in residential dwellings is given in BS 8233:2014 *Sound insulation and noise reduction for buildings*. The guidance limits are shown in Table 1.

These internal levels are based on annual average data and do not have to be achieved in all circumstances. It is normal to exclude occasional events, such as fireworks night or New Year's Eve.

Table 1 Internal noise criteria for sleeping/resting

Internal space	Indoor ambient noise level, L_{Aeq} (dB)	
	Day (07:00–23:00)	Night (23:00–07:00)
Living rooms	35	-
Dining room	40	-
Bedrooms	35	30[1]

[1] BS 8233 notes that individual noise events can cause sleep disturbance, and that a guideline value may be set depending on the character and number of events per night, although no specific limit is provided. For regular events, such as scheduled aircraft or passing trains, a guideline value may be set in terms of SEL or $L_{Amax,F}$. Sporadic noise events could require separate values.

The standard states that where development is considered necessary or desirable, the internal target levels may be relaxed by up to 5 dB and reasonable internal conditions still achieved.

For external amenity areas, such as gardens and patios, the standard states:

> *'it is desirable that the external noise level does not exceed 50 dB $L_{Aeq,T}$ with an upper guideline value of 55 dB $L_{Aeq,T}$ which would be acceptable in noisier environments. However, it is also recognized that these guideline values are not achievable in all circumstances where development might be desirable. In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, 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 to ensure development needs can be met, might be warranted. In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited.'*

4.3.3 ProPG

Internal noise ingress criteria in ProPG are the same as in BS 8233:2014 but additional guidance is provided. In relation to regular individual noise events the following additional guidance is provided:

> *'In most circumstances in noise sensitive rooms at night (e.g. bedrooms) good acoustic design can be used so that individual noise events do not normally exceed 45dB $L_{Amax,F}$ more than 10 times a night. However, where it is not reasonably practicable to achieve this guideline then the judgement of acceptability will depend not only on the maximum noise levels but also on factors such as the source, number, distribution, predictability and regularity of noise events.'*

4.3.4 Approved Document O – Overheating

Approved Document O 2021 Edition (to the Building Regulations 2010) states the following in relation to noise ingress during overheating periods:

> *'In locations where external noise may be an issue (for example, where the local planning authority considered external noise to be an issue at the planning stage), the overheating mitigation strategy should take account of the likelihood that windows will be closed during sleeping hours (23:00-07:00 hours).*
>
> *Windows are likely to be closed during sleeping hours if noise within bedrooms exceeds the following limits.*
>
> a. $L_{Aeq,T}$ *40 dB average over 8 hours (between 23:00-07:00)*
> b. L_{AFmax} *55 dB more than 10 times a night (between 23:00-07:00).'*

The above applies to residential dwellings, institutional residential accommodation, and other types of residential accommodation, such as student accommodation.

4.3.5 Acoustics, ventilation and overheating

Guidance on external noise levels from transport noise sources and the assessment of risk in an overheating condition is given in the Association of Noise Consultants *Acoustics Ventilation and Overheating, Residential Design Guide* (AVO Guide). The guidance for internal noise levels during the night for an overheating condition set out in AVO Guide is superseded by the requirements set out in ADO2021 and therefore is provided for information only.

A Level 1 assessment comprises assessing the external free-field noise levels to guideline thresholds. External noise levels and the associated risk categories for a Level 1 assessment are adapted and summarised in Table 2, though consideration also has to be given the duration and frequency of any overheating periods.

Table 2 Guidance for Level 1 assessment of noise from transport sources relating to overheating condition

Risk category for Level 1 assessment	External free-field noise level	
	Day (07:00–23:00)	Night (23:00–07:00)
Negligible	$L_{Aeq} \leq 52$ dB	$L_{Aeq} \leq 47$ dB
Low	$L_{Aeq} > 52$ dB and $L_{Aeq} \leq 57$ dB	$L_{Aeq} > 47$ dB and $L_{Aeq} \leq 52$ dB
Medium	$L_{Aeq} > 57$ dB and $L_{Aeq} \leq 62$ dB	$L_{Aeq} > 52$ dB and $L_{Aeq} \leq 55$ dB
High	$L_{Aeq} > 62$ dB	$L_{Aeq} > 55$ dB

If a Level 1 assessment finds that the development falls into a 'Medium' or 'High' risk category a Level 2 assessment should be carried out, assessing the expected internal noise levels for an overheating condition and the associated risk of adverse effect.

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4.4 Tactile vibration criteria

4.4.1 Standard guidance

Tactile vibration is that which is perceived as mechanical motion. BS 6472-1:2008 *Guide to Evaluation of Human Exposure to Vibration in Buildings Part 1: Vibration Sources Other Than Blasting* provides procedures for assessing the potential human response to vibration.

Vibration is assessed in terms of the equivalent vibration dose value (VDV). This relates the level and duration of vibration.

The BS 6472-1:2008 assessment criteria are presented in Table 3.

Table 3 BS 6472-1: 2008 tactile vibration assessment criteria

VDV ($m/s^{1.75}$) above which might result in various probabilities of adverse comment within residential buildings.			
Place	Low probability of adverse comment	Adverse comment possible	Adverse comment probable
Residential buildings 16 hr day	0.2–0.4	0.4–0.8	0.8–1.6
Residential building 8 hr night	0.1–0.2	0.2–0.4	0.4–0.8

It is important to note that people exhibit wide variations of vibration tolerance. Specific values are dependent upon social and cultural factors, psychological attitudes and expected degree of intrusion.

4.4.2 Local Authority requirements

Manchester City Council do not provide specific criteria for tactile vibration, however they do state the following in their standard planning guidance:

> *'A vibration assessment (which is usually based on BS 6472: 2008) will be required where railway/tramlines are within 20 m of a proposed development site. It is important that vibration issues are considered, and measurement data supplied in the report, together with mitigation proposals if vibration without these works has been identified as a potential problem.'*

As the proposed development is with 20 m of the railway line, tactile vibration has been assessed in line with the criteria outlined in BS 6472-1:2008.

4.5 Ground-borne noise

There is currently no international or British Standard which provides guidance on assessing the impact of ground-borne noise from railways on the occupants of a building. The Association of Noise Consultants (ANC) guidelines '*Measurement and assessment of*

ground-borne noise and vibration', 2nd edition published in 2012, is generally used as the basis of assessments such as this.

This document also provides discussion on the relevant research that has been carried out, and a summary of typically adopted criteria.

The most relevant items are set out below:

- The American Public Transit Association (APTA) guidelines recommend criteria of between 30 and 40 dB(A) depending on the density and type of residential properties. They do not define where within a building these apply, or the time response that should be used.
- The Federal Transit Administration (FTA) of the US Department of Transportation, recommends limits for maximum pass-by levels of 35 dB(A) for frequent events (more than 70 events per day) and 43 dB(A) for infrequent events.
- London Underground Limited has studied the relationship between ground-borne noise levels and complaint thresholds. This was used to define a complaint threshold of L_{AFmax} 40 dB.
- The ANC guidelines also note that Local Authority guidelines for ground-borne noise were published in London and the South East, and state a limit of L_{AFmax} 35 dB.

In all the above examples, the time constant is not defined, with the exception of the Local Authority guidelines in London and the South East, which is defined as having a fast time weighting.

It should be noted that most of this research relates to residential accommodation and is aimed at providing good sleeping/resting conditions.

4.5.1 Local Authority requirements

Manchester City Council do not provide specific criteria for ground-borne noise from railways on the occupants of a building. It is understood that submitted reports for the previous scheme on this site have established that the night-time bedroom maximum noise level criterion of L_{AFmax} 45 dB should be used to assess ground-borne noise from the nearby railway.

5 Survey method

5.1 Noise survey method

The survey included unattended and attended noise measurements.

The measurements and information provided in this report are in accordance with requirements of BS 7445, as referenced in Appendix A.

5.1.1 Unattended measurements

Unattended noise monitoring was undertaken at the site over 4 days.

Details of the equipment used and the noise indices measured are provided in Appendix A.

The unattended measurements were taken over 15 minute periods between 16:00 on 13 January 2023 and 14:15 on 17 January 2023. It is noted that a live music event was held at Rebellion on 16 January 2023.

The measurement position used during the survey is indicated in Figure 1, denoted by the letter 'L'. A photograph showing the measurement location is provided in Figure 2. This location was chosen to be reasonably representative of noise levels at the site and outside the nearest noise sensitive premises.



Figure 2 Photograph of the unattended logger position

5.1.2 Attended measurements

Attended sample measurements were taken at 4 locations around the site. These are indicated in Figure 1 as positions 1 to 4. The attended measurements were carried out on 13 January 2023, over 5 minute periods.

At each position the microphone was mounted on a tripod approximately 1.5 m above the ground level and at least 1.5 m from any other reflective surface (ie, free field). Details of the equipment used and the noise indices measured are provided in Appendix A.

Dominant noise sources occurring during the measurements were noted.

5.2 Weather conditions

Weather conditions during the survey are described in Appendix A.

5.3 Vibration survey method

Ground-borne vibration measurements were taken at 2 locations around the site in order to determine the vibration levels resulting from the passage of trains on the railway tracks elevated on a viaduct adjacent to the site. The vibration measurement locations are indicated in as positions V1 and V2.

Measurement position V1 was located on an exposed existing pile (pile 81 on the piling plan).

Measurement position V2 was located on the ground at approximately equal distance (18 m) from the railway.

The measurements were taken on 6 March 2025 between 10:45 and 13:00. Measurement periods containing multiple train events (both passenger and freight trains) were obtained during the survey.

Two accelerometers were set up: one to measure vibration dose values (VDV) and one for one-third octave band slow weighted RMS acceleration. The VDV measurements were taken to establish levels of tactile vibration while the one-third octave band slow weighted RMS acceleration measurements were used for purposes of the ground-borne L_{ASmax} prediction. The accelerometers were mounted directly to the exposed concrete pile with beeswax for position V1, and on the ground using a DIN plate for position V2.

The VDV measurements were conducted in three axes as follows:

- X axis – Horizontal vibration approximately parallel to the railway tracks
- Y axis – Horizontal vibration approximately perpendicular to the railway tracks
- Z axis – Vertical vibration.

Details of the equipment used, and the vibration indices measured are provided in Appendix A.

Photographs of the measurement positions are provided in Figure 3.



Figure 3 Photographs of measurement positions V1 (left) and V2 (right)

The vibration measurements taken at both locations are considered to be reasonably representative of the vibration levels to be experienced by the proposed residential premises.

6 Measurement results

6.1 Observations

6.1.1 Noise

The dominant noise sources observed at the site during the survey were from road traffic during the day from Whitworth Street West, and train noise noted, with club noise being audible during the night from Deansgate Locks premises.

Less significant noise sources included tram noise from Deansgate Castlefield, and pedestrian noise from Whitworth Street West.

6.1.2 Vibration

Subjectively there was no perceptual vibration at the measurement location with the exception of the freight train pass at 10:52.

6.2 Noise measurement results

6.2.1 Unattended measurement results

A graph showing the results of the unattended measurements is provided in Appendix B.

Ambient noise levels measured during the day and night, during the unattended survey are presented in Table 4.

Table 4 Ambient noise levels measured during the unattended survey

Date	Day (07:00–23:00) $L_{Aeq,16h}$ (dB)	Night (23:00–07:00) $L_{Aeq,8h}$ (dB)
Friday 13 January 2023	64[1]	65
Saturday 14 January 2023	65	65
Sunday 15 January 2023	63	59
Monday 16 January 2023	64	60
Tuesday 17 January 2023	65[1]	-
Average	64	63

[1] Measurement not made over full period due to monitoring start and end time (the measurement on 13 January 23 was over 6 hours, and on 7 January 23 was over 6 hours); not included in the average.

Analysis of the maximum noise levels during the night indicates that the night-time maximum noise level not normally exceeded 10 times a night is $L_{AFmax,2min}$ 83 dB during Friday and Saturday night, and $L_{AFmax,2min}$ 79 dB during Sunday and Monday night.

In line with BS 4142:2014+A1:2019, representative background sound levels have been determined using statistical analysis of the continuous measurements.

Day and night statistical analysis of representative values for the site are given in Figure 4.

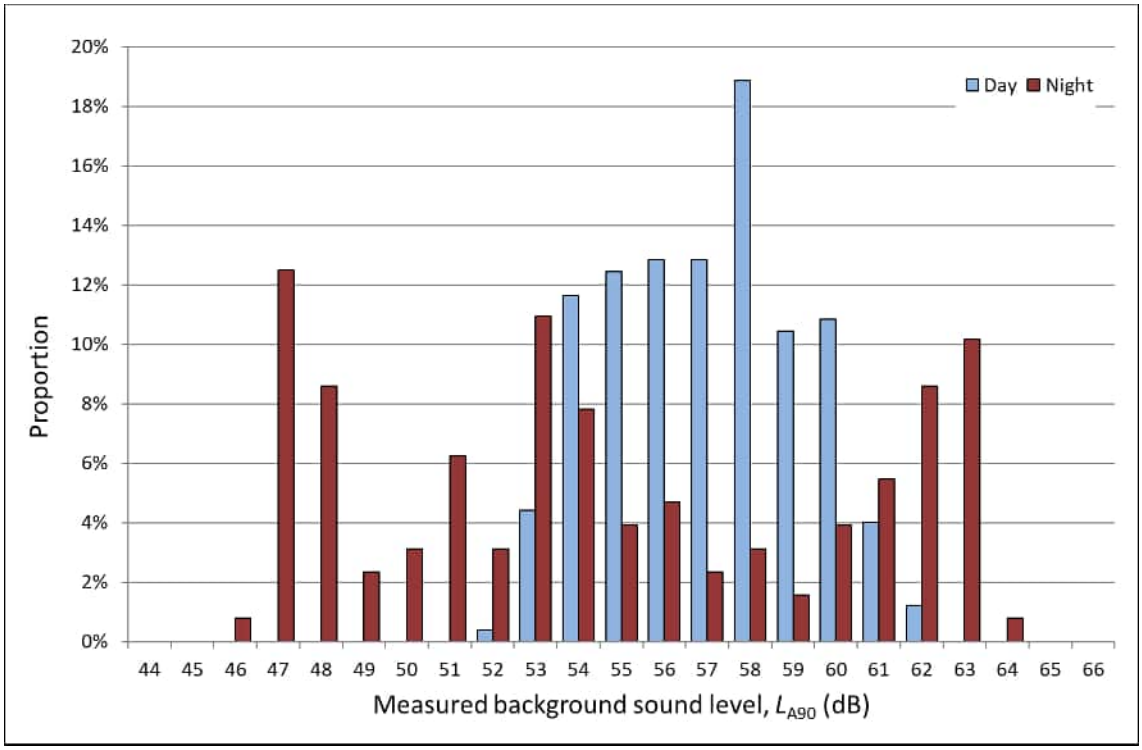


Figure 4 Day and night statistical analysis of background sound levels

From this analysis, the representative background sound levels measured during the survey were $L_{A90,15min}$ 54 dB during the day and $L_{A90,15min}$ 47 dB at night.

The measured representative octave-band background sound levels are provided in Table 5.

Table 5 Representative background sound pressure levels measured during the survey

Time period	Background sound level, $L_{90,15min}$ (dB) Octave-band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
Day (07:00-23:00)	56	52	50	50	52	45	40	33
Night (23:00-07:00)	45	43	42	43	44	38	34	28

6.2.2 Attended measurement results

Noise levels and key sources recorded during the attended measurements are summarised in Table 6.

Table 6 Noise levels and key noise sources from attended measurements – Day

Position	Start time	Sound pressure levels (dB)			Noise sources
		$L_{Aeq,5min}$	$L_{AFmax,5min}$	$L_{A90,5min}$	
1	16:00	69	83	60	At all position 1 measurements: Road traffic from Whitworth Street West dominating, occasional tram noise audible.
1	16:06	67	77	60	
1	16:11	68	80	60	
1	16:17	70	84	62	Max from car exhaust
1	16:22	68	78	61	
1	16:27	68	77	60	
1	16:32	68	76	61	
1	16:37	68	83	60	Max from bus passing
1	16:45	68	80	61	
1	16:50	71	81	66	
1	16:55	69	81	64	
1	17:00	67	86	60	
2	16:05	69	80	59	All position 2 measurements: Whitworth Street West road traffic dominating, train noise and pedestrian noise audible
2	16:10	69	80	61	
2	16:15	79	104	61	Max from pedestrian shouting into mic (not included in assessment)
2	16:20	71	86	60	Freight train pass noted.

Position	Start time	Sound pressure levels (dB)			Noise sources
		$L_{Aeq,5min}$	$L_{AFmax,5min}$	$L_{A90,5min}$	
2	16:26	69	83	63	Passenger train passes noted at each position – dominant noise source road traffic
2	16:31	69	81	60	
2	16:37	69	79	61	
2	16:42	69	80	60	
2	16:47	69	86	62	
2	16:52	68	80	60	
2	16:57	69	83	60	
2	17:04	70	86	60	
3	17:20	55	67	53	No train passes
3	17:25	58	73	53	One passenger train westbound
3	17:30	59	80	52	One passenger train eastbound
3	17:36	64	81	53	One passenger train eastbound
3	17:41	67	81	53	Two westbound and two eastbound passenger trains.
3	17:46	66	83	52	One eastbound and one westbound passenger train. Emergency siren from Whitworth St West
3	17:51	67	82	53	Two westbound and one eastbound passenger train.
3	17:56	69	88	54	One eastbound and one westbound train pulling out of station. Overhead plane.
3	18:05	66	83	55	Two eastbound and one westbound train

Position	Start time	Sound pressure levels (dB)			Noise sources
		$L_{Aeq,5min}$	$L_{AFmax,5min}$	$L_{A90,5min}$	
3	18:10	61	77	53	One westbound and one eastbound passenger plane
3	18:15	67	86	53	One eastbound passenger train, one westbound passenger train, one freight train near end of measurements
3	18:20	64	82	53	Freight train from previous measurement continued.
4	17:15	66	80	58	At all position 4 measurements: Road noise dominating, passenger trains passes audible at each measurement
4	17:20	66	81	59	
4	17:26	65	78	60	
4	17:31	66	79	60	
4	17:36	66	75	59	
4	17:41	67	77	59	
4	17:46	65	74	60	
4	17:53	65	84	59	
4	17:58	67	85	61	
4	18:03	66	82	60	
4	18:08	65	79	60	
4	18:13	67	93	60	Max from car engine revving

Table 7 Noise levels and key noise sources from attended measurements – Evening

Position	Start time	Sound pressure levels (dB)			Noise sources
		$L_{Aeq,5min}$	$L_{AFmax,5min}$	$L_{A90,5min}$	
1	21:31	65	78	58	
1	21:36	66	83	58	At all position 1 measurements: Road traffic/pedestrian dominating.
1	21:41	65	79	60	
1	21:46	65	76	59	
1	21:52	68	85	61	Max from car exhaust
1	21:57	66	83	58	Max from bus pass
1	22:05	65	80	57	
1	22:11	66	77	61	
1	22:16	67	82	59	Max from car exhaust
1	22:22	67	77	60	
1	22:27	67	76	61	
1	22:32	66	78	60	
2	21:35	65	79	58	All position 2 measurements: Road traffic dominating, passenger train passes noted during each measurement
2	21:40	66	80	58	
2	21:46	66	76	59	
2	21:51	68	79	58	
2	22:00	68	86	60	Max caused by loud car engine
2	22:06	66	77	59	
2	22:12	67	80	58	
2	22:17	68	83	60	
2	22:22	68	79	59	
2	22:27	69	80	60	
2	22:32	69	78	60	
2	22:37	68	79	60	

Position	Start time	Sound pressure levels (dB)			Noise sources
		$L_{Aeq,5min}$	$L_{AFmax,5min}$	$L_{A90,5min}$	
3	20:05	63	82	53	One eastbound and one westbound passenger train pass
3	20:10	63	77	53	One westbound passenger train pass
3	20:16	66	85	52	One eastbound passenger train pass
3	20:21	54	64	53	No train passes
3	20:26	67	82	54	Two westbound and one eastbound passenger train passes
3	20:32	67	85	52	One eastbound passenger train pass
3	20:38	66	81	53	One eastbound passenger train pass
3	20:45	67	84	52	Two westbound passenger train passes
3	20:50	54	63	52	No train passes
3	20:55	65	82	53	One eastbound and two westbound passenger train passes
3	21:00	69	99	52	One eastbound and one westbound pass. Max caused by horn from train
3	21:06	67	84	53	One eastbound and one westbound passenger train pass
4	20:05	65	81	60	At all position 4 measurements: Road traffic dominating, Clubs opened at this time but no music audible
4	20:10	65	75	59	
4	20:15	66	86	60	Max from car horn

Position	Start time	Sound pressure levels (dB)			Noise sources
		$L_{Aeq,5min}$	$L_{AFmax,5min}$	$L_{A90,5min}$	
4	20:20	64	75	59	
4	20:25	65	75	60	
4	20:30	65	74	59	
4	20:35	64	73	58	
4	20:40	64	77	58	
4	20:46	65	76	60	
4	20:51	66	80	58	Max from loud car engine
4	20:56	65	79	59	
4	21:01	65	75	59	

Table 8 Noise levels and key noise sources from attended measurements – Night

Position	Start time	Sound pressure levels (dB)			Noise sources
		$L_{Aeq,5min}$	$L_{AFmax,5min}$	$L_{A90,5min}$	
1	23:00	65	78	60	Road traffic dominating but club music audible. Club music (from Lola Lo) noted to be dominant during periods of low traffic.
1	23:05	67	78	63	
1	23:10	67	87	61	Max from nearby pedestrians
1	23:15	70	88	63	Max from emergency siren
1	23:21	66	82	62	
1	23:26	66	77	62	
2	23:35	68	79	61	At position 2: Club noise egress inaudible, road traffic dominating.
2	23:40	68	78	61	

Position	Start time	Sound pressure levels (dB)			Noise sources
		$L_{Aeq,5min}$	$L_{AFmax,5min}$	$L_{A90,5min}$	
2	23:45	68	82	61	
2	23:50	68	86	58	Max from passing pedestrian shouting (not close to mic)
2	23:55	68	84	61	
2	00:00	67	78	61	
4	23:00	68	80	59	Club noise (from Lola Lo) egress and smoking area use fairly loud at all measurements at position 4
4	23:05	68	80	63	
4	23:10	67	79	64	
4	23:16	67	78	64	
4	23:22	68	81	65	
4	23:27	68	82	65	
4	23:32	68	80	65	
4	23:37	68	77	65	
4	23:42	72	88	65	Max caused by loud car engine.
4	23:55	68	84	65	
4	00:00	68	79	65	
4	00:06	69	85	64	

The worst-case club noise measurement (from position 4 at 23:42) was dominated by music from Lola Lo. The octave-band measurements from this period are summarised in Table 9.

Table 9 Octave band noise levels from attended measurements – Worst entertainment noise (night)

Measurement	Measured sound pressure level, $L_{Aeq,5min}$ (dB) Octave-band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
Position 4 (23:42)	82	68	66	71	68	63	58	50

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6.3 Vibration measurement results

VDVs measured at position V1 are presented in Table 10 and position V2 in Table 11. The maximum VDVs measured for each of the directions are highlighted in red.

Table 10 VDVs measured at position V1 (exposed existing pile)

Start time	Number of events	VDV ($m/s^{1.75}$)		
		X-axis	Y-axis	Z-axis
10:44	0	0.00033	0.00036	0.00081
10:45	0	0.00036	0.00035	0.00077
10:46	1	0.00064	0.00081	0.00132
10:47	0	0.00032	0.00028	0.00065
10:48	0	0.00038	0.00035	0.00075
10:49	0	0.00042	0.00038	0.00084
10:50	0	0.00058	0.00050	0.00125
10:51	1	0.00115	0.00128	0.00196
10:52	1	0.00186	0.00226	0.00344
10:53	1	0.00117	0.00140	0.00249
10:54	0	0.00037	0.00035	0.00084
10:55	0	0.00052	0.00058	0.00108
10:56	0	0.00060	0.00047	0.00092
10:57	0	0.00056	0.00051	0.00105
10:58	1	0.00069	0.00072	0.00130
10:59	0	0.00033	0.00039	0.00093
11:00	1	0.00060	0.00052	0.00101
11:01	0	0.00056	0.00067	0.00108
11:02	1	0.00076	0.00091	0.00137
11:03	0	0.00050	0.00043	0.00111
11:04	0	0.00056	0.00056	0.00098
11:05	1	0.00067	0.00057	0.00114
11:06	1	0.00080	0.00098	0.00198
11:07	0	0.00042	0.00038	0.00092

Start time	Number of events	VDV ($m/s^{1.75}$)		
		X-axis	Y-axis	Z-axis
11:08	0	0.00045	0.00046	0.00114
11:09	1	0.00059	0.00055	0.00121
11:10	0	0.00062	0.00056	0.00116
11:11	1	0.00086	0.00123	0.00165
11:12	1	0.00051	0.00053	0.00104
11:13	0	0.00061	0.00060	0.00123
11:14	0	0.00027	0.00028	0.00059
11:15	1	0.00069	0.00081	0.00118
11:16	0	0.00058	0.00057	0.00098
11:20	0	0.00038	0.00042	0.00087
11:21	1	0.00088	0.00099	0.00160
11:22	0	0.00045	0.00035	0.00080
11:23	0	0.00026	0.00024	0.00060
11:24	1	0.00068	0.00054	0.00120
11:35	1	0.00065	0.00077	0.00116
11:36	1	0.00072	0.00063	0.00113
11:37	0	0.00033	0.00030	0.00061
11:38	1	0.00063	0.00062	0.00122
11:39	0	0.00037	0.00041	0.00076

[1] Measurements of RMS acceleration are presented in Appendix C.

Table 11 VDVs measured at position V2 (unmade ground)

Start time	Number of events	VDV ($m/s^{1.75}$)		
		X-axis	Y-axis	Z-axis
12:04	1	0.00032	0.00038	0.00308
12:05	0	0.00027	0.00032	0.0018
12:06	0	0.00066	0.00074	0.0051
12:07	1	0.00051	0.00055	0.00373
12:09	1	0.00074	0.00099	0.0099

Start time	Number of events	VDV ($m/s^{1.75}$)		
		X-axis	Y-axis	Z-axis
12:10	1	0.00042	0.00069	0.00344
12:11	0	0.00038	0.00045	0.0029
12:12	1	0.00061	0.00056	0.00606
12:13	1	0.00067	0.00085	0.00675
12:14	0	0.00047	0.00055	0.00431
12:15	1	0.00053	0.00067	0.00645
12:16	1	0.00046	0.00058	0.00637
12:17	0	0.00041	0.00054	0.00365
12:18	0	0.00039	0.00041	0.00336
12:19	0	0.00029	0.00036	0.00235
12:20	1	0.00073	0.00129	0.01027
12:21	0	0.00036	0.00043	0.00316
12:22	1	0.00053	0.00064	0.00432
12:23	0	0.00031	0.00037	0.00274
12:24	0	0.00039	0.00047	0.00335
12:25	0	0.0003	0.00034	0.0031
12:26	1	0.00045	0.0005	0.00364
12:27	0	0.00038	0.00044	0.00311
12:28	0	0.00027	0.0003	0.00189
12:29	1	0.0005	0.00062	0.00363
12:34	0	0.00037	0.00039	0.00281
12:35	0	0.00042	0.00047	0.00269
12:36	1	0.00053	0.00068	0.00516
12:37	1	0.00058	0.00094	0.00951
12:38	1	0.00053	0.00065	0.00476
12:39	0	0.00032	0.00039	0.00295
12:40	0	0.00029	0.00027	0.00179
12:43	1	0.00061	0.00076	0.00586
12:44	0	0.00039	0.00047	0.00335

Start time	Number of events	VDV (m/s$^{1.75}$)		
		X-axis	Y-axis	Z-axis
12:45	0	0.00062	0.00089	0.00523
12:46	0	0.0004	0.00057	0.00367
12:47	1	0.00047	0.00052	0.00463
12:48	1	0.00074	0.0011	0.01071
12:49	0	0.00049	0.00058	0.00464
12:50	0	0.00032	0.00031	0.00232
12:51	0	0.00031	0.00035	0.00224
12:52	1	0.00072	0.00091	0.00836
12:53	0	0.00053	0.00071	0.0047
12:54	0	0.00046	0.00059	0.0039
12:55	1	0.00042	0.00046	0.00293

[1] Measurements of RMS acceleration are presented in Appendix D.

7 Plant noise egress

7.1 Limits

Based on the above criteria and the measurement results, the cumulative noise level from the operation of all new plant should not exceed the limits set out in Table 12.
The limits apply at 1 m from the worst affected windows of the nearest noise sensitive premises and are presented as facade levels. In this case these limits would apply at all noise sensitive receptors identified in Figure 1.

Table 12 Plant noise limits at 1 m from the nearest noise sensitive premises

Time of day	Maximum sound pressure level at 1 m from noise sensitive premises, $L_{Aeq,15min}$ (dB)
Day (07:00–23:00)	49
Night (23:00–07:00)	42

[1] The limits set out in Table 12 do not include any attention catching features. The penalty corrections for attention catching features may be significant, and will need to be considered as the building services design progresses. This is discussed in Appendix H.

7.2 Assessment

All building services plant will be designed to achieve the noise limits set out above, including any corrections for attention catching features. Assessment has been undertaken to ensure that the proposed design meets the plant noise egress criteria at the nearby noise sensitive premises.

8 Facade sound insulation

This section describes an assessment of facade sound insulation to control noise ingress. The required facade specification largely depends on the external noise levels and the internal noise criteria.

The following assessment is based on achieving the internal noise levels recommended in BS 8233:2014 and by Manchester City Council.

8.1 Environmental noise modelling

A 3D environmental noise model of the site and the surrounding area has been created using CadnaA software by Datakustik. The models allows for an assessment of noise ingress by incorporating the screening that the proposed building will provide when it is completed.

The model and initial assessment currently considers existing and previously observed sources of environmental and entertainment noise. Any new sources of noise within the scheme will need to be considered as the design progresses.

The software carries out calculations using a ray tracing technique. This takes account of the effects of topography, reflections, screening and distance attenuation for noise sources to predict noise levels in three dimensions. Calculations are carried out in accordance with ISO 9613 (2024) *Attenuation of sound during propagation outdoors*.

The predicted external noise levels from the 3D environmental noise model are shown below. Figure 5 to Figure 6 provide of the expected external day noise levels at the facade. Figure 7 to Figure 8 show the expected night noise levels at the facade. The worst case predicted ambient noise levels incident on the facade are presented in Appendix E. The worst case predicted maximum noise levels incident on the facade are presented in Appendix F.

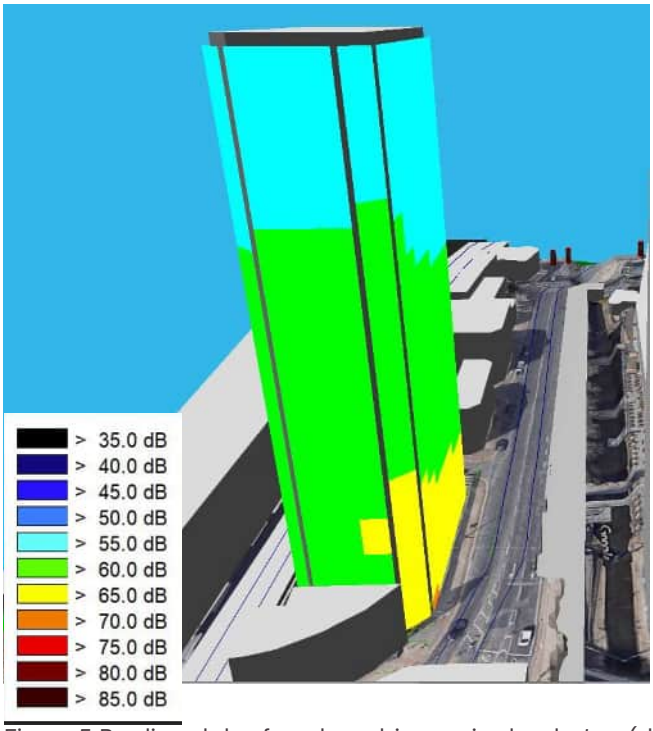


Figure 5 Predicted day facade ambient noise levels, L_{Aeq} (dB) – north and east

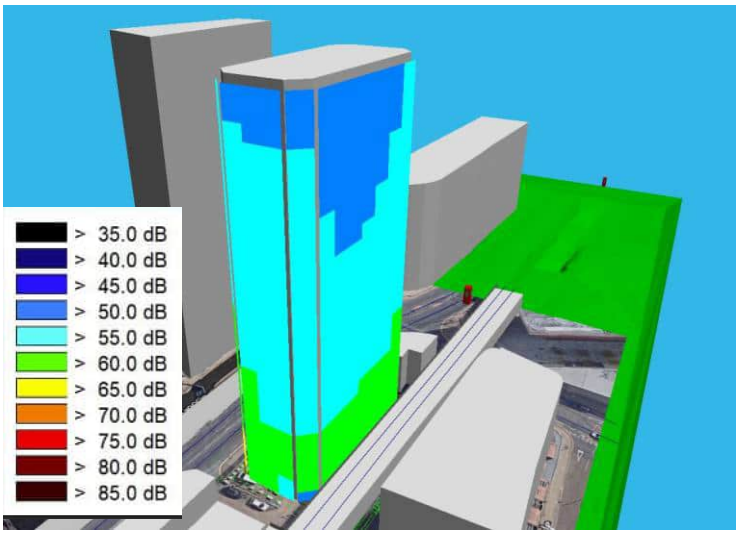


Figure 6 Predicted day facade ambient noise levels, L_{Aeq} (dB) – south and west

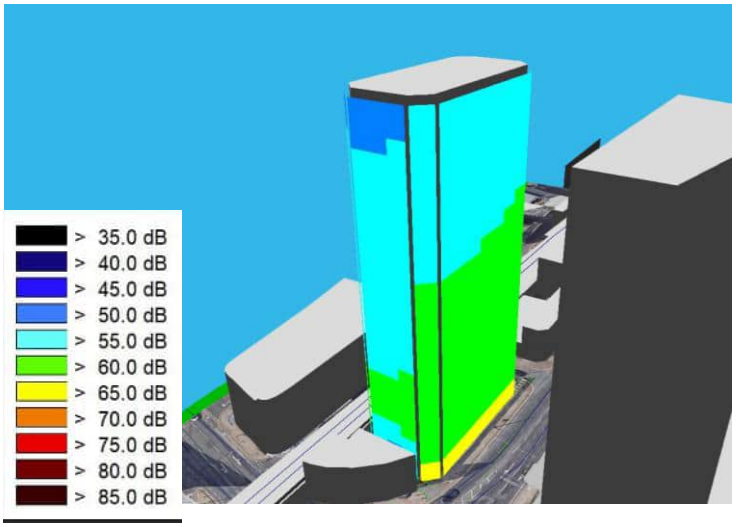


Figure 7 Predicted night facade ambient noise levels, L_{Aeq} (dB) – north and east

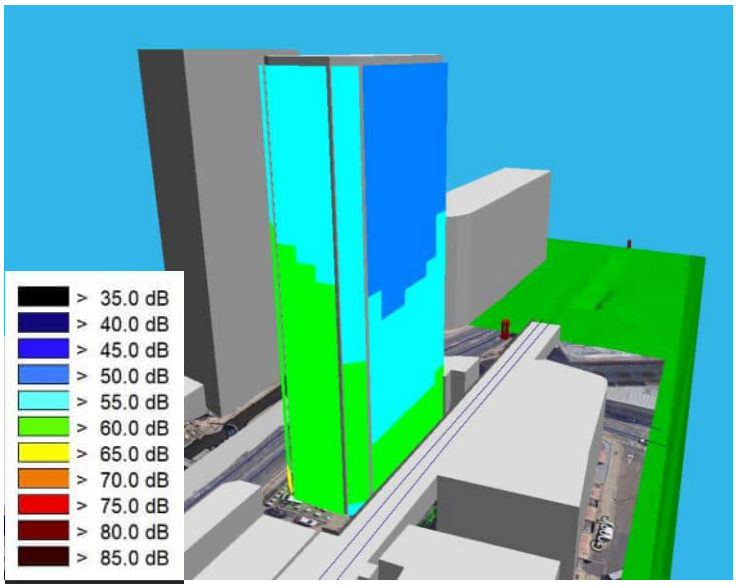


Figure 8 Predicted night facade ambient noise levels, L_{Aeq} (dB) – south and west

8.2 Noise egress

Noise egress via the building envelope from internal equipment and activities will need to be considered during the design. This is to ensure noise transfer to nearby noise sensitive premises, external accessible areas and back into other parts of the building is controlled.

Noise egress will need to be considered from plant rooms. Atmospheric terminations are recommended to be ducted to the facade via attenuators.

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8.3 Facade sound insulation

An assessment of the facade sound insulation performance requirements has been carried out based on the current design information and results of the site noise measurements.

The nightclub El Diablo was closed at the time of the environmental noise survey (13 January 2023), and the dominant entertainment noise source was the nightclub, Lola Lo. Both these nightclubs are now closed and the units are vacant. It is assumed that similar nightclubs could open in their place.

The individual unit layouts have not been confirmed at this stage, however the majority of these are studios, and the requirements have been set based on criteria for bedrooms. It is assumed that the studio dimensions are approximately:

- 2.6 m x 5.8 m x 2.9 m (width x depth x height)
- Reverberation time of 0.5 s.

The required sound insulation performances for each facade are set out in Table 13.

A mark-up showing the minimum overall sound insulation requirements for the student accommodation is set out in Appendix G.

Table 13 Minimum studio accommodation facade sound insulation performance requirements

Facade	Minimum overall sound insulation performance	Minimum low-frequency sound insulation performance
North		
Level 2 to Level 12	R'_w+C_{tr} 40 dB	R'_{63Hz} 22 dB R'_{125Hz} 19 dB
Level 13 to Level 26	R'_w+C_{tr} 33 dB	R'_{63Hz} 19 dB R'_{125Hz} 16 dB
Level 27 to Level 38	R'_w+C_{tr} 30 dB	R'_{63Hz} 18 dB R'_{125Hz} 14 dB
South		
Level 2 to Level 9	R'_w+C_{tr} 40 dB	
Level 10 to Level 22	R'_w+C_{tr} 33 dB	
Level 23 to Level 38	R'_w+C_{tr} 30 dB	
East		
Level 2 to Level 29	R'_w+C_{tr} 33 dB	
Level 30 to Level 38	R'_w+C_{tr} 30 dB	

Facade	Minimum overall sound insulation performance	Minimum low-frequency sound insulation performance
West		
Level 2 to Level 17	R'_w+C_{tr} 40 dB	R'_{63Hz} 22 dB R'_{125Hz} 18 dB
Level 18 to Level 38	R'_w+C_{tr} 30 dB	R'_{63Hz} 16 dB R'_{125Hz} 12 dB

8.3.1 Amenity space

The minimum sound insulation requirement for the ground floor, Level 1 and Level 2 amenity spaces is R'_w+C_{tr} 32 dB. This is on the basis that amplified sound will not be used in this space. The upper level amenity spaces shall be aligned with the requirements outlined in Table 13 (excluding low frequency facade sound insulation performance requirements) on the basis that amplified sound will not be used in the spaces.

If amplified sound is proposed, the operational noise egress assessment would need to be revised, and more onerous facade sound insulation performance requirements may be required.

8.3.2 Guidance on facade construction, glazing and ventilation strategy

The performance required by each element will depend on the relative areas of glazed and non-glazed elements.

The external wall construction will need to achieve a sound insulation performance of 10 dB higher than the glazing. For facade locations where there are specific low frequency sound insulation requirements the facade would need to incorporate either a pre-cast concrete element, masonry blockwork, or multiple layers of cement board.

Based on the proposed elevations, the glazed elements comprise approximately 40–50% of the overall facade construction.
REF _Ref223699499 \h Table 14sets out some examples of glazing configurations that could achieve the required sound insulation performances.

Table 14 Example glazing configurations

Minimum facade sound insulation performance	Example glazing configurations
R'_w+C_{tr} 30 R'_{63Hz} 18 dB R'_{63Hz} 14 dB	8 mm glass/16 mm cavity/6 mm glass
R'_w+C_{tr} 33 R'_{63Hz} 22 dB R'_{63Hz} 18 dB	8.8 mm acoustic laminate glass/16 mm cavity/10 mm glass
R'_w+C_{tr} 40 dB R'_{63Hz} 22 dB R'_{63Hz} 19 dB	To the north and west facades, the low frequency facade sound insulation requirements are onerous and the following are required: • Limited window size, approximately 2 m^2 (around 30% glazed area). • Wide space secondary glazing with a cavity of around 200 mm OR high performance double glazing configuration approximately 50 mm deep, with acoustic laminate glazing to both panes. • Consideration of glazing panel sizes as this will affect the low frequency sound insulation performance.

A more detailed facade assessment will be needed as the design develops to ensure the overall performance requirements are met.

All spaces are to be mechanically ventilated, with student accommodation ventilated via MVHR units. MVHR terminations will need to be suitably attenuated to ensure that noise ingress is adequately controlled.

Openable elements (ie, purge vents, windows) should not be relied upon to control overheating, but can be used for purge ventilation (eg, getting rid of odours).

9 Acoustics, ventilation and overheating

ADO2021 sets out requirements for internal noise levels in bedrooms during the night, and therefore takes precedence over AVO Guide. For living rooms during the day, the guidance in AVO Guide has been used to inform the recommendations provided.

9.1 Approved Document O 2021 (during the night)

Although demonstrating compliance with ADO2021 is not strictly a requirement of planning, achieving the requirements will likely have implications on the building's design. This may include impacts on the appearance of the facade and requirements for additional building

services plant (eg, external heat rejection plant, mechanical ventilation with/without cooling units within apartments).

ADO2021 sets out requirements for internal noise levels in bedrooms during the night, and therefore takes precedence over AVO Guide.

The *Approved Document O Noise Guide*, 2024 Association of Noise Consultants (ANC) provides the following simplified assessment method in relation to meeting the requirements of ADO:

> *'Based on typical assumptions, the resulting outside-to-inside level difference for window openings necessary to satisfy the simplified method of AD-O are expected to be approximately 5 dB for 'high' risk locations and 10 dB for 'moderate' risk locations.'*

There are external noise level thresholds above which the simplified method cannot be used, which are presented in Table 15. Above these thresholds a dynamic thermal modelling exercise should be carried out.

Table 15 External noise levels above which the simplified method cannot be used

Parameter	High risk location	Moderate risk location
Free-field night-time ambient noise level, $L_{Aeq,8hr}$ (dB)	45	50
Free-field night-time maximum noise level more than 10 times a night, L_{AFmax} (dB)	60	65

The results of noise survey and environmental noise modelling exercise have been used to assess external noise levels at night. The free-field external noise levels at night can be summarised as follows:

- Facade facing Whitworth Street: L_{Aeq} 54-67 dB and L_{AFmax} 67-82 dB
- Facade the railway: L_{Aeq} 53-59 dB and L_{AFmax} 62-82 dB.

The proposed site is considered a high-risk location. When compared with the levels set out Table 15, the levels outside the bedroom windows at night are predicted to exceed the simplified method thresholds.

Therefore, open windows to bedrooms at night can likely not be relied upon as a method to remove excess heat, and the 'dynamic thermal modelling method' will need to be used to demonstrate compliance with the requirements of ADO2021.

9.2 Acoustics, ventilation and overheating assessment (during the day)

The results of noise survey and environmental noise modelling have been used to carry out a Level 1 assessment of noise ingress during an overheating condition for living rooms during the day in line with the external noise criteria set out in Table 2.

The Level 1 assessment indicates that the proposed development falls into the high-risk category and therefore a Level 2 assessment is recommended.

10 Vibration assessment

10.1 Tactile vibration

BS 6472 states that the assessment should be based on the axis along which the highest VDV is measured to. During the measurements the highest VDV was measured on the Z axis.

Published timetables indicate that approximately 21 trains pass the site per hour during the day. This will result in approximately 368 trains passing on the tracks between 07:00 – 23:00. At night, published timetables indicate that approximately 10 trains pass the site per hour. This will result in approximately 79 trains passing on the tracks between 23:00 – 07:00.

Based on published timetables, during the day, 37 freight trains pass the site, whilst during the night-time, 26 freight trains pass.

Based on the maximum vibration values from Table 3, and on the number of trains passing on the tracks between 07:00 – 23:00 and 23:00 – 07:00, the equivalent VDVs over a 16 hour day and an 8 hour night are given in Table 16.

Table 16 Calculated vibration dose values at position V1

Axis	Calculated VDVs ($m/s^{1.75}$)	
	Day (07:00–23:00)	Night (23:00–07:00)
X	0.003	0.003
Y	0.003	0.003
Z	0.019	0.016

These predicted equivalent VDVs, during the day and night periods are lower than the thresholds of the 'low probability of adverse comment' categories in Table 3. The predicted equivalent VDVs would be lower on upper floors, meeting the 'low probability of adverse comment' threshold.

Levels experienced may vary depending on the type of train and position of the future buildings. However, the majority of the calculated VDVs are below the lowest BS 6472 threshold, and a significant increase in the number of trains would be required for the threshold to be exceeded. Based on this, tactile vibration due to trains is unlikely to be problematic for this development.

10.2 Ground-borne noise ingress

Ground-borne noise within the proposed development was predicted using an empirical formula described in the ANC guidelines.

Predicted ground-borne noise levels from the vibration measurements at position V1 is presented in Table 17. Levels are presented in terms of L_{ASmax} as described in BS 6472.

The assessment is based on the following:

- The building is understood to comprise of a heavyweight construction (ie, steel and/or concrete frame) supported on piles
- It is assumed there will not be significant changes to the nearby railway lines in terms of arrangement, track, rolling stock or operation.
- The nearest residential apartment accommodation is at least 5 m from the nearest rail track (in plan view).
- The measured pile was exposed, and a capping slab was not present. Therefore, a correction has been calculated to account for the attenuation provided by the presence of a capping slab would apply. This equates to a 4 dB reduction in the resultant vibration level. The results are presented with and without the capping slab correction.

Table 17 Predicted re-radiated noise level based on existing pile construction

Level	Predicted ground-borne noise levels, L_{ASmax} (dB)			
	Exposed existing pile (without capping slab correction)		Exposed existing pile (with capping slab correction)	
	Freight	Passenger	Freight	Passenger
Ground	40	30-38	36	26-34
1	38	28-36	34	24-32
2	36	26-34	32	22-30
3	34	24-32	30	20-28
4	33	23-31	29	19-27
5	33	22-30	29	18-26
6	32	21-29	28	17-25

Level	Predicted ground-borne noise levels, L_{ASmax} (dB)			
	Exposed existing pile (without capping slab correction)		Exposed existing pile (with capping slab correction)	
	Freight	Passenger	Freight	Passenger
Ground	40	30-38	36	26-34
7	32	21-29	28	17-25
8 and above	≤32	≤28	≤28	≤25

Of the train passes captured during the survey period, all the predicted levels were lower than criteria proposed by MCC. The predicted values are for worst-case lower level apartments. Noise levels from this source are expected to be lower at upper floor levels.

11 Conclusion

The representative measured background sound levels were $L_{A90,15min}$ 54 dB during the day, and $L_{A90,15min}$ 47 dB during the night. Based on the requirements of the Local Authority, the relevant plant noise limits at the worst affected existing noise sensitive premises are $L_{Aeq,15min}$ 49 dB during the day, and $L_{Aeq,15min}$ 42 dB during the night. These have been corrected relative to the measured free-field background sound levels by the addition of 3 dB (as per the guidance provided in BS 8233:2014 Section G.2.1).

These limits are cumulative, and apply with all plant operating under normal conditions. If plant items contain tonal or attention catching features, the limits will be more stringent.

An initial assessment has been carried out to determine required acoustic performances for the facades and provide guidance on the ventilation strategy. The required overall facade sound insulation performances range from R'_w+C_{tr} 24 dB to R'_w+C_{tr} 40 dB, with specific low frequency sound insulation performance requirements for spaces affected by entertainment noise ingress.

Open windows to bedrooms at night can likely not be relied upon as a method to remove excess heat, and the 'dynamic thermal modelling method' will need to be used to demonstrate compliance with the requirements of ADO2021.

For tactile vibration from the nearby railway, the predicted equivalent VDVs, during the day and night periods are lower than the thresholds of the BS 6472 'low probability of adverse comment' categories.

Of the train passes captured during the survey period, all the predicted ground-borne noise levels were lower than criteria proposed by MCC. The predicted values are for worst-case lower-level student accommodation. Noise levels from this source are expected to be lower at upper floor levels.

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Appendix A

Survey details

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Equipment

The unattended noise measurements were taken using a Svantek 307 sound level meter. The attended noise measurements were taken using a Rion NL-52 sound level meter, and a Brüel & Kjær 2250 sound level meter.

The VDV and one-third octave band RMS acceleration measurements were carried out using a Rion VM-56 vibration level meter.

Tri-axial acceleration measurements were carried out using a RionPV-83D accelerometer, a Rion VM-56 sound level meter and data recorder.

Calibration details for the equipment used during the survey are provided in Table A1.

Table A1 Equipment calibration data

Equipment description	Type/serial number	Manufacturer	Calibration expiry	Calibration certification number
Unattended noise measurements				
Sound level meter	SV307/82059	Svantek	16 Mar 23	00001105-2b
Microphone	ST30/82581	Svantek	16 Mar 23	00001105-2b
Calibrator	SV36/76710	Svantek	16 Mar 23	00001105-2a
Attended noise measurements				
Sound level meter	2250/3011964	Brüel & Kjær	8 Sep 23	UCRT21/2089, UCRT21/2090
Microphone	4189/3100176	Brüel & Kjær	8 Sep 23	UCRT21/2089, UCRT21/2090
Pre-amp	ZC0032/26376	Brüel & Kjær	8 Sep 23	UCRT21/2089, UCRT21/2090
Calibrator	4231/3019123	Brüel & Kjær	8 Sep 23	UCRT21/2086
Sound level meter	NL-52/00932326	Rion	16 Mar 23	TCRT21/1182
Microphone	UC-59/05549	Rion	16 Mar 23	TCRT21/1182
Pre-amp	NH-25/32354	Rion	16 Mar 23	TCRT21/1182
Calibrator	NC-74/34125432	Rion	16 Mar 23	TCRT21/1181

Equipment description	Type/serial number	Manufacturer	Calibration expiry	Calibration certification number
Vibration measurements				
Data recorder	VM-56 / 34120180	Rion	24 Jun 26	TCRT24/1468
Accelerometer	PV-83D / 90183	Rion	24 Jun 26	TCRT24/1468
Vibration calibrator	VC-21 / 240408	MMF	29 May 26	0255 WK 2024-05

Calibration of the meters used for the measurements is traceable to national standards. Calibration certificates for the sound level meters used in this survey are available upon request.

Calibration checks were carried out on the meters and their measurement chains at the beginning and end of the survey. No significant calibration deviation occurred.

Noise indices

Noise indices recorded included the following:

- $L_{Aeq,T}$ The A-weighted equivalent continuous sound pressure level over a period of time, T.
- $L_{AFmax,T}$ The A-weighted maximum sound pressure level that occurred during a given period, T, with a fast time weighting.
- $L_{ASmax,T}$ The A-weighted maximum sound pressure level that occurred during a given period, T, with a slow time weighting.
- $L_{A90,T}$ The A-weighted sound pressure level exceeded for 90% of the measurement period. Indicative of the background sound level.

Sound pressure level measurements are normally taken with an A-weighting (denoted by a subscript 'A', eg L_{A90}) to approximate the frequency response of the human ear.

A more detailed explanation of these quantities can be found in BS7445: Part 1: 2003 *Description and measurement of environmental noise, Part 1. Guide to quantities and procedures*.

Vibration indices

For each measurement period a number of parameters were recorded. The most relevant of these are described below:

- The vibration dose value (VDV) in each of three axes with the appropriate frequency weightings (as defined in BS 6472-1:2008). VDV combines the magnitude of vibration and the time for which it occurs. When assessing intermittent or time-

varying vibration it is necessary to use the Vibration Dose Value (VDV), a cumulative measurement of the vibration level received over an 8-hour or 16-hour period.

- The maximum RMS acceleration levels in each of three axes in one-third-octave bands, measured using the 'slow response' exponential time weighting.
- $L_{Amax,T}$ – The highest A-weighted sound pressure level measured in the period (T) with either fast (L_{AFmax}) or slow (L_{ASmax}) time weightings. When not weighted it is denoted L_{Fmax} or L_{Smax}.

Weather conditions

During the attended noise measurements, the weather was generally clear and dry and no rain occurred until 00:15 where measurements were finished. Wind speeds were measured at each position and varied between 2 m/s and 5 m/s.

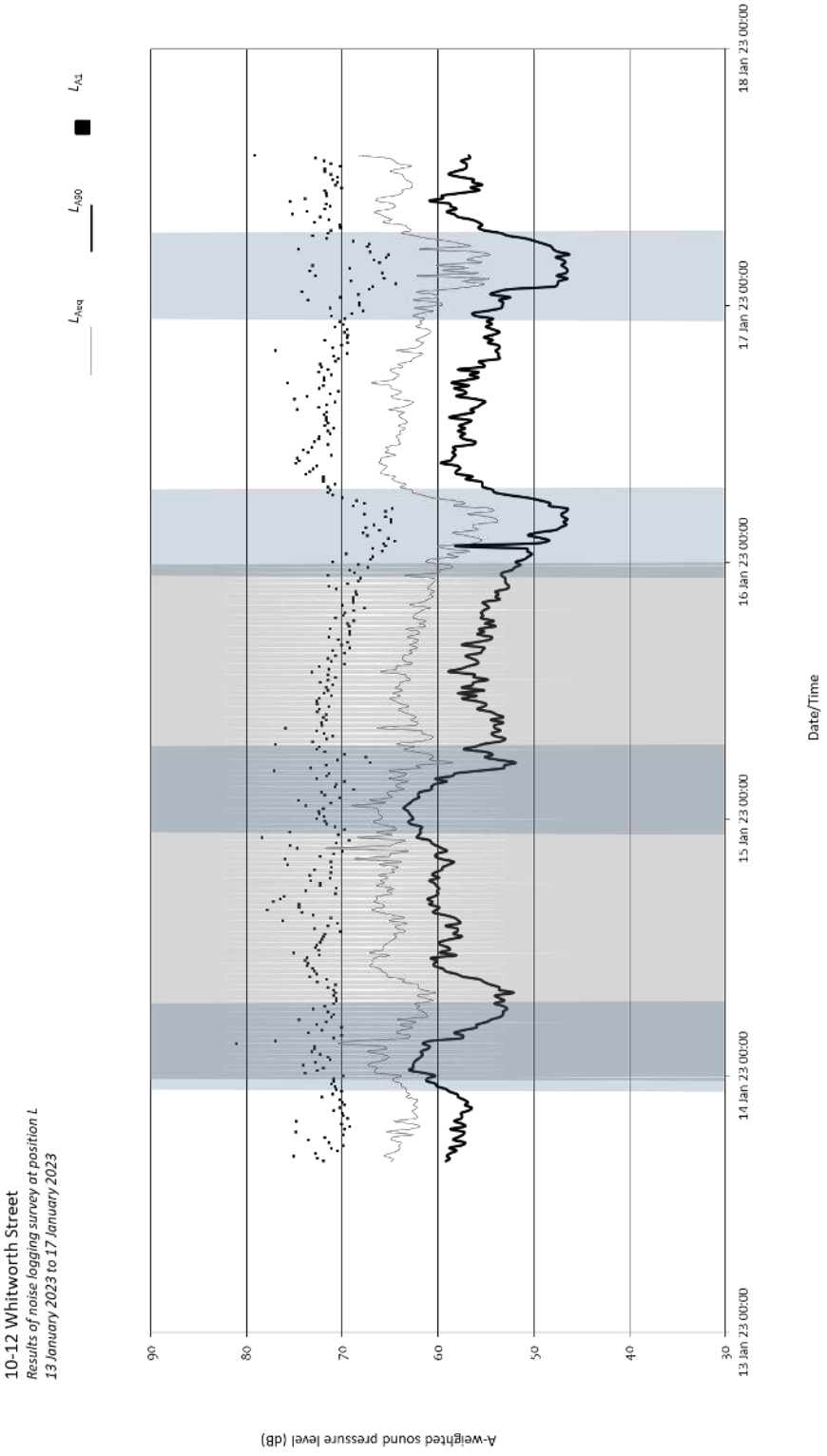
During the unattended noise measurements, weather reports for the area indicated that temperatures varied between -2°C at night and 9°C during the day, and the wind speed was less than 5 m/s (although gusts of up to 10 m/s were included in weather reports on 13 January 2023, measured wind levels throughout the day and night attended measurement periods did not reflect this).

These weather conditions are considered suitable for obtaining representative measurements.

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Appendix B

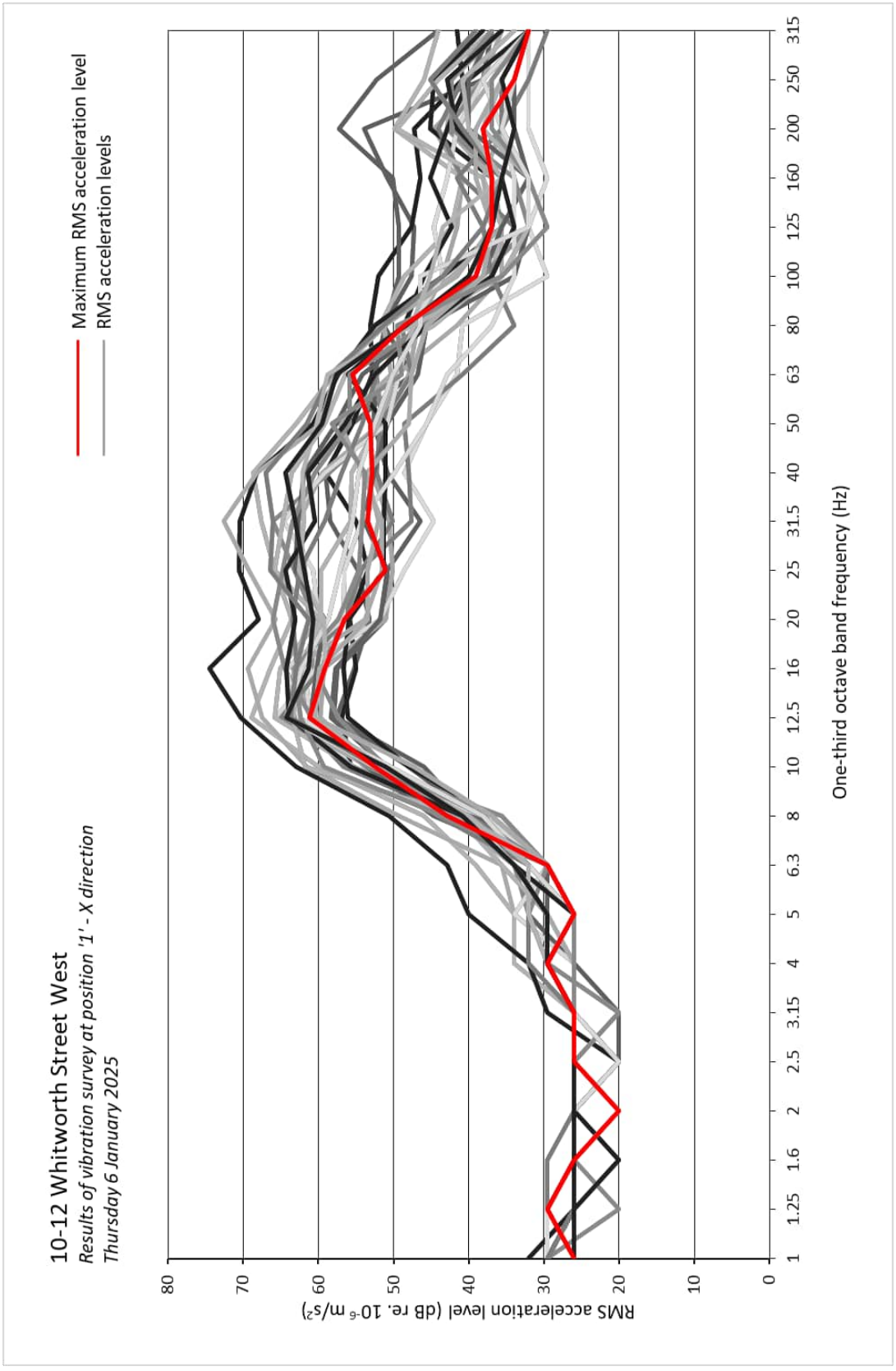
Results of unattended measurements at Position L

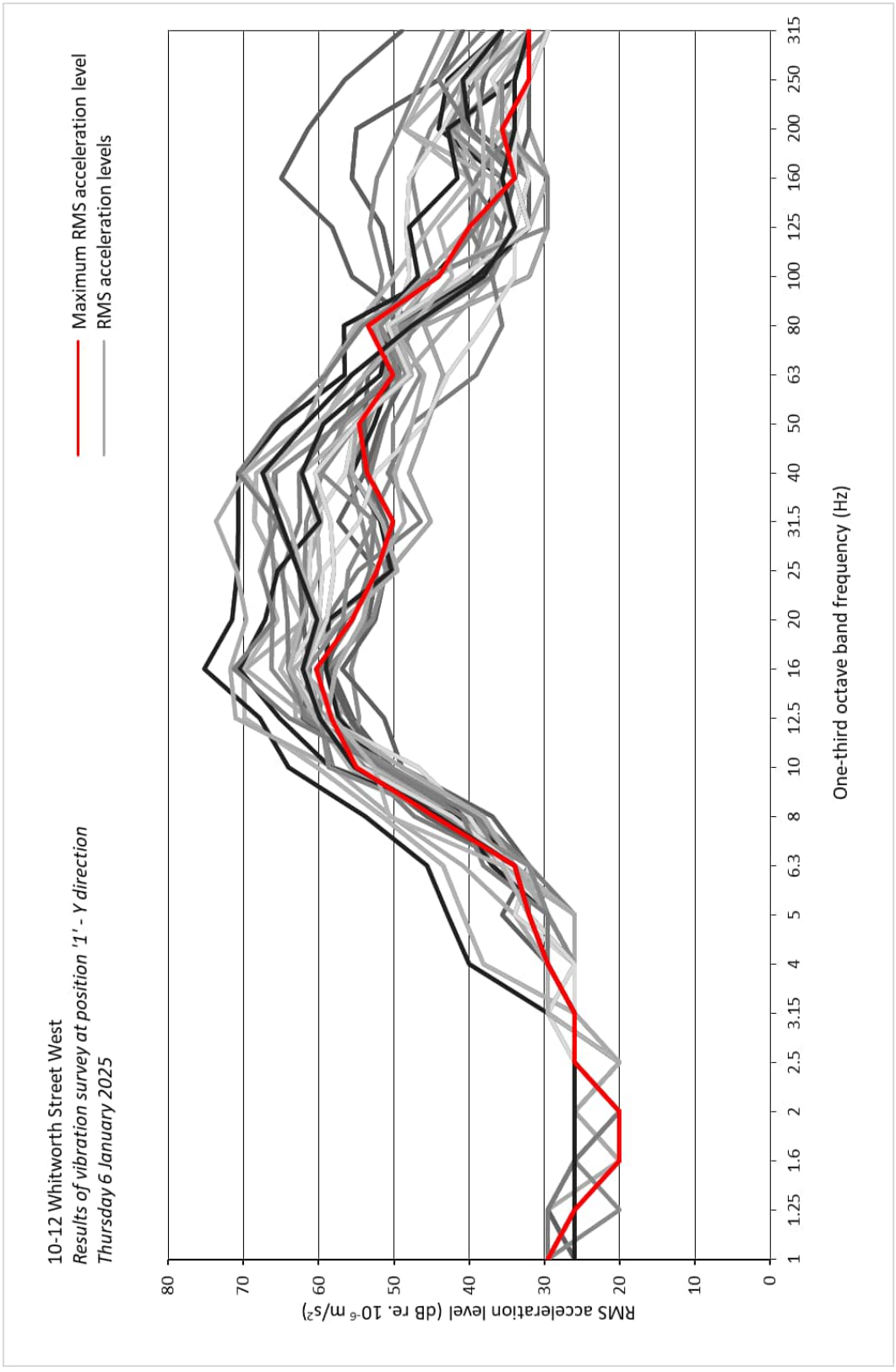

10-12 Whitworth Street
Results of noise logging survey at position L
13 January 2023 to 17 January 2023
L_{Aeq}
L_{A90}
L_{A1}
A-weighted sound pressure level (dB)
90
80
70
60
50
40
30
13 Jan 23 00:00
14 Jan 23 00:00
15 Jan 23 00:00
16 Jan 23 00:00
17 Jan 23 00:00
18 Jan 23 00:00
Date/Time

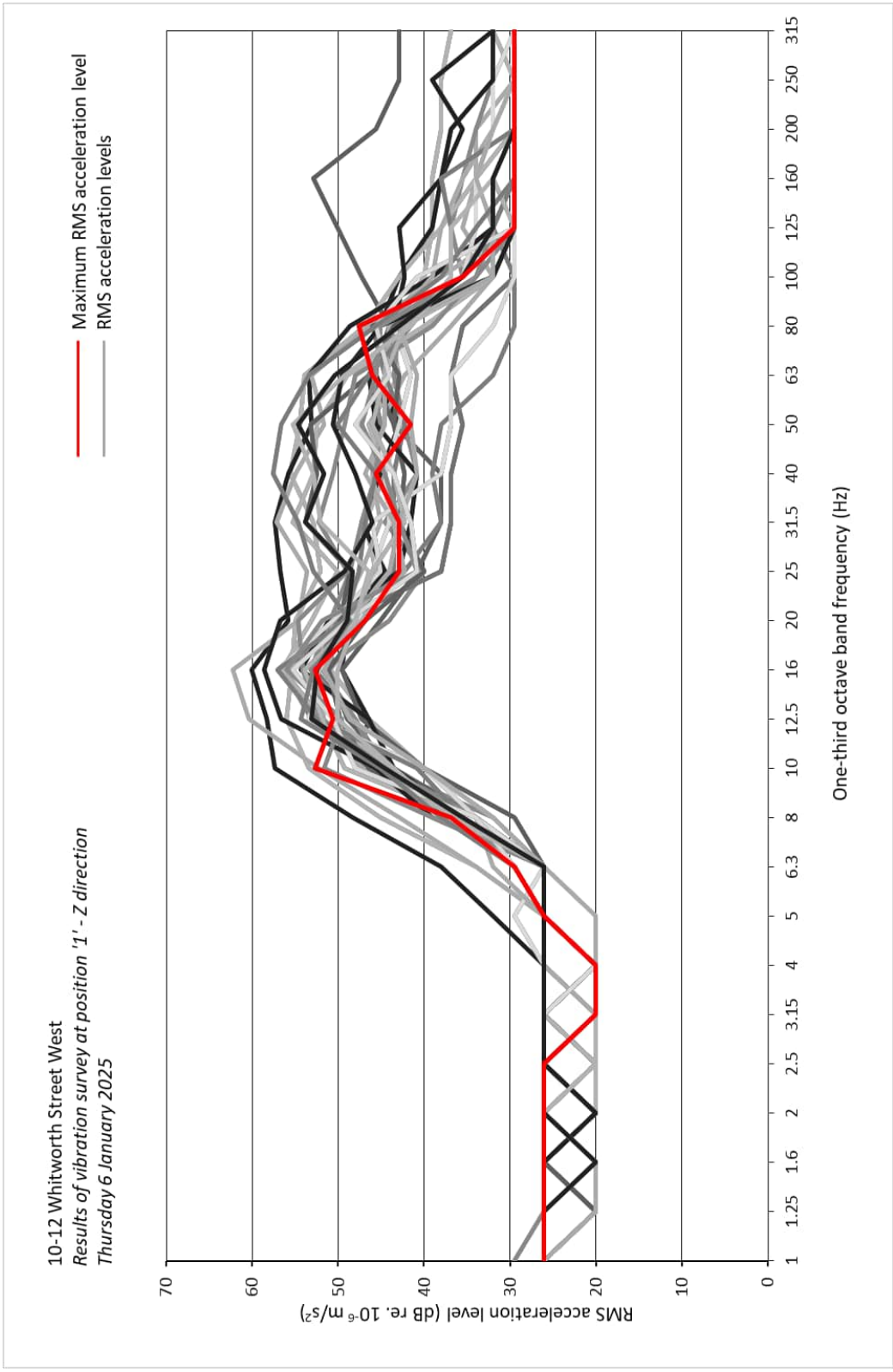
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Appendix C

Measurements of RMS vibration at position V1 (exposed existing pile)


10-12 Whitworth Street West
Results of vibration survey at position '1' - X direction
Thursday 6 January 2025
Maximum RMS acceleration level
RMS acceleration levels
RMS acceleration level (dB re. 10-6 m/s2)
One-third octave band frequency (Hz)
80
70
60
50
40
30
20
10
0
1
1.25
1.6
2
2.5
3.15
4
5
6.3
8
10
12.5
16
20
25
31.5
40
50
63
80
100
125
160
200
250
315

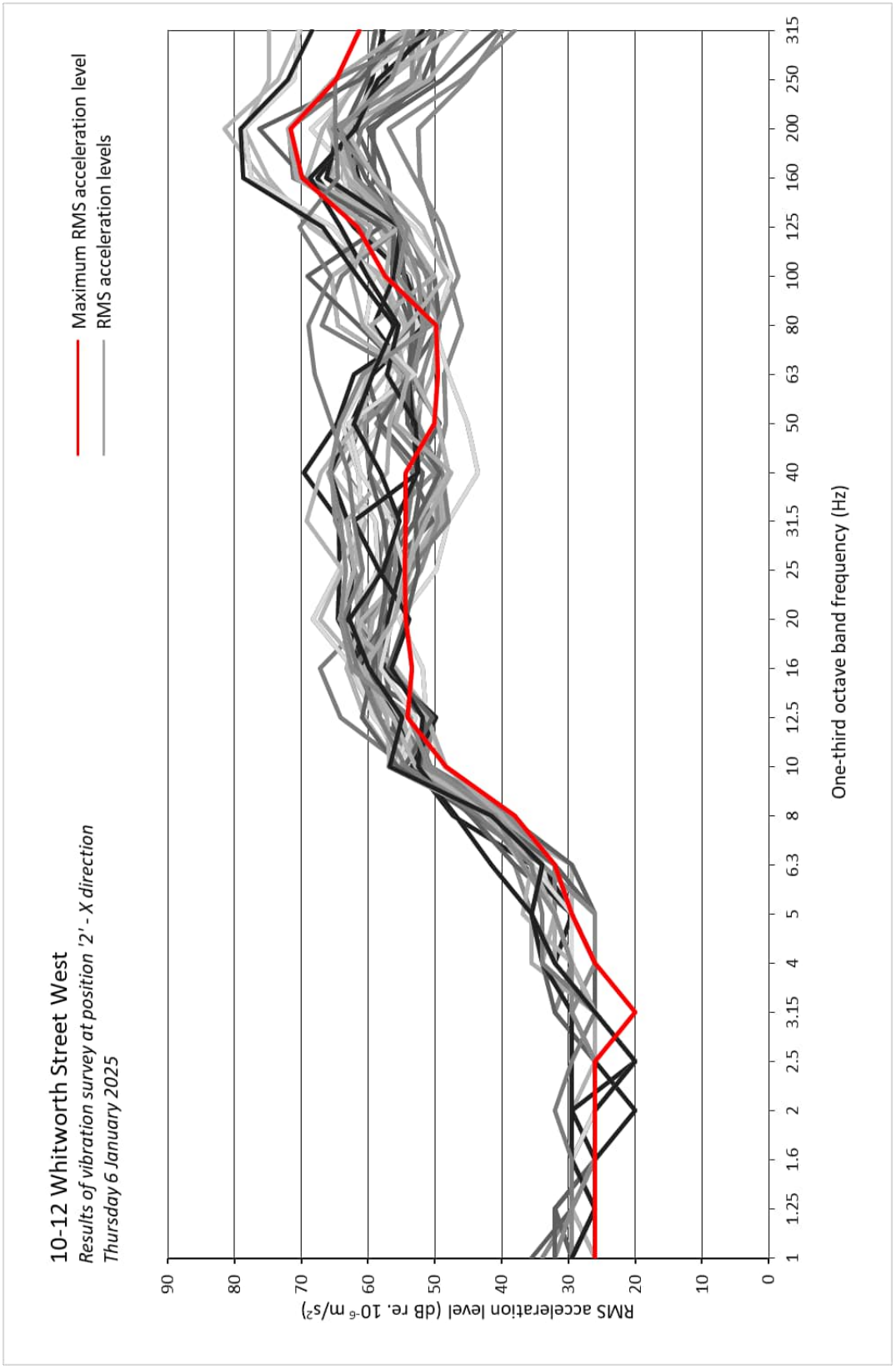

10-12 Whitworth Street West
Results of vibration survey at position '1' - Y direction
Thursday 6 January 2025
Maximum RMS acceleration level
RMS acceleration levels
RMS acceleration level (dB re. 10-6 m/s2)
0
10
20
30
40
50
60
70
80
One-third octave band frequency (Hz)
1
1.25
1.6
2
2.5
3.15
4
5
6.3
8
10
12.5
16
20
25
31.5
40
50
63
80
100
125
160
200
250
315

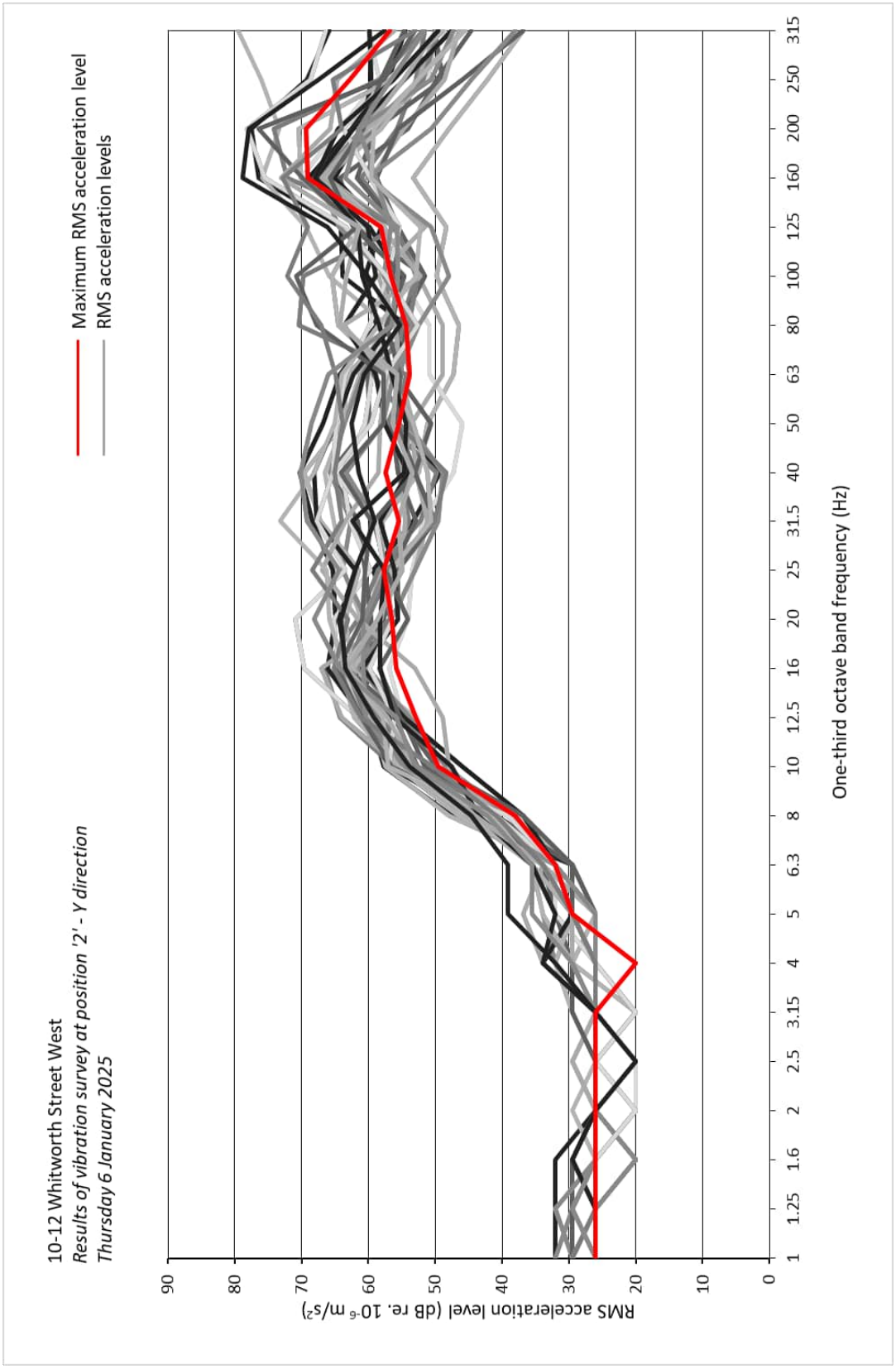

10-12 Whitworth Street West
Results of vibration survey at position '1' - Z direction
Thursday 6 January 2025
Maximum RMS acceleration level
RMS acceleration levels
RMS acceleration level (dB re. 10⁻⁶ m/s²)
70
60
50
40
30
20
10
0
1
1.25
1.6
2
2.5
3.15
4
5
6.3
8
10
12.5
16
20
25
31.5
40
50
63
80
100
125
160
200
250
315
One-third octave band frequency (Hz)

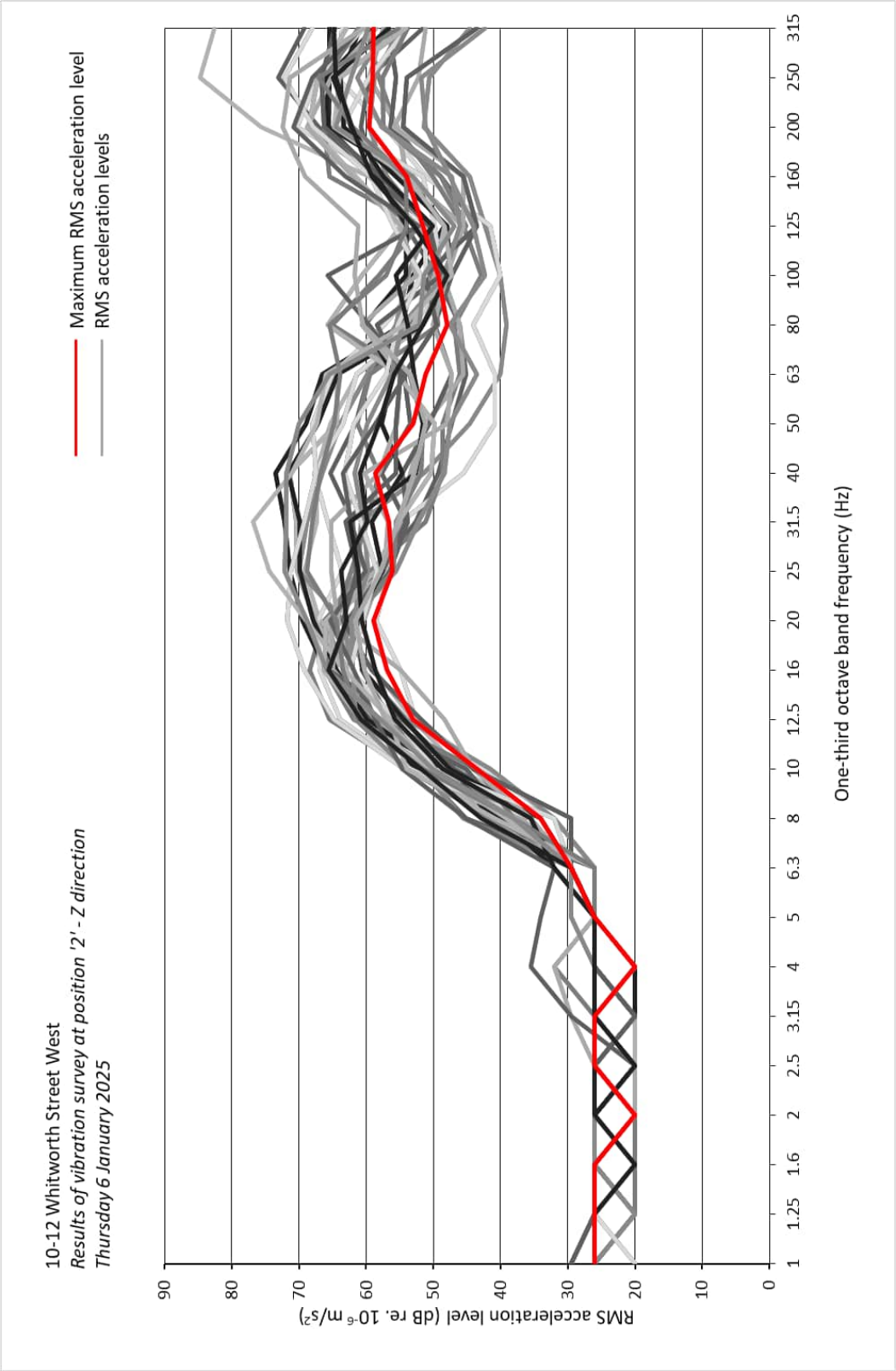
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Appendix D

Measured RMS acceleration results at position V2 (unmade ground)


10-12 Whitworth Street West
Results of vibration survey at position '2' - X direction
Thursday 6 January 2025
Maximum RMS acceleration level
RMS acceleration levels
RMS acceleration level (dB re. 10-6 m/s2)
One-third octave band frequency (Hz)
90
80
70
60
50
40
30
20
10
0
1
1.25
1.6
2
2.5
3.15
4
5
6.3
8
10
12.5
16
20
25
31.5
40
50
63
80
100
125
160
200
250
315


10-12 Whitworth Street West
Results of vibration survey at position '2' - Y direction
Thursday 6 January 2025
Maximum RMS acceleration level
RMS acceleration levels
RMS acceleration level (dB re. 10-6 m/s2)
90
80
70
60
50
40
30
20
10
0
1
1.25
1.6
2
2.5
3.15
4
5
6.3
8
10
12.5
16
20
25
31.5
40
50
63
80
100
125
160
200
250
315
One-third octave band frequency (Hz)


10-12 Whitworth Street West
Results of vibration survey at position '2' - Z direction
Thursday 6 January 2025
Maximum RMS acceleration level
RMS acceleration levels
RMS acceleration level (dB re. 10-6 m/s2)
One-third octave band frequency (Hz)
0
10
20
30
40
50
60
70
80
90
1
1.25
1.6
2
2.5
3.15
4
5
6.3
8
10
12.5
16
20
25
31.5
40
50
63
80
100
125
160
200
250
315

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Appendix E

Predicted incident ambient noise levels

Predicted ambient noise levels during the day are set out in Table D1, and the predicted low frequency ambient noise levels are set out in Table D2.

Table D1 Predicted ambient noise levels

Floor level	Worst case ambient noise level, L_{Aeq} (dB) at each facade location			
	North	South	East	West
Ground	70	62	59	64
Level 1	70	62	61	63
Level 2	70	63	61	63
Level 3	69	63	61	63
Level 4	69	63	61	63
Level 5	68	62	62	63
Level 6	67	62	62	63
Level 7	67	62	63	63
Level 8	66	61	63	62
Level 9	65	61	64	62
Level 10	64	61	64	61
Level 11	64	61	64	61
Level 12	64	60	64	61
Level 13	63	60	64	61
Level 14	63	60	64	61
Level 15	63	60	64	61
Level 16	62	60	64	61
Level 17	62	60	63	61
Level 18	62	59	63	61
Level 19	61	59	63	61
Level 20	61	59	62	61
Level 21	61	59	62	61
Level 22	60	59	62	61
Level 23	60	59	62	60
Level 24	60	59	62	60
Level 25	60	58	62	60

Floor level	Worst case ambient noise level, L_{Aeq} (dB) at each facade location			
	North	South	East	West
Level 26	59	58	61	60
Level 27	59	58	61	60
Level 28	58	57	61	59
Level 29	58	57	60	59
Level 30	58	57	60	59
Level 31	58	57	60	59
Level 32	58	57	60	59
Level 33	58	56	60	58
Level 34	58	56	59	58
Level 35	58	56	59	58
Level 36	57	56	59	57
Level 37	57	56	58	57
Level 38	57	56	58	57

Table D2 Predicted low-frequency sound pressure levels at each facade location

Level	Predicted low frequency level at each facade location, L_{eq} (dB)			
	North facade		West facade	
	63 Hz	125 Hz	63 Hz	125 Hz
Ground	74	65	71	60
Level 1	73	64	70	59
Level 2	72	63	69	58
Level 3	72	63	69	58
Level 4	72	63	69	58
Level 5	71	62	69	58
Level 6	71	62	69	58
Level 7	71	62	69	58
Level 8	71	62	69	58
Level 9	70	61	69	58

Level	Predicted low frequency level at each facade location, L_{eq} (dB)			
	North facade		West facade	
	63 Hz	125 Hz	63 Hz	125 Hz
Level 10	70	61	68	57
Level 11	70	61	68	57
Level 12	70	61	68	57
Level 13	69	60	68	57
Level 14	69	60	67	56
Level 15	69	60	67	56
Level 16	69	60	67	56
Level 17	68	59	66	55
Level 18	68	59	66	55
Level 19	68	59	66	55
Level 20	67	58	66	55
Level 21	67	58	65	54
Level 22	67	58	65	54
Level 23	67	58	65	54
Level 24	66	57	65	54
Level 25	66	57	64	53
Level 26	67	58	66	55
Level 27	67	58	66	55
Level 28	66	57	65	54
Level 29	66	57	65	54
Level 30	66	57	65	54
Level 31	66	57	65	54
Level 32	66	57	65	54
Level 33	66	57	65	54
Level 34	66	57	65	54
Level 35	66	57	65	54
Level 36	65	56	64	53
Level 37	65	56	64	53

Level	Predicted low frequency level at each facade location, L_{eq} (dB)			
	North facade		West facade	
	63 Hz	125 Hz	63 Hz	125 Hz
Level 38	65	56	64	53

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Appendix F

Predicted maximum noise levels

Predicted maximum noise levels are set out in Table B3.

Table B3 Predicted maximum noise levels

Floor level	Maximum noise level, L_{Fmax} (dB) at each facade location			
	North	South	East	West
Ground	85	85	62	62
Level 1	85	85	62	62
Level 2	85	85	62	62
Level 3	85	85	62	62
Level 4	85	85	62	62
Level 5	85	84	62	62
Level 6	85	83	62	62
Level 7	84	83	61	61
Level 8	84	81	61	61
Level 9	83	80	61	61
Level 10	82	78	61	61
Level 11	82	78	61	61
Level 12	81	77	60	60
Level 13	80	76	60	60
Level 14	80	76	60	60
Level 15	79	75	60	60
Level 16	78	74	59	59
Level 17	78	73	59	59
Level 18	78	73	59	59
Level 19	77	72	59	59
Level 20	76	71	59	59
Level 21	76	71	59	59
Level 22	76	70	58	58
Level 23	75	69	58	58
Level 24	75	69	58	58
Level 25	74	69	58	58

Floor level	Maximum noise level, L_{Fmax} (dB) at each facade location			
	North	South	East	West
Level 26	74	68	58	58
Level 27	74	68	58	58
Level 28	74	68	58	58
Level 29	73	67	57	57
Level 30	73	67	56	56
Level 31	72	67	56	56
Level 32	72	67	56	56
Level 33	72	66	56	56
Level 34	71	66	56	56
Level 35	71	66	55	55
Level 36	70	65	55	55
Level 37	70	65	55	55
Level 38	70	65	55	55

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Appendix G

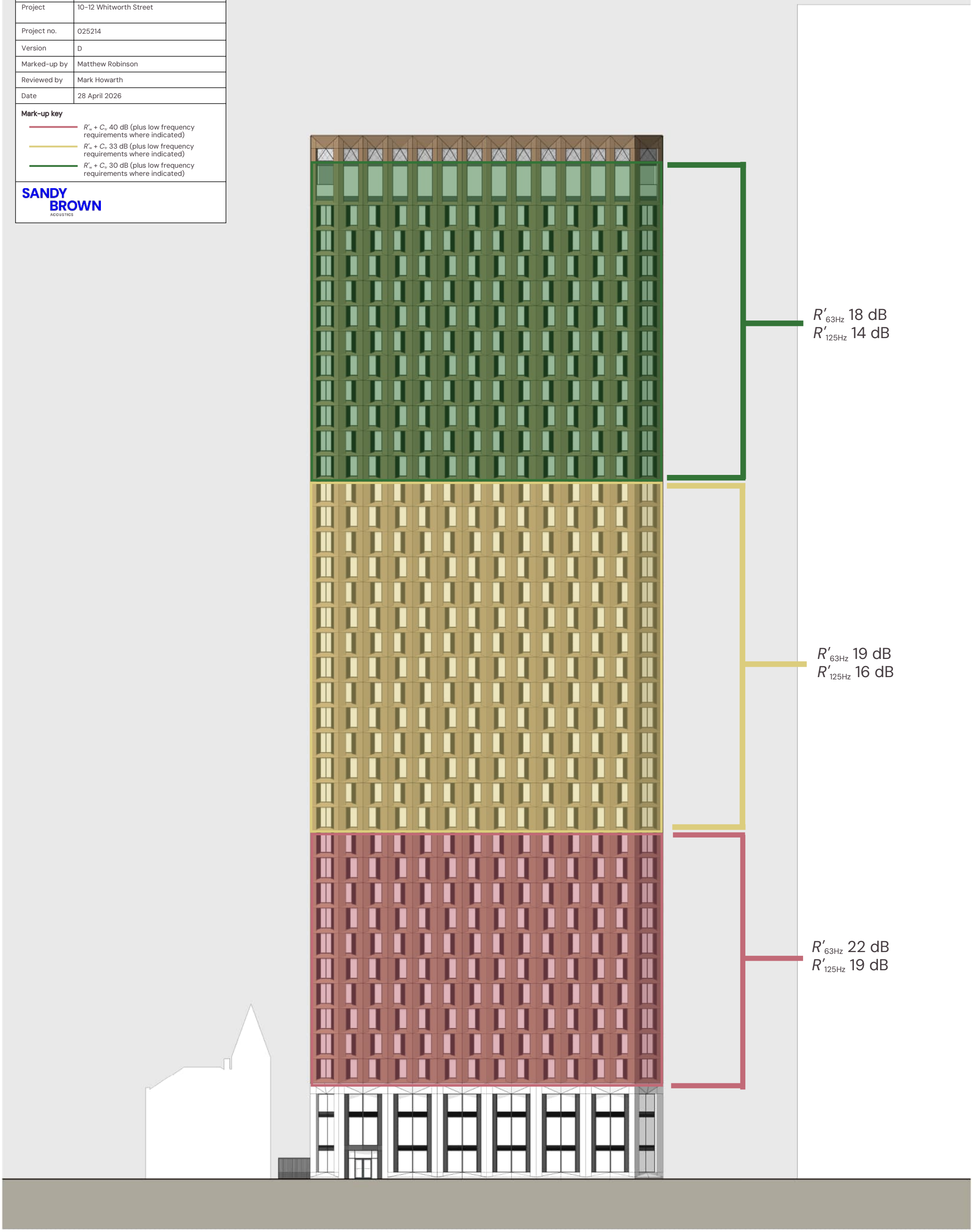
Minimum overall facade sound insulation performance requirements

Title	Minimum facade sound insulation requirements
Project	10-12 Whitworth Street
Project no.	025214
Version	D
Marked-up by	Matthew Robinson
Reviewed by	Mark Howarth
Date	28 April 2026

Mark-up key

- $R'_w + C_{tr}$ 40 dB (plus low frequency requirements where indicated)
- $R'_w + C_{tr}$ 33 dB (plus low frequency requirements where indicated)
- $R'_w + C_{tr}$ 30 dB (plus low frequency requirements where indicated)

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Rev.	Description	Date	Drawn	Chk.
02	Updated Issue	18.03.26	NI	NI
01	Draft Planning Issue	03.02.26	JP	NI

Client: Fusion Group

Project: Whitworth Street, Manchester

Drawing Title: Proposed North Elevation

Drawing Status: PLANNING

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Revision: 02

Drawn	Checked	Paper Size	Scale	Date
JP	AR	A1	1 : 200	02/02/26

Title	Minimum facade sound insulation requirements
Project	10-12 Whitworth Street
Project no.	025214
Version	D
Marked-up by	Matthew Robinson
Reviewed by	Mark Howarth
Date	28 April 2026

Mark-up key

- $R'_w + C_{tr}$ 40 dB (plus low frequency requirements where indicated)
- $R'_w + C_{tr}$ 33 dB (plus low frequency requirements where indicated)
- $R'_w + C_{tr}$ 30 dB (plus low frequency requirements where indicated)

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02	Updated Issue	18.03.26	NI	NI
01	Draft Planning Issue	03.02.26	JP	NI

Client: Fusion Group

Project: Whitworth Street, Manchester

Drawing Title: Proposed South Elevation

Drawing Status: WIP

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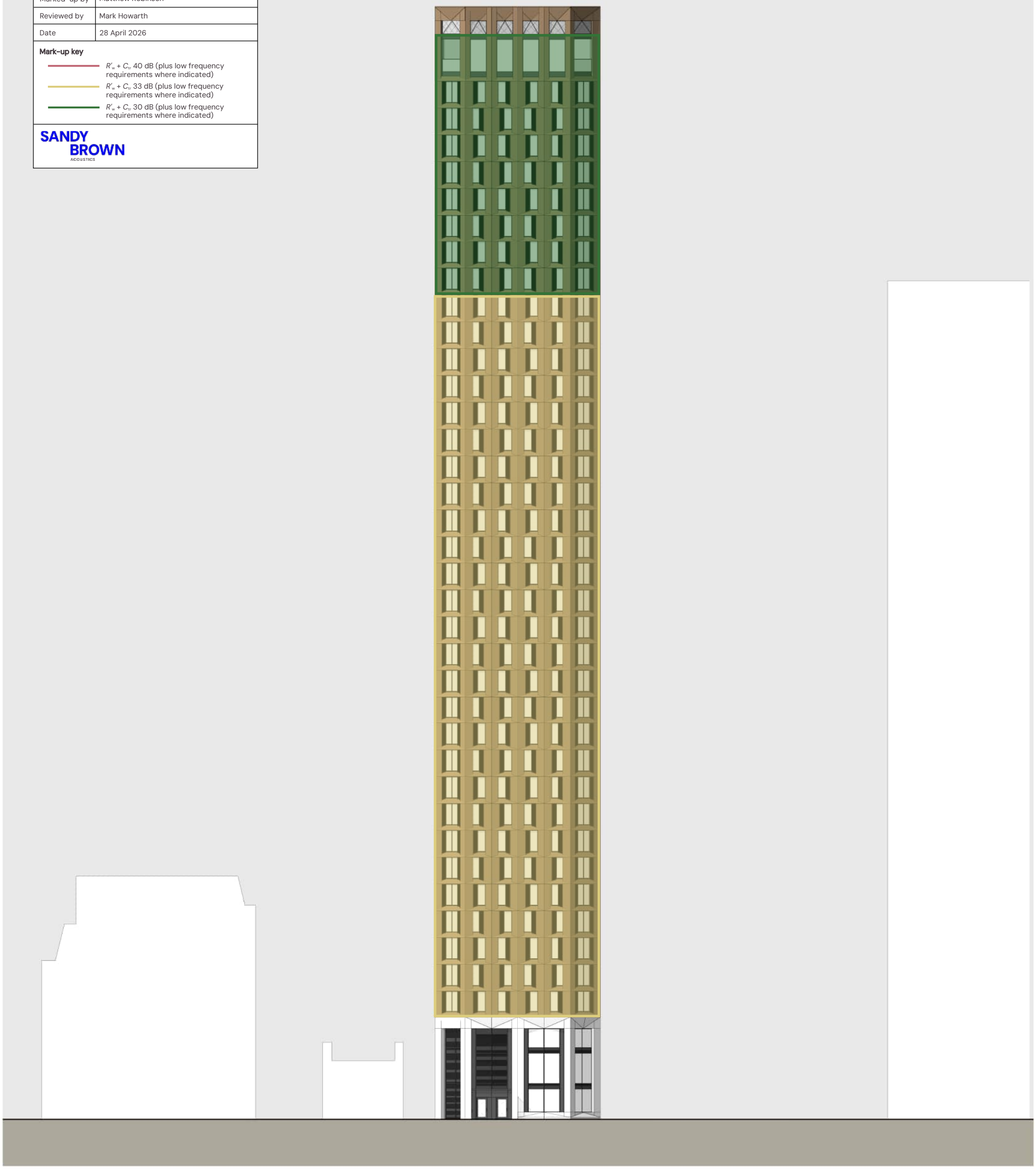
Drawn	Checked	Paper Size	Scale	Date
JP	AR	A1	1 : 200	02/02/26

Title	Minimum facade sound insulation requirements
Project	10-12 Whitworth Street
Project no.	025214
Version	D
Marked-up by	Matthew Robinson
Reviewed by	Mark Howarth
Date	28 April 2026

Mark-up key

- $R'_w + C_{tr}$ 40 dB (plus low frequency requirements where indicated)
- $R'_w + C_{tr}$ 33 dB (plus low frequency requirements where indicated)
- $R'_w + C_{tr}$ 30 dB (plus low frequency requirements where indicated)

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02	Updated Issue	18.03.26	NI	NI
01	Draft Planning Issue	03.02.26	JP	NI

Client:
Fusion Group

Project:
Whitworth Street, Manchester

Drawing Title
Proposed East Elevation

Drawing Status
WIP

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Drawing No.	Revision
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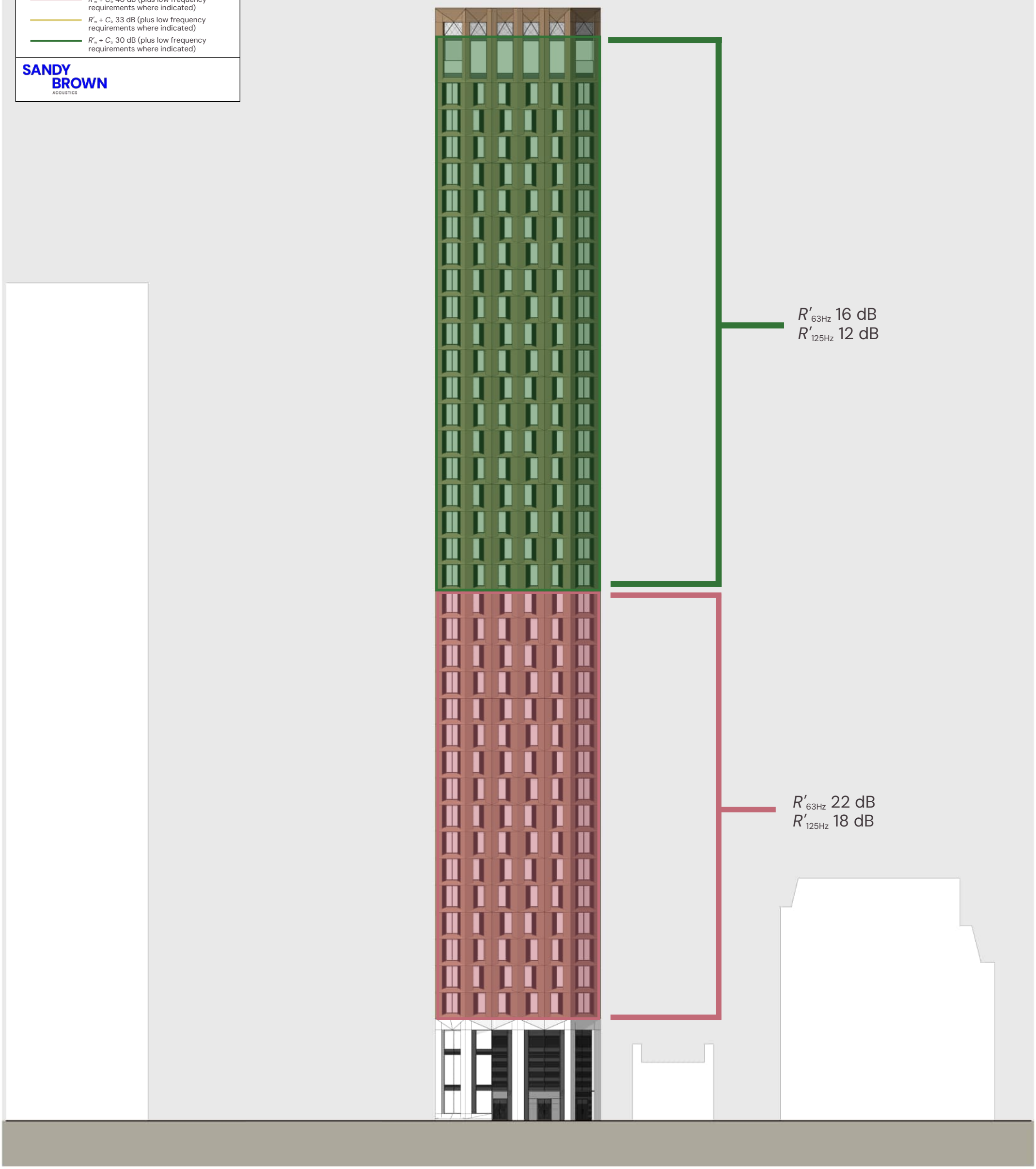
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JP	AR	A1	1 : 200	02/02/26

Title	Minimum facade sound insulation requirements
Project	10-12 Whitworth Street
Project no.	025214
Version	D
Marked-up by	Matthew Robinson
Reviewed by	Mark Howarth
Date	28 April 2026

Mark-up key

- $R'_w + C_{tr}$ 40 dB (plus low frequency requirements where indicated)
- $R'_w + C_{tr}$ 33 dB (plus low frequency requirements where indicated)
- $R'_w + C_{tr}$ 30 dB (plus low frequency requirements where indicated)

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0 1.0 2.0 3.0 4.0 5.0 10.0m

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Rev.	Description	Date	Drawn	Chk.
02	Updated Issue	18.03.26	NI	NI
01	Draft Planning Issue	03.02.26	JP	NI

Client: Fusion Group

Project: Whitworth Street, Manchester

Drawing Title: Proposed West Elevation

Drawing Status: WIP

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22987-CWA-XX-A-2104	02

Drawn	Checked	Paper Size	Scale	Date
JP	AR	A1	1 : 200	02/02/26

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Appendix H

BS 4142 corrections for attention catching features

The following applies where plant noise is assessed in accordance with BS 4142:2014+A1:2019.

If the proposed plant noise contains attention catching features (such as tonal elements, whines, whistles, bangs etc), penalty corrections should be applied based on the type and impact of the features.

If appropriate, a subjective assessment of the plant features can be adopted. Where the plant noise contains tonal elements, the following corrections can be made depending on how perceptible the tone is at the noise receptor:

- 0 dB where the tone is not perceptible
- 2 dB where the tone is just perceptible
- 4 dB where the tone is clearly perceptible
- 6 dB where the tone is highly perceptible.

Where the plant noise is impulsive, the following corrections can be made depending on how perceptible the impulsivity is at the noise receptor:

- 0 dB where the impulse is not perceptible
- 3 dB where the impulse is just perceptible
- 6 dB where the impulse is clearly perceptible
- 9 dB where the impulse is highly perceptible.

For noise which is equally both impulsive and tonal, then both features can be accounted for by linearly summing the corrections for both characteristics.

If the plant has other distinctive characteristics, such as intermittency, then a 3 dB correction can be made.

If a subjective assessment of tonality is not appropriate, an objective assessment can be made by analysis of time-averaged, third-octave band sound pressure levels. A noise source is deemed to be tonal if the level in a third-octave band exceeds the level in adjacent third-octave bands by the level differences given below:

- 15 dB in the low frequency third-octave bands (25 Hz to 125 Hz)
- 8 dB in the mid frequency third-octave bands (160 Hz to 400 Hz)
- 5 dB in the high frequency third-octave bands (500 Hz to 10000 Hz).

If an objective assessment identifies the plant noise to be tonal then a 6 dB correction must be made.

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Appendix 7.4

Construction AADT Traffic Flows

AADT 24 HOUR										
Link No.	Link Name	BASE 2025			BASE 2027			BASE 2027 + CONSTRUCTION VEH		
		AADT	AADT HGV	HGV%	AADT	AADT HGV	HGV%	AADT	AADT HGV	HGV%
1	DEANSGATE	9706	151	2%	9950	155	2%	9950	155	2%
2	BRIDGEWATER VIADUCT	14874	210	1%	15250	216	1%	15280	246	2%
3	GREAT BRIDGEWATER STREET	8403	126	2%	8615	129	2%	8615	129	2%
4	WHITWORTH STREET W (WEST)	8403	126	2%	8615	129	2%	8645	159	2%
5	ALBION STREET (SOUTH)	11726	130	1%	12022	133	1%	12052	163	1%
6	WHITWORTH STREET W (EAST)	8403	126	2%	8615	129	2%	8615	129	2%
7	OXFORD STREET (NORTH)	2680	28	1%	2748	29	1%	2748	29	1%
8	OXFORD STREET (SOUTH)	4636	63	1%	4753	65	1%	4753	65	1%

Note - Construction traffic based on Domis construction information outlined in EIA Document

Stantec	**AADT Scenarios**	**09 December 2025**
		AADT
	10 - 12 Whitworth Street, Manchester	**Figure: 2**

Appendix 8.1

Built Heritage, Townscape and Visual Impact Assessment

APPENDIX 8.1: BUILT HERITAGE, TOWNSCAPE AND VISUAL IMPACT ASSESSMENT

LAND AT 10-12 WHITWORTH STREET WEST, MANCHESTER

MAY 2026

Written by: Timur Tatlioglu, Nicholas Garside and Florence Loader

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CONTENTS

NON-TECHNICAL / EXECUTIVE SUMMARY 2
- Site History
- Principle of Tall Building
- Design Development
- Heritage
- Townscape
- Visual
- Summary

1.0 INTRODUCTION 6
- Purpose of the BHTVIA
- Structure of the BHTVIA

2.0 METHODOLOGY 10
- Scoping and Baseline Assimilation
- Heritage
- Townscape and Visual
- Cumulative Effects
- Mitigation
- Climate Change
- Future Evolution of the Baseline

3.0 LEGISLATION AND PLANNING POLICY 22
- Legislation
- Development Plan
- National Policy
- Material Considerations
- Emerging Policy
- Policy Discussion

4.0 BASELINE: HISTORICAL DEVELOPMENT 28
- Historic Development of Manchester
- The Site

5.0 BASELINE: BUILT HERITAGE 36
- Designated Heritage Receptors
- Section Summary

6.0 BASELINE: TOWNSCAPE 66
- Strategic Level City-Wide Urban Characterisation for Core Strategy
- Townscape Character Areas
- Section Summary

7.0 BASELINE: VISUAL 72
- Extent of Visibility
- Representative Views
- Visual Receptors
- Static Views
- Section Summary

8.0 CONSULTATION AND MITIGATION BY DESIGN 82
- Mitigation by Design
- Summary

9.0 THE SITE AND THE PROPOSED DEVELOPMENT 84
- The Site
- The Proposed Development

10.0 ASSESSMENT: HERITAGE RECEPTORS 88
- Construction
- Completed Development
- Designated Heritage Receptors
- Cumulative Assessment
- Section Summary

11.0 ASSESSMENT: TOWNSCAPE 110
- Construction
- Operational
- Cumulative Assessment
- Section Summary

12.0 ASSESSMENT: VISUAL 116
- Construction
- Operational
- Cumulative Assessment
- Static Views
- Section Summary

13.0 CONCLUSION 134
- Built Heritage
- Townscape
- Visual
- Assessment Summary
- Policy Compliance

APPENDICES

01: AVRS PRODUCED BY AVR LONDON

02: AVR METHODOLOGY PRODUCED BY AVR LONDON

03: VU.CITY MODEL SHOTS

04: GREATER MANCHESTER HISTORIC ENVIRONMENTAL SEARCH

NON-TECHNICAL / EXECUTIVE SUMMARY

The Built Heritage, Townscape and Visual Impact Assessment (BHTVIA) report provides an assessment of the impact of redevelopment proposals at 10–12 Whitworth Street West (the 'Site') on heritage, townscape and visual receptors.

'Built Heritage' and 'Townscape and Visual' are treated as individual disciplines and separate assessments are provided in accordance with legislation, planning policy and best practice guidance. In particular, the heritage assessment is carried out in accordance with the Historic England guidance document Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (2017). The townscape and visual assessment has been carried out in accordance with the Guidelines for Landscape and Visual Impact Assessment, Third Edition (Landscape Institute and Institute of Environmental Management and Assessment, 2013).

The assessment and design development has been informed by visual tools, including a Zone of Theoretical Visibility (ZTV) prepared using VU.CITY software and 12 accurate visual representations prepared by AVR London. The location of the viewpoints has been informed by architectural and historic accounts of the area, an appraisal of the Site and surroundings, and planning policy.

SITE HISTORY

The Site at 10–12 Whitworth Street West originated on the rural edge of Manchester, forming part of open pastoral land in the late 18th century before rapid industrial expansion in the early 19th century led to the surrounding area being developed with mills, warehouses and dense workers' housing. The construction of major industrial infrastructure in the area including the Rochdale Canal, the Manchester South Junction & Altrincham Railway Viaduct and nearby gasworks, transformed the area into a heavily industrialised neighbourhood.

By the 1890s, Manchester Corporation undertook an ambitious programme of street improvements, clearing slum housing and widening the thoroughfares. As part of those works, South Junction Street and Gloucester Street were widened, realigned, and officially opened as Whitworth Street and Whitworth Street West in 1899.

The Site was developed in 1902 as commercial premises for Tatham & Company and subsequently adapted for various industrial uses through the 20th century, though undergoing significant alterations as the wider area declined following the contraction of canal and rail freight.

Despite the regeneration of the surrounding district since the late 1990s, the building on the Site is semi-derelict until planning permission was granted in 2016 for the demolition of existing buildings for replacement with a new tall building. The existing buildings were demolished in 2019 but the new development was not completed.

PRINCIPLE OF TALL BUILDING

The principle of a tall building on the Site is well established through both planning history and the prevailing policy context. Planning permission was granted in 2016 (Planning Ref: 111003/FO/2016/C1) for a 35-storey residential development. This provides a clear precedent, demonstrating the acceptability of a building of height, scale and massing in this location.

The Site is situated within a part of Manchester City Centre that is subject to a number of strategic regeneration frameworks, including the Whitworth Street West Strategic Regeneration Framework, and is closely influenced by adjacent frameworks such as Great Northern, Manchester Central, Castlefield Quay, First Street and Great Jackson Street. Collectively, these establish a clear vision for growth, intensification and high-quality placemaking, with support for tall building development. The presence of an emerging cluster of tall buildings within Deansgate and the nearby Great Jackson Street area further reinforces the appropriateness of height in the local and wider city centre context.

In addition, the Site lies within the Petersfield Regeneration Area, part of the wider City Centre Regeneration Area, which has experienced sustained residential growth and continues to be identified as a focus for high-density, mixed-use development.

The location accords with Development Plan Policies that relate to density and tall buildings, namely Core Strategy Policy CC6 – City Centre High Density Development, which seek to direct higher density development to the City Centre, where greater scale and massing are appropriate.

With regards to Policy EN2 – Tall Buildings, the Proposed Development demonstrates that a tall building of height can be accommodated within this City Centre location. The Site lies outside any conservation area, within an established regeneration area and in close proximity to key public transport corridors, thereby meeting Policy EN2's locational requirements. The scale, height and massing of the Proposed Development responds to the existing and emerging cluster of tall buildings within Whitworth Street West, Deansgate and the Great Jackson Street areas, allowing the scheme to be read as part of a coherent and evolving city-centre skyline. The design is of high architectural quality, informed by an iterative design process and multiple reviews with Manchester City Council and the Design Review Panel, resulting in a refined composition that contributes positively to placemaking through its proportion, articulation and active ground floor levels. The Proposed Development will deliver regeneration benefits through the efficient reuse of a brownfield site, the provision of high-density residential accommodation, and the enhancement of a pedestrian-friendly public realm.

Taken together, the planning history, strategic designations and policy framework provide strong support for the principle of a tall building on the Site. The Proposed Development therefore aligns with the established pattern of growth and the ongoing transformation of this part of the city centre, where height and density are both anticipated and supported.

DESIGN DEVELOPMENT

The design of the Proposed Development has been informed by a detailed understanding of the Site and its urban context and has evolved through an iterative and collaborative process involving Manchester City Council and the Design Review Panel. Early pre-application discussions confirmed no objection in principle to a tall building, although increases in height required careful assessment, while subsequent written feedback supported the overall design quality, materiality and architectural composition.

Through multiple Design Review Panels, the scheme received consistent support for its massing, proportions and façade concept, with the panel endorsing the chamfered corners and weave articulation. The panels encouraged refinement of materiality, crown treatment and the ground-floor presence, and supporting a warmer colour palette. The design was amended and the Design Review Panel confirmed that revisions successfully addressed earlier concerns, including improved entrance legibility, enhanced planting and a strengthened façade rhythm.

Collectively, this design development process has shaped an elegant tall building with a grounded architectural response and a clear rationale for its height, materiality and place-making role within an evolving and transforming local context.

HERITAGE

The heritage assessment has been undertaken in accordance with best practice guidance, including the 2017 Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets and the 2022 Tall Buildings: Advice Note 4 both prepared by Historic England.[1]

The statutory duties of the decision-maker when considering applications which affect designated heritage receptors are set out at section 66(1) of the Planning (Listed Buildings and Conservation Areas Act) 1990.

The Site is not located within a conservation area and does not contain any designated or non-designated heritage receptors.

The assessment in this report considers the setting of statutorily protected buildings, i.e. listed buildings and assesses Grade I and II* building within a 750m radius of the Site. It considers Grade II listed buildings within 500m of the Site.

A ZTV was used to understand where there will be visibility of the proposed development. Heritage assets within the study area that demonstrated no or very limited intervisibility, and/or were both physically and functionally separated from the site, were scoped out of the assessment.

47 of the 95 heritage receptors within the study area were considered in in the final assessment. Following the receipt of the Scoping Opinion and the provision of an updated model of the Proposed Development, it was identified that 13 heritage receptors previously scoped out may have potential intervisibility with the proposals. Accordingly, these receptors have been brought back into scope for assessment.

The built heritage assessment has considered the heritage significance of heritage receptors within the surrounding area, the contribution of setting towards that significance and the impact of the Proposed Development upon that setting and significance. The heritage assets that are considered most pertinent are the Castlefield Conservation Area, the Former Congregational Chapel and the Rochdale Canal Lock No. 90.

The construction residual effects are considered to have a likely effect of None (Not Significant) to Minor Adverse (Not Significant) on heritage receptors outside the Site. The greatest impact would arise from the construction phase would be on the Castlefield Conservation Area and the Rochdale Canal Lock No. 90 as a result of the noise and disruption from the construction phase, plus the visual impact of cranes, hoardings and other construction structures appearing in the setting of these receptors.

During the Operational Phase, the assessment of impact to heritage receptors identified would give rise to likely effects ranging from None (Not Significant) to Minor Neutral (Not Significant).

In the case of all other heritage receptors identified within this report, it is considered that effects arising from the Proposed Development range from None (Not Significant). to Negligible Neutral (Not Significant), with the value (significance) of all unaffected (and therefore their heritage value (or "significance" as used in the National Planning Policy Framework) is preserved).

None of the effects identified equate to harm to the heritage receptors.

There are no changes to the findings of effects on the heritage receptors in the cumulative and emerging scenario.

Overall, the development would comply with Policies EN3 and CC9 of the Manchester City Council Core Strategy (2012) and Addendum (2024), Policies DC18.1 and DC19.1 of the Saved Unitary Development Plan (1995), and Policy JP-P2 of the Places for Everyone Joint Development Plan Document (2024), together with Paragraph 215 of the National Planning Policy Framework. On that basis, the decision maker would be able to discharge their legal duties under section 66(1) of the Planning (Listed Buildings and Conservation Areas) Act 1990.

TOWNSCAPE

Six townscape character areas were identified within a 500m radius of the Proposed Development Site to understand the effects on the local townscape character. The character areas comprise the townscape receptors for the purposes of the BHTVIA.

The Site lies within Townscape Character Area 1: Petersfield and sits within the core of Manchester city-centre, characterised by a dense urban fabric combining historic and more modern buildings, transport infrastructure, canal/waterway corridors, and a mixture of civic, commercial and residential uses. The character area is mixed, comprising development of varying scales, quality, and architectural styles, including tall and large buildings. The Site lies within the Whitworth Street West Strategic Regeneration Area, with the wider character area encompassing other Strategic Regeneration Frameworks within Manchester City Centre. It is also situated within the Petersfield Regeneration Area, forming part of the broader City Centre Regeneration Area, each of which anticipates significant transformational change to the area's character. The Proposed Development aligns with the established development typology and the wider aspirations for the area, contributing to and continuing the ongoing regeneration and redevelopment of this part of Manchester.

The townscape assessment has considered the Proposed Development within its urban context, including the buildings, the relationships between these, the different types of urban open spaces, including green spaces and the relationship between buildings and open spaces.

1 Historic England, 2017 Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets; Historic England, 2022 Advice Note 4: Tall Buildings.

The construction residual effects are considered to have a likely effect of Negligible Adverse (Not Significant) to Minor / Moderate Adverse (Not Significant).

During the completed development stage, the Proposed Development would give rise to effects ranging from Negligible Neutral (Not Significant) to Moderate Beneficial (Significant).

The resultant effect arising from the impact to Townscape Character Area 1: Petersfield would be Moderate Beneficial. In relation to this character area which the Site is located within, the Proposed Development would establish a new development within Manchester City Centre, delivering a PBSA scheme supported by a high architectural quality building that marks a demonstrable improvement to the character, appearance, and function of the area.

In the cumulative context for Townscape Character Area 1: Petersfield, the Proposed Development would remain an attractive addition to the townscape, continuing to enhance the character, appearance and function of the area while being read alongside other consented schemes, including 2–4 Whitworth Street, Viadux Phase 2 and the Great Northern Warehouse redevelopment. The introduction of additional tall and large-scale development within the character area would lessen the relative visual influence of the Proposed Development, thereby reducing the magnitude of impact to Low and resulting in a Minor / Moderate Beneficial effect (Not Significant).

There are no changes to the findings of effects on the remaining townscape receptors as a result of cumulative and emerging scenario in the surrounding area.

The assessment concludes that the Proposed Development would accord with the relevant townscape and design policies of the Development Plan, including Policies CC6, CC8, CC9, EN1 and EN2 of the Manchester City Council Core Strategy (2012) and Addendum (2024), together with the relevant policies of the Places for Everyone Joint Development Plan Document (2024), including Policies JP-Strat1 and JP-Strat2.

The proposals are also consistent with national planning policy set out in Chapter 16 of the National Planning Policy Framework, which seeks to secure well-designed, attractive and healthy places, and with the principles of the National Design Guide, particularly in relation to context, built form, identity and character.

VISUAL

Analysis of the Site and surrounding area resulted in the identification of 12 viewpoint locations from which verified views were produced. The verified views have informed the assessment of impacts to built heritage, townscape and visual receptors.

A number of visual receptors who may experience views of the development, the places where they will be affected, and the nature of the views and visual amenity have been identified and include that of Pedestrians of Mosley Street and Lower Mosley Street, Pedestrians of Whitworth Street West, Users of Whitworth Steet West and Users of Medlock Street

In addition to the visual amenity experienced by people, the assessment has considered the following strategic views designated in the development plan, or that were agreed with the Council and these include View 9: Castle Street, View 10: Albert Square, View 11: Windmill Street and View 12: St Ann's Square.

The Zone of Theoretical Visibility undertaken demonstrates that the greatest extent of intervisibility is anticipated from the surrounding streets that directly adjoin or align with the Site, including Whitworth Street West, Lower Mosley Street, Mosley Street, First Street, and Medlock Street. Within the wider area, the visibility of the Proposed Development is generally limited and dissipates as a result of the orientation of the surrounding street network in relation to the Site, as well as the dense urban grain of the city centre, which restricts longer-distance views. Notwithstanding this, occasional longer views may be experienced from areas of open space, such as Hulme Park, and along streets that align with the Site, including Mosley Street and Chester Road.

The visual assessment has considered the impact of the Proposed Development upon visual receptors e.g. people experiencing a change in views and visual amenity at different places, including publicly accessible locations. Visual receptors are always people (although usually visual receptors are defined according to use e.g. residential, business, road, footpath etc.), rather than landscape features.

The construction residual effects are considered to have a likely effect of None (Not Significant) to Minor Adverse (Not Significant) on the visual receptors identified.

During the completed development stage, the assessment of impact to visual receptors identified would give rise to likely effects ranging from None (Not Significant) to Minor/Moderate Beneficial (Not Significant).

In the cumulative context, View 9 forms a static view. From this location, the consented scheme at 2–4 Whitworth Street (Planning Ref: 141773/FO/2024) appears in front of the Proposed Development, fully occluding the Proposed Development . As a consequence, the magnitude of impact is Nil, resulting in a likely effect of None (Not Significant).

There are no changes to the findings of effects on the remaining visual receptors as a result of the cumulative scenario in the surrounding area.

The assessment concludes that the Proposed Development would accord with the relevant Manchester Development Plan policies relating to design and visual amenity, including Policies CC9 and EN1 of the Manchester City Council Core Strategy (2012) and Addendum (2024) and would also be consistent with Chapter 12 of the National Planning Policy Framework and the principles of the National Design Guide, in that it would result in a visually attractive and well-composed development that would preserve and enhance visual amenity within the surrounding area.

SUMMARY

The proposals have evolved through a detailed understanding of the site, its surrounding context and the aspirations of the development plan. Design development has benefited from discussions with officers at Manchester City Council and the Council's Design Review Panel.

The proposals would not undermine the historic or architectural value of the identified heritage receptors and would be understood as part of the wider city centre which is characterised by a varied townscape and includes that of tall and large development.

The scheme will also optimise the use of this brownfield site, which is chronically underutilised at present and forms an open gap along Whitworth West Street. The proposals present a demonstrable enhancement to the streetscape through active frontages, improved legibility, and high-quality architectural detailing. The design will give rise to significant beneficial urban design and townscape improvements to the study area, including its character and function, in accordance with the aspirations of the development plan.

1.0
INTRODUCTION

LAND AT 10-12 WHITWORTH STREET WEST, MANCHESTER

INTRODUCTION

1.1 Montagu Evans has been instructed by Atri7 6 Limited (hereafter referred to as the 'Applicant') to provide consultancy services and produce this Built Heritage, Townscape and Visual Impact Assessment (the 'BHTVIA') in support of proposals which are subject to planning application at Land at 10–12 Whitworth Street West, Manchester (the 'Site').

1.2 The description of development (the 'Proposed Development') is as follows:

"Full planning permission for a 39–storey purpose built student accommodation building"

1.3 The Proposed Development is subject to Environmental Impact Assessment (EIA). The BHTVIA should be read in combination with **Chapter 8** of the Environmental Statement (ES) which is submitted with the application. The assessment is undertaken in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) ('the EIA Regulations').

1.4 The Site is located within the administrative boundary of Manchester City Council (the 'Council'). The Site is described at **Chapter 2: Site Description.** Reference should also be made to the Design and Access Statement (DAS) prepared by Corstorphine & Wright and the Planning Statement prepared by Cushman and Wakefield submitted in support of the Planning Application.

1.5 **Figure 1.1** shows the boundary of the Site, and an aerial view is provided at **Figure 1.2**.

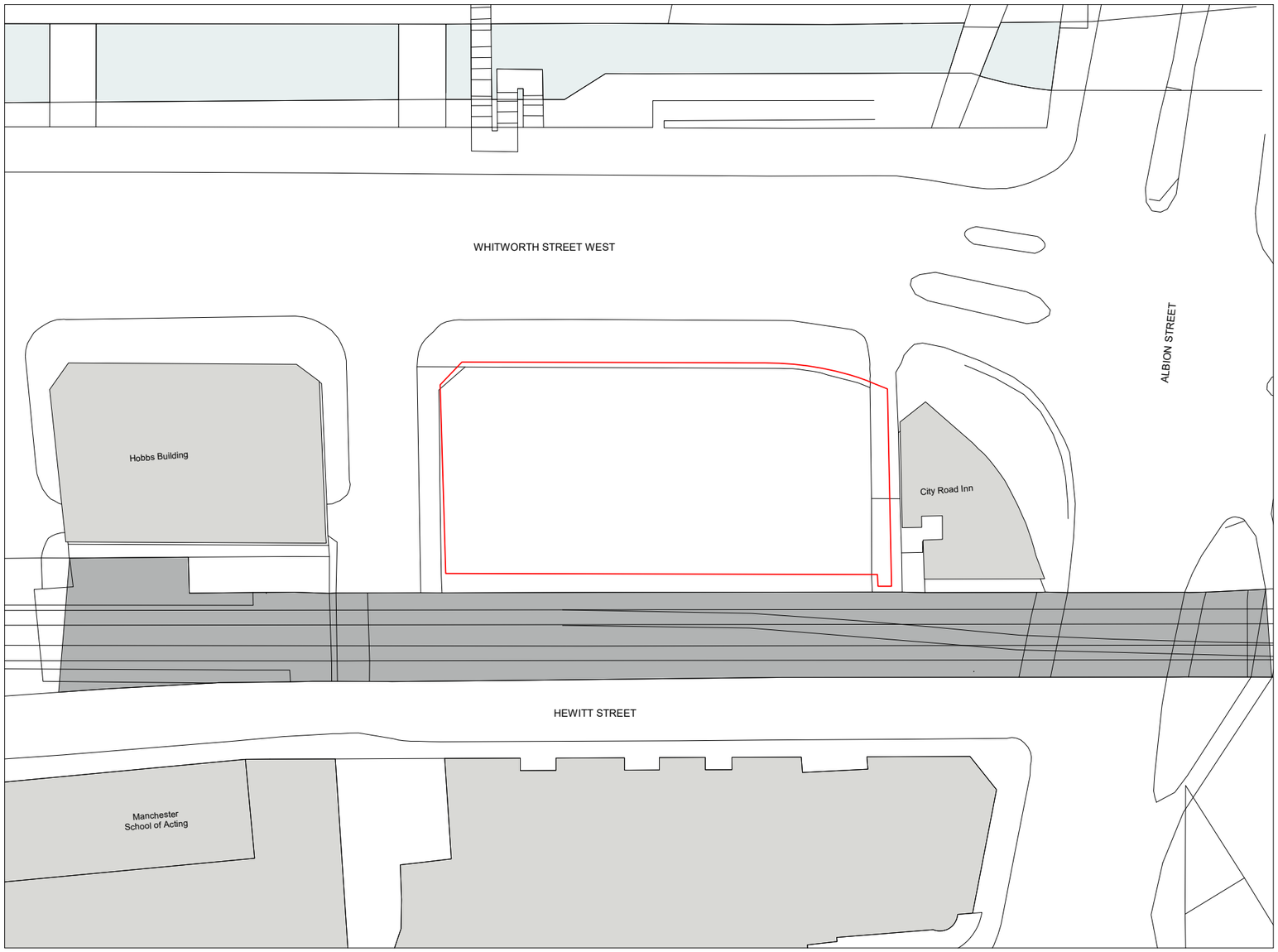


Figure 1.1 Site Plan with Red Line Boundary. Source: Corstorphine & Wright



Figure 1.2 Aerial View with Red Line Boundary. Source: Google (base map)

PURPOSE OF THE BHTVIA

1.6 The BHTVIA provides an assessment of likely significant effects of the Proposed Development on heritage (the historic environment), townscape and visual receptors. Separate assessments are provided for each discipline (heritage, and townscape and visual) using separate methodologies.

1.7 The (built) heritage assessment describes the significance of any heritage receptors affected by the Proposed Development, including any contribution made by their setting. The Site does not contain any heritage receptors, and neither is it located in a conservation area.

1.8 The townscape assessment will consider the Proposed Development within its urban context, including the buildings, the relationships between them, the different types of urban open spaces, including green spaces and the relationship between buildings and open spaces.

1.9 The visual assessment will consider the impact of the Proposed Development upon visual receptors e.g. people. The assessment relates to how the amenity of people in the area affected by development will change (positive, negative or neutral). Visual receptors are always people (although usually visual receptors are defined according to use e.g. residential, business, road, footpath etc.), rather than landscape features. Impact on landscape components is treated under the heading townscape (when in cities).

1.10 The assessment as a whole is informed by visual tools, including a zone of theoretical visibility (ZTV), non-verified massing studies and accurate visual representations ('AVRs') prepared by AVR London. The tools inform the assessment of the impact of the Proposed Development on heritage, townscape and visual receptors e.g. they allow an understanding of the geographical extent and magnitude of visibility from representative locations.

STRUCTURE OF THE BHTVIA

1.11 The BHTVIA is structured as follows:

1.11.1 The methodology for undertaking the BHTVIA for the ES assessment is provided at **Section 2.0**;

1.11.2 Legislation, planning policy and guidance relevant to the assessment of likely effects on heritage, townscape and visual receptors is set out at **Section 3.0**;

1.11.3 A description of the historical development of the Site and surrounding area is provided at **Section 4.0**;

1.11.4 An assessment of the significance of heritage receptors which have been identified for assessment is provided at **Section 5.0**;

1.11.5 A description of the existing townscape character and visual amenity is provided at **Section 6.0**;

1.11.6 A description of the existing visual amenity is provided at **Section 7.0:**

1.11.7 **Section 8.0** describes the pre-application consultation that has been undertaken and embedded mitigation that has occurred as a result of this process and design development;

1.11.8 **Section 9.0** describes the visual characteristics of the Site and of the Proposed Development;

1.11.9 **Section 10.0** provides an assessment of the impact of the Proposed Development on the significance of heritage receptors;

1.11.10 The impact of the Proposed Development on townscape receptors is assessed at **Section 11.0**;

1.11.11 An assessment of the impact of the Proposed Development on visual receptors is provided at **Section 12.0**;

1.11.12 The BHTVIA is concluded at **Section 13.0**.

2.0
METHODOLOGY

LAND AT 10-12 WHITWORTH STREET WEST, MANCHESTER

METHODOLOGY

2.1 This section describes the framework for heritage assessment, and townscape and visual assessment. The method for each discipline is the product of legislation, policy and best practice guidance set out in **Section 3.0**. The assessment is proportionate and no longer than is necessary to assess properly the potential likely significant effects of the Proposed Development. All impacts deemed relevant or material to planning are identified and the consequent effects appraised.

2.2 Throughout this analysis, and across all disciplines, the reader will be presented with the words impact and effect. 'Impact' is defined as the action being taken, and 'effect' is the change resulting from the action. The overall effect is also given a nature of effect (beneficial, adverse or neutral). There is no direct correlation between magnitude of impact and nature of effect, since change is by definition not necessarily adverse or beneficial. Similarly, and dependent on context, one can have a high magnitude of impact which is neutral in effect, which may strike some readers as peculiar or perverse. For example, however, it is possible for a major change to be so similar to others that have occurred and are anticipated that practically speaking it is neither beneficial or detrimental to the value of the receiving receptor (and hence is neutral).

SCOPING AND BASELINE ASSIMILATION

2.3 This assessment is based on the Scoping Report submitted to the Council in June 2025 (Ref. EIASCO/25/006) and agreed in the Scoping Opinion dated 23rd July 2025. The Scoping process identified the heritage, townscape and visual receptors which would be assessed in the ES. Where a design has evolved or material changes to the baseline occur to an extent that that scope has changed, reasoned justification is provided.

SITE VISITS

2.4 A field survey of the baseline situation was undertaken by Montagu Evans on the 7th March and 9th May 2025.

STUDY AREA

2.5 The study area for the BHTVIA comprises:

2.5.1 All designated and non-designated heritage receptors within a 500m radius of the Site have been assessed, with Grade I and Grade II* listed buildings and conservation areas considered within an extended 750m study area.

2.5.2 Townscape character areas up to 500m from the Site;

2.5.3 Visual receptors in the local and wider area.

2.6 The plans at the respective baseline sections identify all of the receptors identified in the study area.

2.7 Site observations, a manual desk-based review of OS maps, characterisation studies and relevant heritage receptors were used to determine the study area. It has been informed by building locations and heights, topography and townscape features, and an understanding of the scale of the Proposed Development.

2.8 A Zone of Theoretical Visibility (ZTV) has been produced to outline the potential areas where the Proposed Development may be visible, up to a 2km distance from the Site (**Figure 2.1**). The ZTV has been produced using topographically referenced three-dimensional models from VU.CITY software. It is a tool for a high-level understanding of the extent of visibility, which was further interrogated through review of individual viewpoints using field surveys and digital software.

ACCURATE VISUAL REPRESENTATIONS (AVRS) AND VISUAL AIDS

2.9 The assessment of each discipline is informed by AVRs. The location of the viewpoints has been agreed with the Council during the pre-application and EIA Scoping process.

2.10 The AVRs are provided in the following scenarios:

2.10.1 Existing = baseline photography

2.10.2 Proposed = Existing plus the Proposed Development

2.10.3 Cumulative = Existing plus Proposed Development plus schemes in the surrounding area that are subject to an extant consent and awaiting decision

2.11 The AVRs are independently prepared by AVR London according to an industry standard method provided at **Appendix 2.0**. The variables include angle of lens, framing of shot and orientation. TGN 06/19 Visual Representation of Development Proposals Technical Guidance Note (2019) prepared by Landscape Institute recommend one set of considerations, but these are not universally applied and are not suited often to certain urban environments because the angle of lens, 50 degrees, often eliminates context in close and medium-distance shots.

2.12 AVRs are merely tools of assessment, to be applied on site, and to act as aide memoires afterwards. They do not represent visual perception. The objective of an AVR is to simulate the likely visual changes that would result from a proposed development. AVRs are two-dimensional and cannot capture the complexity of the visual experience. It is an approximation of the three-dimensional visual experience the observer would receive on site. Neither do they capture transient significant effects arising from noise or traffic on perception, or that wider range of expectations and associations that anyone in an urban scene may have.

2.13 Artists' impressions based on geometrically accurate information (models) or characteristics of computer-generated images (CGIs) may sometimes be used. Whilst not independently verified, these can be very helpful in establishing and assessing the way a proposal will affect its immediate environment (to take one example only) and/or convey particular characteristics of development. This is because the AVR methodology is generally less helpful for assessing up close effects or, for example, in capturing the interaction of new landscape with buildings. Illustrative views are not used to inform the assessment of applications for outline permission but may be provided as a useful reference of what could be achieved through implementation of a design code.

2.14 The qualitative text accompanying the visual assessment seeks to contextualise the views. Inevitably one must accept that professional judgement is involved in this specialist area on the basis of the above and the importance of design quality in the operation of policy. A visit to the location from which the photographs were taken is required to appreciate and understand the visual impact.

2.15 Changes to visual amenity should not be judged in relation to static views (which are abstractions and not real) but in relation to the overall experience of an area and dependent upon the particular experiences and expectations of different receptors. The modelled viewpoints are often selected to show schemes at their maximum impact and not capture their typical impact in a receiving area or location. The impact assessment considers both the particular impact illustrated and the overall impact to come to a net assessment which more accurately reflects the overall experience than a single view.



Figure 2.1 ZTV of the Proposed Development prepared by VU.CITY.

HERITAGE

2.16 The term 'heritage receptor' is used within this assessment to describe a designated or non-designated heritage receptor, as defined by the National Planning Policy Framework (2024) (the NPPF).

2.17 The assessment does not consider below-ground archaeological receptors, including scheduled monuments, unless the archaeological feature has been scoped into the assessment. This occurs in some cases where the understanding of an archaeological feature with no upstanding remains is affected by perceptions of its setting.

2.18 In accordance with paragraph 207 of the NPPF the relevant historic environment record has been consulted as part of this assessment (HER search reference: CGM111936).

HERITAGE VALUE

2.19 Planning policy requires an applicant to describe the significance of any heritage receptors affected by a proposed development, including any contribution made by their setting. 'Significance' (for heritage policy) is defined in the NPPF Annex 2 as:

> *the value of a heritage receptor to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage receptor's physical presence, but also from its setting.*

2.20 The term 'heritage value' is interchangeable in this assessment with 'heritage significance' and has been adopted to avoid conflation between 'EIA significance'. Heritage value is assessed against the criteria contained in **Table 2.1**; the categories allow some flexibility in their practical application to the facts of any case. The typical examples for each category are indicative, mindful that the buildings/sites/areas cover a wide spectrum of character, history, features, and group relationships. The reader is referred to the qualitative assessment which outlines the particular nature of the value.

2.21 Paragraph 207 of the NPPF states that the "*level of detail* [to describe the significance of heritage receptors] *should be proportionate to the assets' importance*". Great weight has been given to the conservation of all designated heritage receptors, although a gradation of value is appropriate. This is reinforced by the 2018 DCMS Principles for Selection of Listed Buildings which states "listed buildings are graded to reflect their relative special architectural and historic interest":

> *Grade I buildings are of exceptional special interest;*
> *Grade II* buildings are particularly important buildings of more than special interest;*
> *Grade II buildings are of special interest, warranting every effort to preserve them.*

2.22 The value of heritage receptors may be expressed with reference to their historical or architectural value identified in the Planning (Listed Buildings and Conservation Areas) Act 1990 (the '1990 PLBCA Act'), or the other values set out in the NPPF: archaeological, architectural, artistic or historic. For World Heritage Sites, the cultural value described within each site's Statement of Outstanding Universal Value forms part of its value.

2.23 Where a proposal may affect the surroundings in which the heritage receptor is experienced, a qualitative assessment is made of whether, how and to what degree setting contributes to the value of heritage receptors. The assessment is informed by the check-list approach contained in Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage receptors (2017) (hereafter 'GPA3'). Setting is defined in the NPPF as:

> *The surroundings in which a heritage receptor is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.*

2.24 The heritage baseline articulates the contribution made by relevant aspects of setting towards value. Again, the level of detail is proportionate to the receptors' importance and no more than is sufficient to understand the potential impact of the proposal to their value; however, each heritage receptor's susceptibility to change derives from the particular nature of its heritage value, the existing character of its setting and the type of development proposed. The baseline assessment therefore describes what is sensitive about each heritage receptor and its setting without providing a sensitivity rating, which follows later in the assessment stage.

HERITAGE VALUE

Value	Typical Criteria	Typical Examples
Very High	Building/site/area of international heritage value	World Heritage Sites, grade I statutorily listed buildings and registered parks and gardens, and some scheduled monuments, grade II* statutorily listed buildings and registered parks and gardens.
High	Building/site/area of national heritage value	Some scheduled monuments, Grade II* and II registered parks and gardens, grade II* and II statutorily listed buildings and conservation areas.
Medium	Building/site/area of lower national or particular local heritage value	Some grade II registered parks and gardens, grade II statutorily listed buildings and conservation areas.
Low	Building/site/area of local heritage value	Locally listed buildings (or equivalent non-designated heritage receptors).
Very Low	Building/site/area of low local heritage value	Receptors not formally identified, but which may have a degree of value meriting consideration in planning decisions

Table 2.1 Heritage Value Criteria

HERITAGE SENSITIVITY

2.25 The first stage in assessing the impact of the Proposed Development upon the heritage value of a receptor is to identify its sensitivity to change. Sensitivity is identified by calibrating the baseline value of the receptor with its susceptibility to change, defined as the ability of the heritage receptor to accommodate the type and/or nature of development without change to its value (see **Table 2.2**). In relation to heritage setting, paragraph 17 of GPA3 provides guidance on the relationship between heritage value and the potential impact of development upon that value by virtue of changes to its setting:

> *All heritage receptors have significance, some of which have particular significance and are designated. The contribution made by their setting to their significance also varies. Although many settings may be enhanced by development, not all settings have the same capacity to accommodate change without harm to the significance of the heritage receptor or the ability to appreciate it. This capacity may vary between designated assets of the same grade or of the same type or according to the nature of the change. It can also depend on the location of the asset: an elevated or overlooked location; a riverbank, coastal or island location; or a location within an extensive tract of flat land may increase the sensitivity of the setting (ie the capacity of the setting to accommodate change without harm to the heritage receptor's significance) or of views of the asset. This requires the implications of development affecting the setting of heritage receptors to be considered on a case-by-case basis.*

2.26 Cases of direct changes to the fabric of heritage receptors may be more likely to be susceptible to change, although this may be moderated according to the facts of the case. The qualitative text should clearly articulate where any deviation is made from this judgement.

2.27 The value of the receptor and its susceptibility are calibrated using the matrix at **Table 2.3**. Sensitivity is recorded in a verbal scale (high, medium or low), supported by a clear narrative linked to evidence from the baseline study and an assessment of susceptibility.

HERITAGE SUSCEPTIBILITY TO CHANGE CRITERIA	
High	The setting of the receptor or receptor itself has a low ability to accommodate the type of change without change to its value.
Medium	The setting of the receptor or receptor itself has a moderate ability to accommodate the type of change without change to its value.
Low	The setting of the receptor or receptor itself has a high ability to accommodate the type of change without change to its value.

Table 2.2 Susceptibility of Heritage Receptor to Change Criteria

HERITAGE SENSITIVITY			
Receptor Value	Susceptibility of Receptor to Change		
	Low	Medium	High
Very Low	Low	Low	Low/Medium
Low	Low	Low/Medium	Medium
Medium	Low/Medium	Medium	Medium/High
High	Medium	Medium/High	High
Very High	Medium/High	High	High

Table 2.3 Heritage Sensitivity (Nature of Receptor Likely to be Affected)

HERITAGE MAGNITUDE

2.28 The magnitude of impact to the receptors' heritage value is then considered. In relation to setting impacts, although the change arising from the Proposed Development may be large in physical scale or geographical extent, there may nonetheless be little or no impact on heritage value, and vice versa. The heritage impacts of the Proposed Development have been considered in relation to the degree of change caused to those parts of the receptor and/or its setting which contribute to its heritage value.

2.29 The judgement of magnitude considers the size or scale, geographical extent or duration and reversibility of the impact and whether the Proposed Development:

- 2.29.1 Conforms with the pattern, scale, mass, grain and historic features of the receptor;
- 2.29.2 Creates a loss or restoration of key features of the receptor;
- 2.29.3 Contributes to the identified receptor character; and
- 2.29.4 Accords with national, regional and local planning policy and guidelines.

2.30 The magnitude of impact is a qualitative judgement supported by the narrative text within the assessment. The professional judgement is quantified using criteria at **Table 2.4**.

HERITAGE MAGNITUDE OF IMPACT	
High	Major change to the value of the receptor. Loss of or major alteration to key elements/features/characteristics that contribute to value. The duration of this impact may be permanent and non-reversible.
Medium	Moderate change to the value of the receptor. Alteration to one or more key elements/features/characteristics that contribute to value. The duration of this impact may be semi-permanent and partially reversible.
Low	Minor change to the value of the receptor. Minor alteration to one or more elements/features/characteristics that contribute to value. The duration of this impact may be temporary and reversible.
Very Low	Negligible change to the value of the receptor. Very minor alteration to one or more key elements/features/characteristics of the baseline. The duration of this impact may be temporary and reversible.
Nil	No change to the value of the receptor.

Table 2.4 Magnitude of Impact to Heritage Receptor Criteria

HERITAGE LIKELY EFFECTS

2.31 Likely effects are determined by combining the judgements of sensitivity and the magnitude of impact (**Table 2.5**). It is generally considered that moderate to major effects are 'significant' in the context of the EIA Regulations. Criteria defining the scale of effect is provided at **Table 2.6**.

2.32 The scale of effect requires a qualitative discussion to describe and elucidate this judgement to the reader. This is necessary because heritage assessment is not a strict quantitative process and some of these considerations will depend on expert judgements. Accordingly, there is an emphasis on qualitative text throughout the assessment to describe the receptors and the judgements in regard to the significance of the identified effects.

2.33 Professional judgement is also required to determine the nature of the likely effects. For example, there will be cases where a high magnitude of impact produces a major scale of effect, on the basis that the component is prominent or noticeable, but notwithstanding that the quality of effect is beneficial as a consequence of design quality or other benefits. This approach arises most often as a consequence of major developments in areas positively identified for transformational change. Often, such impacts will have varied effects such that a hard and fast categorisation is finely balanced as between beneficial or harmful. In many instances, therefore, the final identification of impact and effect will turn on discursive analysis. Criteria defining the nature of effect is provided at **Table 2.7.**

HERITAGE LIKELY EFFECT ON RECEPTOR			
Magnitude	Sensitivity		
	Low	Medium	High
Nil	None	None	None
Very Low	Negligible	Negligible	Negligible / Minor
Low	Minor	Minor / Moderate	Moderate
Medium	Minor / Moderate	Moderate	Moderate / Major
High	Moderate	Moderate / Major	Major

Table 2.5 Likely Effect on Heritage Receptor Matrix

HERITAGE SCALE OF AN EFFECT	
Major	The change resulting from the impact of the Proposed Development upon the heritage value of the receptor would give rise to a very significant effect.
Moderate	The change resulting from the impact of the Proposed Development upon the heritage value of the receptor would give rise to a significant effect.
Minor	The change resulting from the impact of the Proposed Development upon the heritage value of the receptor would give rise to an effect, but this would not be significant.
Negligible	The change resulting from the impact of the Proposed Development upon the heritage value of the receptor would give rise to a barely discernible effect. This would not be significant.
None	The change resulting from the impact of the Proposed Development upon the heritage value of the receptor would have no effect.

Table 2.6 Scale of an Effect

HERITAGE NATURE OF AN EFFECT	
Beneficial	An enhancement to a receptor
Neutral	An effect that on balance, is neither beneficial nor adverse to a receptor, and therefore preserves the receptor.
Adverse	A harmful impact to a receptor

Table 2.7 Nature of an Effect

TOWNSCAPE AND VISUAL

2.34 The framework for assessment of townscape and visual impact has been prepared using the Guidelines for Landscape and Visual Impact Assessment, Third Edition (Landscape Institute and Institute of Environmental Management and Assessment, 2013) ('GLVIA3'). The two components of townscape and visual assessment are:

2.34.1 The assessment of townscape effects: assessing effects on the townscape as a resource in its own right; and

2.34.2 The assessment of visual effects: assessing effects on the general visual amenity experienced by people. Specific views are also assessed where they form strategic views designated in the development plan, or where agreed with the competent authority.

TOWNSCAPE AND VISUAL VALUE

TOWNSCAPE VALUE

2.35 The townscape baseline assessment describes character areas/types and their characteristics. It defines the distinct and recognisable patterns of elements, or characteristics that make one area different from another, rather than better or worse. Areas are defined and mapped with boundaries that suggest a sharp change from one townscape area to another; however, on site, changes can be more subtle and practically, this often represents a zone of transition. Criteria to assess townscape character areas and apportion value is contained in **Table 2.8**.

2.36 Assessment is informed by an understanding of how an area has evolved, the use of aerial photography and field survey, along with desk-based research as appropriate and to a level commensurate with the sensitivity of the receptor and its susceptibility to change. Important published sources will normally comprise formal character assessments prepared, for example, as part of local plan making or agencies or county authorities.

2.37 The objective of identifying the existing context is to provide an understanding of the townscape in the area that may be affected – its constituent elements, its character and the way this varies spatially, its geographic extent, its history, its condition, the way the townscape is experienced and the value attached to it. This assessment cannot practically and objectively capture what local people in an area feel about their area (unless of course this has been subject to a specific study which is produced in an objective or reflective manner). Thus, this value analysis reflects professional judgment.

TOWNSCAPE RECEPTOR VALUE

Value	Importance	Typical Criteria	Typical Features / Characteristics
Very High	International / National	Unique or outstanding townscape with clearly distinctive characteristics, features and elements; Widespread use of quality materials; Very strong urban structure, characteristic patterns and balanced combination of built form and open space; Appropriate management for land use; No, or very limited, detracting features.	International or national designation, and/or designated heritage receptors of significant importance
High	National / Regional / Local	Distinctive or unusual townscape with notable features and elements; Evident use of quality materials; Strong urban structure, characteristic patterns and balanced combination of built form and open space; Appropriate management for land use with limited scope to improve; Limited detracting features.	National or regional designation, and/or designated heritage receptors
Medium	Regional / Local	Attractive townscape with occasional distinctive features; Recognisable urban structure, characteristic patterns and combinations of built form and open space; Scope to improve management for land use; Some detracting features.	Regional or local recognition, including local plan designations, with value possibly expressed through literature and cultural associations.
Low	Local	Commonplace or ordinary townscape with limited variety or distinctiveness; Distinguishable urban structure, characteristic patterns and combinations of built form and open space, although often fragmented; Scope to improve management or land use; Potentially some dominant detracting features and areas of very low value.	Some positive townscape features but largely degraded and may benefit from regeneration, restoration or enhancement.
Very Low	Local	Very common townscape, often in decline; Weak or degraded urban structure, characteristic patterns and combination of built form and open space; Lack of management has resulted in degradation; Frequent dominant detracting features; Disturbed or derelict land requires treatment.	Heavily degraded townscape and/or identified for change.

Table 2.8 Townscape Receptor Value Criteria

VISUAL AMENITY VALUE

2.38 The visual baseline assessment established the area in which the development may be visible, the different groups of people who may experience views of the development, the places where they will be affected and the nature of the views and visual amenity at those points.

2.39 The baseline study identifies individuals and/or defined groups of people within the area who will be affected by changes in the views, 'visual receptors'. The following visual receptors are identified by GLVIA3 as being likely to be the most susceptible to change:

2.39.1 Residents and other frequent users of the area;

2.39.2 People, whether residents or visitors, who are engaged in outdoor recreation, including use of public rights of way, attractions or those whose attention or interest is likely to be focused on the landscape and on particular views; and

2.39.3 Communities where views contribute to the landscape setting enjoyed by residents in the area.

2.40 Representative viewpoints are identified based on a comprehensive review of the surrounding area, including the following criteria:

2.40.1 Heritage receptors;

2.40.2 Townscape character;

2.40.3 Where the development may be prominent;

2.40.4 Be visible from concentrations of residential areas;

2.40.5 Open spaces (parkland, publicly accessible space);

2.40.6 Potentially sensitive receptors (e.g. schools);

2.40.7 Accessibility to the public;

2.40.8 The viewing direction, distance and elevation;

2.40.9 Townscape and transport nodes.

2.41 The identification of viewpoints also considers any strategic or local viewpoints identified by the local planning authorities or other relevant bodies.

2.42 The visual amenity value of locations is assessed using the criteria contained in **Table 2.9**. Amenity is a broad concept in planning, and the Planning Portal [online] defines it as "*A positive element or elements that contribute to the overall character or enjoyment of an area. For example, open land, trees, historic buildings and the inter–relationship between them, or less tangible factors such as tranquillity.*" Changes in amenity are typically assessed through changes to what people see and perceive, and the shorthand for this are 'views' and 'visual impact'.

2.43 The places at which or in which these individuals will experience a change will always be a publicly accessible place, in line with best practice. The visual assessment is therefore separate to a 'residential amenity assessment', which considers private viewpoints from residential properties (refer to GLVIA3, paragraph 6.17). In some instances, the visual impact assessment will address impacts from private land, but that is only where this topic has been scoped with the decision maker and a specific methodology agreed. Such private land amenity assessments often rely on other concepts in town planning/measures such as privacy and enclosure or overbearing.

VISUAL AMENITY VALUE

Value	Criteria / Examples
Very High	Areas of national or international importance and/or identified strategic views of national or international importance. Very enjoyable area with multiple positive elements and/or Very High townscape value.
High	Areas of national or regional importance, or particular local importance and/or static view identified in the development plan. Enjoyable area with several positive elements and/or High townscape value.
Medium	Areas of regional or local importance and/or static view identified in planning guidance, including conservation area appraisals. Pleasant area with some positive elements and/or Medium townscape value.
Low	Commonplace areas with limited positive elements and/or Low townscape value, often with detracting elements.
Very Low	Area of Very Low townscape value (e.g. industrial areas/busy main roads) that has very few positive characteristics, usually with significant detracting elements.

Table 2.9 Visual Amenity Value Criteria

TOWNSCAPE AND VISUAL SUSCEPTIBILITY

2.44 The first stage in the assessment of the Proposed Development on a townscape or visual receptor is to identify its sensitivity to the Proposed Development. Sensitivity is identified by calibrating the baseline value of the receptor with its susceptibility, defined as the ability to accommodate the particular type and/or nature of development without undue consequences for the maintenance of the baseline situation and/or the achievement of planning policies and strategies. The criteria for determining townscape susceptibility is described at **Table 2.10** and visual susceptibility at **Table 2.11**.

TOWNSCAPE SUSCEPTIBILITY

2.45 GLVIA3 explains landscape susceptibility at pages 88–89. There is no specific definition of townscape susceptibility. Professional judgement is applied based on the understanding of landscape susceptibility to reach judgements on townscape susceptibility.

2.46 GLVIA3 describes susceptibility to change of landscape receptors as "*the ability of the landscape receptor (whether it be the overall character or quality/condition of a particular landscape type or area, or an individual element and/or feature, or a particular aesthetic and perceptual aspect) to accommodate the proposed development without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies.*"

2.47 Susceptibility is relative to the general type of development proposed e.g. a receptor may be more or less susceptible to a proposal for an industrial facility as opposed to a residential building depending on the receiving environment. Equally, a receptor may be more or less susceptible to a tall building than a low–rise development depending on the receiving environment.

2.48 Effects are particular to the specific landscape / townscape in question, which includes reference to aspects such as the quality, nature and condition of the receptor, or, existing scale and grain e.g. if the existing townscape is of a similar scale and / or grain as the proposed development, it may have a greater ability to accommodate the proposed development and thus a lower susceptibility to change, subject to those existing characteristics not undermining or undue consequence arising from that baseline condition or anticipated achievement of relevant townscape / landscape planning policies, which includes site allocations or anticipated development identified in the statutory development plan.

TOWNSCAPE SUSCEPTIBILITY TO CHANGE CRITERIA	
High	The receptor has a low ability to accommodate the specific proposed change e.g. the existing townscape / landscape comprises very limited or no similar types of development to that proposed and/or the townscape / landscape policies do not anticipate this type of development.
Medium	The receptor has a moderate ability to accommodate the specific proposed change e.g. the existing townscape / landscape comprises some similar types of development to that proposed and/or the townscape / landscape policies anticipate some of this type of development.
Low	The receptor has a high ability to accommodate the specific proposed change e.g. the existing townscape / landscape comprises several similar types of development to that proposed and/or the townscape / landscape policies anticipate this type of development.

Table 2.10 Susceptibility of Townscape Receptor to Change Criteria

VISUAL SUSCEPTIBILITY

2.49 GLVIA3 explains visual susceptibility at pages 113–114. Page 113 sets out that susceptibility of different visual receptors to changes in views and visual amenity is mainly a function of:

2.49.1 The occupation or activity of people experiencing the view at particular locations;

2.49.2 The extent to which their attention or interest may therefore be focused on the views and the visual amenity they experience at particular locations.

2.50 Visual receptors who are more likely to have a high susceptibility to change include residents at home, people who are engaged in activities that involve an appreciation of the surrounding landscape or townscape, and visitors to heritage receptors or other attractions. This is the advice of GLVIA3; however, the guidance also makes it clear that this will not be true in all cases since susceptibility to change is to some extent, as noted, a function of context.

2.51 Again, and subject to that qualification, visual receptors who are more likely to have a low susceptibility to change include users of amenity space that does not depend on or involve an appreciation of the surrounding landscape / townscape such as people engaged in sports activities. GLVIA3 states that "*each project needs to consider the nature of the groups of people who will be affected and the extent to which their attention is likely to be focused on views and visual amenity*."

VISUAL SUSCEPTIBILITY TO CHANGE CRITERIA	
High	The receptor has a low ability to accommodate the specific proposed change e.g. the visual receptor is likely to be heavily engaged on the view/visual amenity and/or the type of development is incongruent to the baseline condition or would undermine the enjoyment of the visual receptor.
Medium	The receptor has a moderate ability to accommodate the specific proposed change e.g. the visual receptor is likely to be partially engaged on the view / visual amenity and/or the type of development is congruent to aspects of the baseline condition or would undermine some aspects of the enjoyment of the visual receptor.
Low	The receptor has a high ability to accommodate the specific proposed change e.g. the visual receptor is likely to be not engaged on the view / visual amenity and/or the type of development is congruent to the baseline condition or would not undermine the enjoyment of the visual receptor.

Table 2.11 Susceptibility of Visual Receptor to Change Criteria

TOWNSCAPE AND VISUAL SENSITIVITY

2.52 The baseline value of the receptor and its susceptibility are calibrated using the matrix at **Table 2.12**. Sensitivity is recorded in a verbal scale (high, medium or low), supported by the clear narrative linked to evidence from the baseline study and an assessment of susceptibility.

TOWNSCAPE AND VISUAL SENSITIVITY			
Receptor Value	Susceptibility of Receptor to Change		
	Low	Medium	High
Very Low	Low	Low	Low/Medium
Low	Low	Low/Medium	Medium
Medium	Low/Medium	Medium	Medium/High
High	Medium	Medium/High	High
Very High	Medium/High	High	High

Table 2.12 Townscape and Visual Sensitivity (Nature of Receptor Likely to be Affected)

TOWNSCAPE AND VISUAL MAGNITUDE

2.53 The magnitude of impact is a qualitative judgement supported by the narrative text within the assessment. The professional judgement is quantified using criteria at **Table 2.13**. The judgement of magnitude considers the size or scale, geographical extent or duration and reversibility of the impact.

TOWNSCAPE AND VISUAL MAGNITUDE OF IMPACT	
High	Major change to the value of the townscape receptor or visual amenity. The proposals would be very noticeable, comprising a notable change over an extensive area or an intensive change over a more limited area. May comprise major alteration to key elements/features/characteristics of the receptor. The duration of this impact may be permanent and non-reversible.
Medium	Moderate change to the value of the townscape receptor or visual amenity. The proposals would be noticeable, comprising a recognisable change over a large area or a moderate change over a more limited area. May comprise alteration to one or more key elements/features/characteristics of the receptor. The duration of this impact may be semi-permanent and partially reversible.
Low	Minor change to the value of the townscape receptor or visual amenity. The proposals would be noticeable, although comprising a small change over a limited area or similar to a main component of the receptor. May comprise minor alteration to one or more key elements/features/ characteristics of the receptor. The duration of this impact may be temporary and reversible.
Very Low	Barely discernible change to the value of the townscape receptor or visual amenity. The proposals would not be noticeable, although comprising a very small change over a very limited area or very similar to the main components of the receptor. May comprise very minor alteration to one or more key elements/features/characteristics of the receptor. The duration of this impact may be temporary and reversible.
Nil	No change to the value of the townscape receptor or visual amenity.

Table 2.13 Magnitude of Impact Criteria

TOWNSCAPE AND VISUAL LIKELY EFFECTS

2.54 Likely effects are determined by combining the judgements of sensitivity and the magnitude of impact using a common matrix shared across all topic areas (**Table 2.14**). It is generally considered that moderate to major effects are considered 'significant' in the context of the EIA Regulations. Criteria defining the scale of effect is provided at **Table 2.15**.

TOWNSCAPE AND VISUAL LIKELY EFFECT ON RECEPTOR			
Magnitude	Sensitivity		
	Low	Medium	High
Nil	None	None	None
Very Low	Negligible	Negligible	Negligible / Minor
Low	Minor	Minor / Moderate	Moderate
Medium	Minor / Moderate	Moderate	Moderate / Major
High	Moderate	Moderate / Major	Major

Table 2.14 Likely Effect on Receptor Matrix

2.55 Professional judgement is required to determine the nature of the likely effects. Criteria defining the nature of effect is provided at **Table 2.16.** For example, there will be cases where a high magnitude of impact produces a major scale of effect, on the basis that the component is prominent or noticeable, but notwithstanding that the quality of effect is beneficial as a consequence of design quality or other benefits. This approach arises most often as a consequence of major developments in areas positively identified for transformational change. Often, such impacts will have varied effects such that a hard and fast categorisation of an effects quality is finely balanced as between beneficial or harmful. In many instances, therefore, the final identification of impact and effect will turn on discursive analysis. This makes a necessary professional adjustment to the tabular analysis format which can produce inaccurate reporting.

TOWNSCAPE AND VISUAL SCALE OF AN EFFECT	
Major	The change resulting from the impact of the Proposed Development upon the receptor would give rise to a very significant effect.
Moderate	The change resulting from the impact of the Proposed Development upon the receptor would give rise to a significant effect.
Minor	The change resulting from the impact of the Proposed Development upon the receptor would give rise to an effect, but this would not be significant.
Negligible	The change resulting from the impact of the Proposed Development upon the receptor would give rise to a barely discernible effect. This would not be significant
None	The change resulting from the impact of the Proposed Development upon the receptor would have no effect.

Table 2.15 Scale of an Effect

2.56 The assessment of nature of effect also requires a qualitative discussion to describe and elucidate this judgement to the reader. This is necessary because townscape and visual assessment is not a strict quantitative process and some of these considerations will depend on expert judgements. Accordingly, there is an emphasis on qualitative text throughout the assessment to describe the receptors and the judgements in regard to the significance of the identified effects.

TOWNSCAPE AND VISUAL NATURE OF AN EFFECT	
Beneficial	An advantageous effect to a receptor
Neutral	An effect that on balance is neither beneficial nor adverse to a receptor.
Adverse	A detrimental effect to a receptor

Table 2.16 Nature of an Effect

CUMULATIVE EFFECTS

2.57 The cumulative schemes for inclusion in this Volume were agreed with Manchester City Council during the scoping process and are detailed in **Table 4.1** of Chapter 4 of the ES. A diagram of the cumulative schemes is provided at **Figure 2.2**.

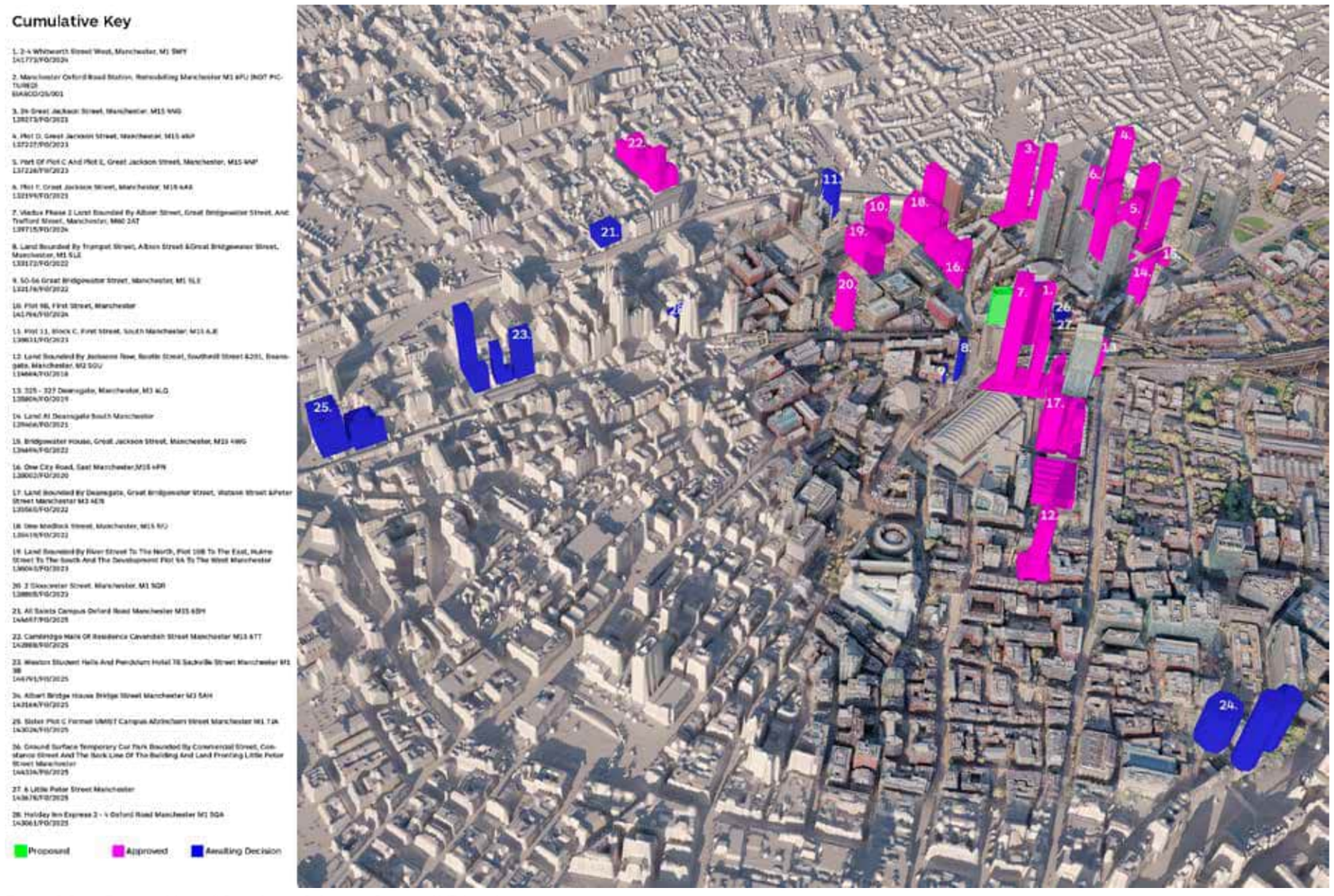


Figure 2.2 Dimetric View of Cumulative Schemes. Source: AVR London.

HERITAGE

2.58 Paragraph 36 of GPA3 states:

> *Cumulative assessment is required under the EU Directive on EIA. Its purpose is to identify impacts that are the result of introducing the development into the view in combination with other existing and proposed developments. The combined impact may not simply be the sum of the impacts of individual developments; it may be more, or less.*

2.59 The word 'cumulative' in this context should be taken to mean incremental and the practical effect of this would generally be to increase the degree of harmful impact in specific cases, judged on a qualitative basis. Instances of incremental harm have as matters of practice normally come about when previous development is recognised to have created a harmful condition, to which a specific proposal adds, so potentially augmenting the pre-existing harm. In all cases, however, a freestanding assessment is required.

2.60 GPA3 states:

> *Where the significance of a heritage receptor has been compromised in the past by unsympathetic development affecting its setting, to accord with NPPF policies consideration still needs to be given to whether additional change will further detract from, or can enhance, the significance of the asset. Negative change could include severing the last link between an asset and its original setting; positive change could include the restoration of a building's original designed landscape or the removal of structures impairing key views of it.*

2.61 Paragraph 40 of GPA3 states:

> *Where attributes of a development affecting setting may cause some harm to significance and cannot be adjusted, screening may have a part to play in reducing harm. As screening can only mitigate negative impacts, rather than removing impacts or providing enhancement, it ought never to be regarded as a substitute for well-designed developments within the setting of heritage receptors.*

2.62 GPA3 and other guidance (for example, the Greater London Authority's guidance on World Heritage Sites) uses the word cumulative differently, and in relation to past impacts which have been negative. Thus, according to this approach (which is accepted in decision making), the assessor should consider whether past changes are positive or negative and, if the latter, whether the proposed new change adds to pre-existing harm, and so increases the overall harm caused by proposals. This form of assessment is fact specific and often relies on published documents confirming there has been past harm and why. There is no requirement, however, for such external validation and the matter can arise in individual assessments or through discussions with the competent authority and other stakeholders.

TOWNSCAPE AND VISUAL

2.63 GLVIA3 sets out two main approaches to inter-project effects between any given proposed development and cumulative schemes (See GLVIA, paragraph 7.18). The first approach is to focus:

> *primarily on the additional effects of the main project under consideration… on top of the cumulative baseline*

2.64 The second approach is to focus:

> *on the combined effects of all the past, present and future proposals together with the new project*

2.65 This assessment takes the first approach, which is to focus on the additional effects of the Proposed Development on top of the cumulative baseline. It is considered that this approach is best suited to an urban environment, in which the cumulative effects between the Proposed Development and other cumulative schemes may be complex (including situations in which the effect of the Proposed Development could be lessened or removed entirely by cumulative schemes) and because, as also acknowledged in the GLVIA3, it may not be considered reasonable to assess the effect of many complex schemes other than the Proposed Development in the manner required by the 'combined effects' approach.

MITIGATION

2.66 Mitigation measures proposed to prevent, reduce or offset any significant likely adverse effects have been identified and developed as part of the pre-application design process. The primary mitigation measures have become embedded into the project design, commonly referred to as embedded mitigation. The mitigation arising from design development and consultation responses is identified at **Section 8.0**.

2.67 The likely effects of the Proposed Development include embedded mitigation. As a result, there is no requirement for additional mitigation and thus likely residual effects remain the same as the likely effects, unless otherwise stated.

CLIMATE CHANGE

2.68 The likely effects of the Proposed Development are defined under the current climate conditions, which may alter under a future climate scenario. The EIA Regulations require that the change in impact magnitude and a receptor's 'vulnerability' (i.e. susceptibility or resilience to change) are considered in respect of a future climate condition.

2.69 The vulnerability of the receptors according to the definitions provided in the guidance, and it has been judged that all of the heritage, townscape and visual receptors have low vulnerability.

2.70 The likely projected future conditions for each of temperature, precipitation, wind speed and cloud cover have been considered. It is considered that the magnitude of impact and resultant nature and scale of the effects of the Proposed Development during the operational phase will not be changed under the future climate conditions.

2.71 Overall, the likely effects of the Proposed Development are unlikely to change as a result of climate change.

FUTURE EVOLUTION OF THE BASELINE

2.72 The EIA Regulations require that the likely evolution of the baseline is considered. This is an assessment in the event that the Proposed Development were not to come forward. In other words, the likely effect on the receptors if the cumulative developments and any relevant policy designations were to come forward without the Proposed Development.

2.73 In the absence of the Proposed Development, it is anticipated that the existing baseline conditions on the Site would remain unchanged. However, the continuation of the Site in its current form would be inconsistent with the strategic direction established for this part of the city. The Site falls within the Whitworth Street West Strategic Regeneration Framework area, which sets out a comprehensive vision for delivering a high-quality, well connected and vibrant destination that strengthens this key gateway into Manchester City Centre. The Site is also influenced by a number of adjacent Strategic Regeneration Frameworks, including Great Northern, Manchester Central, Castlefield Quay, First Street, and Great Jackson Stretch which collectively demonstrate the transformational context of the wider area, including that of taller and large development, and the evolving city skyline. The area around the Site is undergoing redevelopment and as such the baseline conditions are evolving. Without the Proposed Development, this would continue; tall and contemporary developments will continue to characterise the immediate surroundings.

3.0
LEGISLATION AND PLANNING POLICY
LAND AT 10-12 WHITWORTH STREET WEST, MANCHESTER

LEGISLATION AND PLANNING POLICY

3.1 The following section sets out the planning policy context for the Site and for the context of the assessment process.

LEGISLATION

3.2 The Site does not comprise any statutorily listed buildings and nor is it located in a conservation area.

3.3 There are statutorily listed buildings which have been identified in the study area which may experience a change to their significance as a result of the Proposed Development changing their setting. The relevant statutory provision thus comprises Section 66(1) of the 1990 Planning (Listed Buildings and Conservation Areas) Act, which states that:

> *"In considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural and historical interest which it possesses."*

3.4 Section 72 of the 1990 PLBCA Act requires decision makers to give special attention to the desirability of preserving or enhancing the character or appearance of the conservation areas which may be affected by the Proposed Development. The Proposed Development does not comprise any buildings or other land in a conservation area and, therefore, section 72 of the 1990 PLBCA Act is not engaged. There is no statutory duty relating to the setting of conservation areas within the 1990 PLBCA Act.

DEVELOPMENT PLAN

3.5 Section 38(6) to the Planning and Compulsory Purchase Act 2004 states that where in making any determination under the planning Acts, regard is to be had to the development plan, the determination shall be made in accordance with the plan unless material consideration indicates otherwise.

3.6 The statutory development plan and the policies relevant to the assessment of heritage, townscape and visual considerations are set out at **Table 3.1** below.

DEVELOPMENT PLAN POLICY	KEY PROVISIONS
Manchester City Council Core Strategy (2012) and Addendum (2024)	Policy SP1: Spatial Principles Policy CC6: City Centre High Density Development Policy CC8: Change and Renewal Policy CC9: Design and Heritage Policy EN1: Design Principles and Strategic Character Areas Policy EN2: Tall Buildings Policy EN3: Heritage
Saved Unitary Development Plan Policies (1995)	Policy DC18.1 – Conservation Areas Policy DC19.1 – Listed Buildings
Places for Everyone Joint Development Plan Document for Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan 2022 To 2039 (2024)	Policy JP-Strat1: Core Growth Area Policy JP-Strat2: City Centre Policy JP-P2: Heritage

Table 3.1 Development Plan Policy Relevant to BHTVIA

NATIONAL POLICY

3.7 The development plan is supported by the planning policies set out in the NPPF. The relevant provisions are set out at **Table 3.2**.

NATIONAL POLICY	KEY PROVISIONS
National Planning Policy Framework (NPPF) December 2024	**Chapter 12:** Achieving well designed places • Paragraph 131 • Paragraph 135–139 **Chapter 16:** Conserving and enhancing the historic environment • Paragraph 207 • Paragraph 210 • Paragraph 212–216 • Paragraph 219

Table 3.2 National Planning Policy Relevant to BHTVIA

MATERIAL CONSIDERATIONS

3.8 In addition to legislation and policy, the assessment will take into consideration relevant planning guidance and any material considerations, including:

3.8.1 National Planning Practice Guidance (online);

3.8.2 Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA) (2013);

3.8.3 An Approach to Landscape Character Assessment (2014);

3.8.4 TGN 06/19 Visual Representation of Development Proposals Technical Guidance Note (2019) prepared by Landscape Institute

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

3.8.6 Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage receptors (2017);

3.8.7 Tall Buildings: Historic England Advice Note 4 (2022);

3.8.8 IEMA, CIfA and IHBC (2021) Principles for Cultural Heritage Impact Assessment

3.8.9 Manchester City Council. Whitworth Street West Framework (2008).

3.8.10 Manchester City Council. Conservation Area Appraisals (Various Dates).

3.8.11 Manchester City Council. Conservation Area Regeneration Plans (Various Dates).

EMERGING POLICY

DRAFT NATIONAL PLANNING POLICY FRAMEWORK (DECEMBER 2025)

3.9 The draft revised NPPF, published for consultation on 16 December 2025, seeks to support the delivery of sustainable economic growth and increased housing supply while maintaining appropriate environmental protections.

3.10 The draft NPPF introduces a clearer approach to assessing heritage impacts, explicitly recognising that effects may be positive, neutral or harmful, and reinforcing that proposals delivering positive heritage outcomes should be supported.

3.11 It places new emphasis on clearly articulating the degree of harm and clarifies that the scale of development is irrelevant, what matters is its effect on heritage significance. Importantly, the draft redefines 'substantial harm' so that it no longer equates to total loss of significance, reflecting the 2022 Holocaust Memorial judgement and moving permanently away from the earlier Bedford interpretation.

3.12 While the term 'less than substantial harm' is removed, a lower tier of non-substantial harm remains, though ambiguity persists around the treatment of neutral effects.

3.13 The changes reflect a more detailed approach to decision making in sensitive historic contexts.

3.14 The consultation on the draft NPPF runs into early 2026, following which the Government will consider representations and may introduce further amendments prior to final publication. Once adopted, the revised NPPF will carry full material weight and will guide the preparation of new-style local plans and the determination of planning applications, superseding previous versions of national planning policy.

POLICY DISCUSSION

3.15 Policy designations outline the strategic aspirations for an area, contribute to the understanding of townscape value and the potential for, or even lack of, change.

3.16 The Site at 10–12 Whitworth Street West previously secured planning permission (Planning Reference: 111003/FO/2016/C1) for a 35-storey residential building in 2016. While the permission has since lapsed, it established the principle of a tall building on the Site and demonstrated the acceptability of height and scale in this location.

STRATEGIC DESIGNATIONS

3.17 The Site is located within an area influenced by several regeneration and strategic planning frameworks adopted or endorsed by Manchester City Council. Collectively, these documents establish a clear direction for growth, regeneration, and placemaking across the wider city centre, including the area surrounding the Site.

3.18 The Site falls within the Whitworth Street West Strategic Regeneration Framework, which provides a comprehensive and transformative vision for this part of the city. The Framework seeks to create a vibrant, high-quality and well-connected destination that enhances its role as a key gateway into Manchester City Centre from the south. The Strategic Regeneration Framework emphasises high-quality development, improved permeability, and integration with surrounding regeneration areas.

3.19 The Site is also immediately influenced by a series of adjacent Strategic Regeneration Frameworks. To the north lie the Great Northern, Manchester Central and Castlefield Quay Strategic Regeneration Frameworks areas, while First Street lies to the south-east. To the south, the Great Jackson Street Strategic Regeneration Framework area includes a substantial cluster of tall residential buildings that form a distinctive high-rise district. While the Site does not fall within these specific Strategic Regeneration Framework boundaries, they collectively illustrate the transformational nature of the wider area, particularly in relation to tall and large-scale development and the evolution of the city's skyline.

3.20 The Site is also situated within the Petersfield Regeneration Area, forming part of the wider City Centre Regeneration Area. This area is recognised as a key component of Manchester's long-established city centre living offer, reflecting over two decades of significant residential growth. As noted within the Local Plan, this area continues to evolve as a residential location, with an ongoing policy emphasis on enhancing its attractiveness, liveability and mixed-use character.

3.21 As a whole, these frameworks indicate that the Site is located within a part of Manchester City Centre undergoing significant regeneration and transformation, characterised by tall and large contemporary buildings. Within this context, the delivery of a tall building accommodating high-density development reflects the broader pattern of growth envisaged across the surrounding regeneration areas and the continued evolution of this part of the city centre. The Proposed Development should therefore be considered within the context of this changing urban townscape, which has been shaped by recent and emerging large-scale development.

DENSITY AND HEIGHT

3.22 The location accords with Development Plan Policies that relate to density and tall buildings, namely Core Strategy Policy CC6, which seek to direct higher density development to the City Centre, where greater scale and massing are appropriate. Policy EN2 states that tall buildings should be situated outside of conservation areas and in close proximity to transport hubs; the Site clearly satisfies those locational criteria.

HERITAGE

3.23 The Site does not contain any heritage receptors. Notwithstanding, the NPPF requires an 'applicant to describe the significance of any heritage receptor affected by a Proposed Development, including any contribution made by their setting.'[2] Setting is defined as:

> *The surroundings in which a heritage receptor is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.*[3]

3.24 Section 66(1) of the Planning (Listed Buildings and Conservation Areas) Act 1990 requires that for development which affects a listed building or its setting the decision maker shall have 'special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.' The effect of that provision is that the desirability of preserving the setting of a listed building must be treated as a matter of 'considerable importance and weight',[4] with such a duty presenting a 'strong presumption' against a grant of planning permission where harm to a designated heritage receptor is identified.[5]

3.25 The NPPF is an overarching planning document that is a material consideration in planning decisions.

3.26 Chapter 16 of the National Planning Policy Framework ('NPPF') sets out the Government's policies relating to the conservation and enhancement of the historic environment. In determining planning applications, Paragraph 207 specifies that:

> *"local planning authorities should require an applicant to describe the significance of any heritage receptors affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance."*

2 MHCLG, National Planning Policy Framework, rev. edn (London: HMSO, 2024)
3 MHCLG, National Planning Policy Framework, rev. edn (London: HMSO, 2024)
4 Barnwell v East Northamptonshire District Council [2014] EWCA Civ 137
5 South Lakeland District Council v Secretary of State for the Environment and Another [1992] 2 AC 141

3.27 The approach to assessment of heritage impact underpinning the national policy may, in the interest of brevity, be expressed as a series of principles:

3.27.1 First, the significance of all heritage receptors needs to be identified in a manner proportionate to their importance (Paras. 218 & 219 of the Framework). The heritage interest of any asset may be archaeological, architectural, artistic or historic (Annex 2: Glossary, NPPF). The setting of a heritage receptor may contribute to that significance or an appreciation thereof. Hence a change to setting can harm significance.

3.27.2 Second, the assessment must consider the impact of the development and its effect on the significance of the identified heritage receptors as whole.

3.27.3 If the Proposals have no harmful effect on the significance of any identified designated heritage receptor, then 'conservation' (as defined in the Glossary to the NPPF) is achieved. If the Proposals enhance or benefit that significance, or enhance our ability to appreciate that, then these benefits attract significant weight as a matter of policy.

3.27.4 If, on the other hand, the Development is held to cause harm to the significance of a designated heritage receptor, such harm should be categorised as substantial or less than substantial (Paras. 214 & 215 respectively), and within each category the extent of harm should be clearly articulated (Planning Practice Guidance or 'PPG' Para. 18).

3.27.5 The nature and extent of harm is important to ascertain because that informs the balancing out of any harm under the terms of paragraph 215. Underpinning this approach is the principle of proportionality. Whilst any harm to a designated asset is 'weighted harm', it is important for the decision maker to assess the extent, nature or degree of harm through the exercise of planning judgement.

3.27.6 In either case, if a proposal would result in harm to the significance of a designated heritage receptor, great weight should be given to the asset's conservation (Framework paragraph 212), meaning the avoidance of harm and the delivery of enhancement where appropriate. Notwithstanding the 'great weight' provision, it would be unreasonable for an impact that is minor in nature or limited to lead to a refusal of permission. What matters, then, is the nature and extent of any harmful impact.

3.27.7 Any harm to the significance of a designated heritage receptor should require 'clear and convincing justification', as per the NPPF paragraph 213. A clear and convincing justification does not create a freestanding test requiring the demonstration of less damaging alternatives. To the extent that there is a test it is to be found in Framework paragraphs 214 (in the case of substantial harm) and 215 (in the case of less than substantial harm).

3.27.8 In either case, and particularly looking at less than substantial harm, the clear and convincing justification the NPPF requires is thus made out through no more than the countervailing public benefits delivered by a proposal. Public benefits can include heritage benefits and can also include benefits to the way an area appears or functions or land use planning benefits.

3.27.9 In the Court of Appeal Judgment known as Bramshill, Lindblom LJ6 explains the above approach, and also the interaction as between the NPPF, statutory provision, and the development plan7. The judgment also identified that a decision maker can consider the overall aggregate effect of a proposal affecting the significance of a designated heritage receptor. This necessarily involves considering works of enhancement alongside works which might be considered harmful, with the 'special regard' provision applying to both. Bramshill established that this "internal heritage balance" approach to discharging the statutory duty is valid and for the decision maker to decide.

3.28 The Edith Summerskill House Appeal decision[8] has made clear that when assessing a proposals impact on the setting of a designated heritage receptor, it is only the significance that an asset derives from its setting that is affected. This approach is consistent with GPA3, and is referred to below.

3.29 To assist the decision maker, the Inspector in that decision stated:

3.30 *In cases where the impact is on the setting of a designated heritage receptor, it is only the significance that asset derives from its setting that is affected. All the significance embodied in the asset itself would remain intact. In such a case, unless the asset concerned derives a major proportion of its significance from its setting, then it is very difficult to see how an impact on its setting can advance a long way along the scale towards substantial harm to significance.* (Paragraph 12.50)

3.31 The decision maker is drawn to that paragraph because the potential impact of the Development on nearby heritage receptors can be understood in the existing and emerging context of the townscape character.

3.32 Setting is not an asset in its own right. 'Its importance lies in what it contributes to the significance of the heritage receptor or to the ability to appreciate that significance.'[9] The Setting of Heritage receptors (hereafter 'GPA3') provides 'advice on understanding setting and how it may contribute to the significance of heritage receptors.'[10] It recommends a staged approach to proportionate decision taking.

3.33 GPA3 is clear that visual perception matters a great deal. It is, after all, an objective measure. Historical and functional associations may be important on the facts of any case. It is clear from policy and guidance, however, and confirmed by the Courts, that impact on setting itself is not the consideration. Setting is important only to the extent it enables an appreciation of significance or contributes directly to it. Equally, visibility of a proposal does not in itself equate to a harmful impact, and it is the contribution setting makes to the importance (significance) of a heritage receptor which is the appropriate consideration, including how that aspect of setting (that which contributes to significance) is affected by a Proposed Development.[11]

6 City and Country Bramshill Limited v Secretary of State for Housing Communities and Local Government [2021] EWCA Civ 320.

7 The "internal heritage balance" sometimes referred to as the 'Palmer' approach, after the case of that name (Palmer v Herefordshire LBC & ANOR [2016] EWCA Civ 1061). The Court of Appeal judgment in the matter of Bramshill clarified that although the 'Palmer' approach is one such approach to the balancing exercise – it is not the only such approach.

8 RBKC application ref. 20/01283/FUL; Appeal ref. APP/H.5390/V/21/3277137

9 Historic England, The Setting of Heritage Assets, Historic Environment Good Practice Advice in Planning Note 3, 2nd edn (Swindon: Historic England, 2017)

10 Historic England, The Setting of Heritage Assets, Historic Environment Good Practice Advice in Planning Note 3, 2nd edn (Swindon: Historic England, 2017)

11 Edith Summerskill House Decision: Planning ref. 20/01283/FUL and appeal ref. AP-P/H.5390/V/21/3277137

3.34 The guidance also recognises that changes to the setting of a heritage receptor can enhance one's appreciation of significance, through better presentation, for example, or the creation of new views. Providing better public appreciation of a designated heritage receptor, or some aspect of its significance is recognised to be desirable and an enhancement which can attract great weight in the planning balance. Equally, a setting improvement can arise if the experience of moving toward or from an asset is enhanced.

3.35 If, having carried out stages one to four, a Proposed Development is considered to cause harm to the significance of a designated heritage receptor, the NPPF stipulates it be categorised as either 'less than substantial' or 'substantial'.[12] The NPPF does not define 'substantial', and national guidance simply states it is a 'high test.'[13] Lord Justice Lindblom, in the Court of Appeal, stated: 'what amounts to "substantial harm" or "less than substantial harm" in a particular case will always depend on the circumstances', based on 'matters of fact and planning judgment.'[14] In the draft NPPF (2025) at HE5: Assessing effects on heritage assets part 2 (c), substantial harm is defined as *'where the development proposal would seriously affect a key element of the asset's significance'*.

12 MHCLG, National Planning Policy Framework, rev. edn (London: HMSO, 2024)
13 DLUHC and MHCLG, National Planning Policy Guidance: Historic Environment <https://www.gov.uk/guidance/conserving-and-enhancing-the-historic-environment> [3 May 2025]
14 Bramshill v SSHCLG [2021] EWCA Civ 320

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4.0
BASELINE: HISTORICAL DEVELOPMENT
LAND AT 10-12 WHITWORTH STREET WEST, MANCHESTER

BASELINE: HISTORICAL DEVELOPMENT

4.1 This section provides a description of the historical development of the Site and that of the surrounding area. The section and the heritage baseline at **Section 5.0** has been informed by secondary sources, including:

4.1.1 The National Heritage List for England maintained by Historic England;

4.1.2 Manchester City Council, Castlefield Conservation Area (website);

4.1.3 The Historic Environment Record ('HER');

4.1.4 Buildings of England: Lancashire, Manchester and the South-East; and

4.1.5 Clare Hartwell, Manchester: Pevsner City Guide

HISTORIC DEVELOPMENT OF MANCHESTER

4.2 Manchester has origins as far back as the Roman period, where a fort was built in 79AD at the confluence if rivers Irwell and Medlock. During the Medieval period Manchester developed into a market town.

4.3 By the end of the 16th century, Manchester had become an important town as a centre of trade and in particular its trade of cloth. This was initially cottage-based spinning and weaving. In 1720, St Ann's Square was laid out to the south of the historic core of the town, marking the first major planning development outside of the medieval town.



Figure 4.1 Manchester and Salford Map by John Berry, 1750 (Source: Manchester Archives)



Figure 4.2 South-west prospect of Manchester and Salford, 1750 (Source: Manchester Archives)

4.4 As trade continued to develop, communication did too, and main routes to and from the town to Stockport, Oldham and Ashton-under-Lyne were turnpikes by 1730. Transport to Liverpool was also improved with the development of the Irwell and Mersey Navigation in 1736.

4.5 The production and trade of cotton was burgeoning by the mid-18th century. Rapid expansion of the town towards the end of the 18th century was facilitated by sales of large parcels of land in and around the centre for residential development. Surviving streets of terraced housing along Byrom Street, Quay Street and St John Street reflect housing built for the middle classes during this period. However, very little housing from the early-19th century and before survives.

4.6 The 19th century saw Manchester move onto the world stage as urban and industrial pace gathered. South-east Lancashire and Manchester became the first industrial economy and society in the world. It is likely Manchester found so much success due to its long and established history in producing cloth, including the high expertise in purchasing, marketing and handling of material, which had made south-east Lancashire the national centre for the production of cotton well before the end of the 18th century.



Figure 4.3 Pigot Map of Manchester (Source: Historical Maps of Manchester)



Figure 4.4 Plan of Manchester by Bancks & Co.; J & A. Walker, 1828 (Source: National Library of Scotland)



Figure 4.5 McConnel & Company Mills in Ancoates, 1820 (Source: A Century of fine Cotton Spinning, 1790–1913)

4.7 Cotton mills powered by a rotary steam engine boomed at the beginning of the 19th century, facilitated by the town containing the country's first canal (1759–65) of the industrial era, that terminated at Castlefield.

4.8 By 1776, it was extended west, giving Manchester efficient links with international trade routes and bringing coal and raw cotton into the town. The canal network continued to expand into the 19th century, connecting Manchester to surrounding towns. The transport revolution continued with the coming of the railways, with the terminus of the world's first passenger railway, the Liverpool and Manchester, with the original station and warehouse constructed in 1830. The Manchester South Junction and Altrincham Railway (1846–49) and Castlefield Viaduct (1870s) required dramatic engineering interventions which included long viaducts and skew bridges, which imposing a bold, elevated industrial architecture across the district. Stations such as Knott Mill (now Deansgate) intensified commercial activity, while extensive sidings, goods depots and viaduct arches reshaped movement patterns and street morphology. As a result, the population in Manchester increased from c.10,000 in 1717 to 347,495 in 1901, trebling in size between 1801 and 1841.



Figure 4.6 Manchester, 1889 by Henry William Brewer (Source: Medium)



Figure 4.7 Railway Map of Manchester, 1907 (Source: National Library of Scotland)

4.9 The application of steam power to textile processing accompanied by rapid development of technological expertise, bringing improved mill buildings, machines and machine tools provided foundations for the city to become a world centre of engineering by the end of the 19th century.

4.10 In the centre of the city monumental civic buildings were constructed during the 19th century. The grandeur of these buildings reflected the city's status as a symbolic capital of the Industrial Revolution. Buildings include Manchester Town Hall (1868–1877), John Rylands Library (1900) and the Royal Exchange (1874). These buildings survive today and are a key aspect of the city centre's character.

4.11 Simultaneously, the city centre expanded eastward and southward, with purpose-built warehouses, showrooms and commercial buildings replacing earlier domestic uses. By the early 20th century, the area around Whitworth Street West presented a mature industrial character: robust brick structures, transport corridors, and a highly engineered multi-level townscape reflecting Manchester's role as an international manufacturing and distribution centre.

4.12 Due to the city's role as a major industrial hub producing aircraft components, engines, electrical equipment and munitions, Manchester endured some of the heaviest bombing outside of London during the Second World War. The aftermath of the war had a significant impact on the city, sparking widespread clearance of sites and modernisation of the city centre.

4.13 The long-term industrial decline in the 20th century was accelerated by war, as well as the loss of Britain's textile dominance in the following years. The closure of Central Station in 1969 and shifts in transport patterns resulted in significant decline in many inner districts during the mid-20th century. Redundant warehouses, derelict viaduct arches and underused canal infrastructure characterised much of the area for decades.

4.14 From the late-20th century onward, Manchester has undergone sustained regeneration. The conversion of Central Station to GMEX (now Manchester Central), the creation of the Metrolink network and the redevelopment of Castlefield and Deansgate Locks as a mixed-se leisure and residential quarters have reactivated the historic transport infrastructure for modern uses.



Figure 4.8 Castlefield, c.1970 (Source: Castlefield Estates)



Figure 4.9 Central Station 1980 (Souce: Manchester History)

THE SITE

4.15 The site of 10–12 Whitworth Street originated on the rural fringe of Manchester and, through the late-18th century, formed part of open pastoral landscape, with only sporadic development around the River Medlock.

4.16 By 1800, although Manchester's population had expanded to around 95,000 and industrial growth was well underway, the Site itself remained undeveloped, with the Rochdale Canal newly forming an east-west industrial corridor to its north. Over the early-19th century, mills, warehouses and dense workers' housing rapidly filled the surrounding area, and by the 1830s–40s streets such as Smith Street and Back Smith Street ran across the site as part of a tightly packed residential district.

4.17 Major infrastructure developments between the 1830s and 1870s reinforced the district's industrial identity. The Gaythorn Gas Works was built to the east, while the Rochdale Canal and the Manchester South Junction & Altrincham Railway Viaduct (constructed 1846–49) created dominant transport routes. The viaduct's construction required the demolition of the original terraces on Smith Street and transformed Back Smith Street into a narrow alley running along the viaduct wall. The cumulative effect was a heavily industrialised neighbourhood with increasingly poor living conditions.

4.18 By the 1890s, Manchester Corporation undertook an ambitious programme of street improvements, clearing slum housing and widening the thoroughfares. As part of these works, South Junction Street and Gloucester Street were widened, realigned, and officially opened as Whitworth Street and Whitworth Street West in 1899. The renaming of the street by the Corporation, honoured the engineer Sir Joseph Whitworth, whose works were once located along the route. These works necessitated the demolition of the terraced houses on and around the Site, leaving newly formed building plots along the south side of the street.

4.19 The newly formed plots were sold for redevelopment, and in 1902, a commercial premises was constructed on the site by J. W. Beaumont & Sons for Tatham & Company, iron and steel merchants.

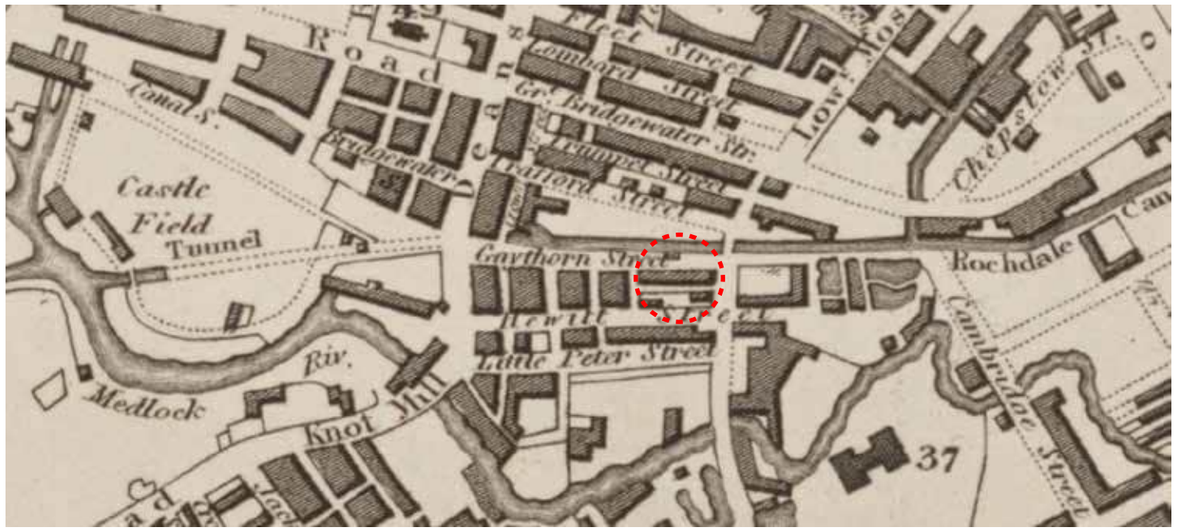


Figure 4.10 Plan of the Site by Bancks & Co.; J & A Walker 1828 (Source: National Library of Scotland)



Figure 4.11 Ordnance Survey of the Site: surveyed 1849, published 1851 (Source: National Library of Scotland)

4.20 The building, later recorded on the 1910 Goad's Fire Insurance Map, was a three-storey industrial structure with rooflights, used initially as a blouse factory. Its design reflected typical early-20th century Manchester commercial architecture, which included showrooms and offices facing the street, with a deeper warehouse range extending to the rear.

4.21 Through the 20th century, the area declined as canal and rail freight diminished and Manchester Central Station closed. The building experienced successive alterations in 1926, 1960, and an extensive but incomplete reconstruction between 1990 and 1992, which removed the original roof, inserted a third floor and stripped most internal fabric, leaving only fragments such as the stone stair.

4.22 From the late 1990s the wider area began to regenerate, most notably through the Deansgate Locks development, which reactivated viaduct arches opposite the site as leisure venues.

4.23 Despite this resurgence, 10–12 Whitworth Street West remained heavily altered and semi-derelict.

4.24 A 2016 planning consent approved its demolition for a 35-storey residential tower (Planning Ref: 111003/FO/2016/C1) and the building was demolished in 2019.



Figure 4.12 The building that formerly occupied the Site before its demolition in 2019 (Source: Stephen Levrant)

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5.0
BASELINE: BUILT HERITAGE

LAND AT 10-12 WHITWORTH STREET WEST, MANCHESTER

BASELINE: BUILT HERITAGE

5.1 This section identifies the value of heritage receptors in the baseline that may be affected by the Proposed Development.

5.2 The location of the built heritage receptors identified in this assessment are shown at **Figure 5.1**. The ZTV with an overlay of the heritage receptors identified in the 750m study area is provided at **Figure 5.2**.

5.3 The built heritage baseline is summarised at **Table 5.1**, including receptors scoped in and out of the full assessment. The ZTV was used to identify at the baseline stage if there were any heritage receptors which could be scoped out from further assessment because there would be no intervisibility with the Proposed Development, or where there would be no change to their setting or heritage value by any other means, including historical associations.

5.4 The main heritage receptors which are likely to experience an effect are listed below:

5.4.1 Castlefield Conservation Area;

5.4.2 Former Congregational Chapel (Grade II);

5.4.3 Deansgate Station (Grade II);

5.4.4 13–17 Albion Street (Grade II); and

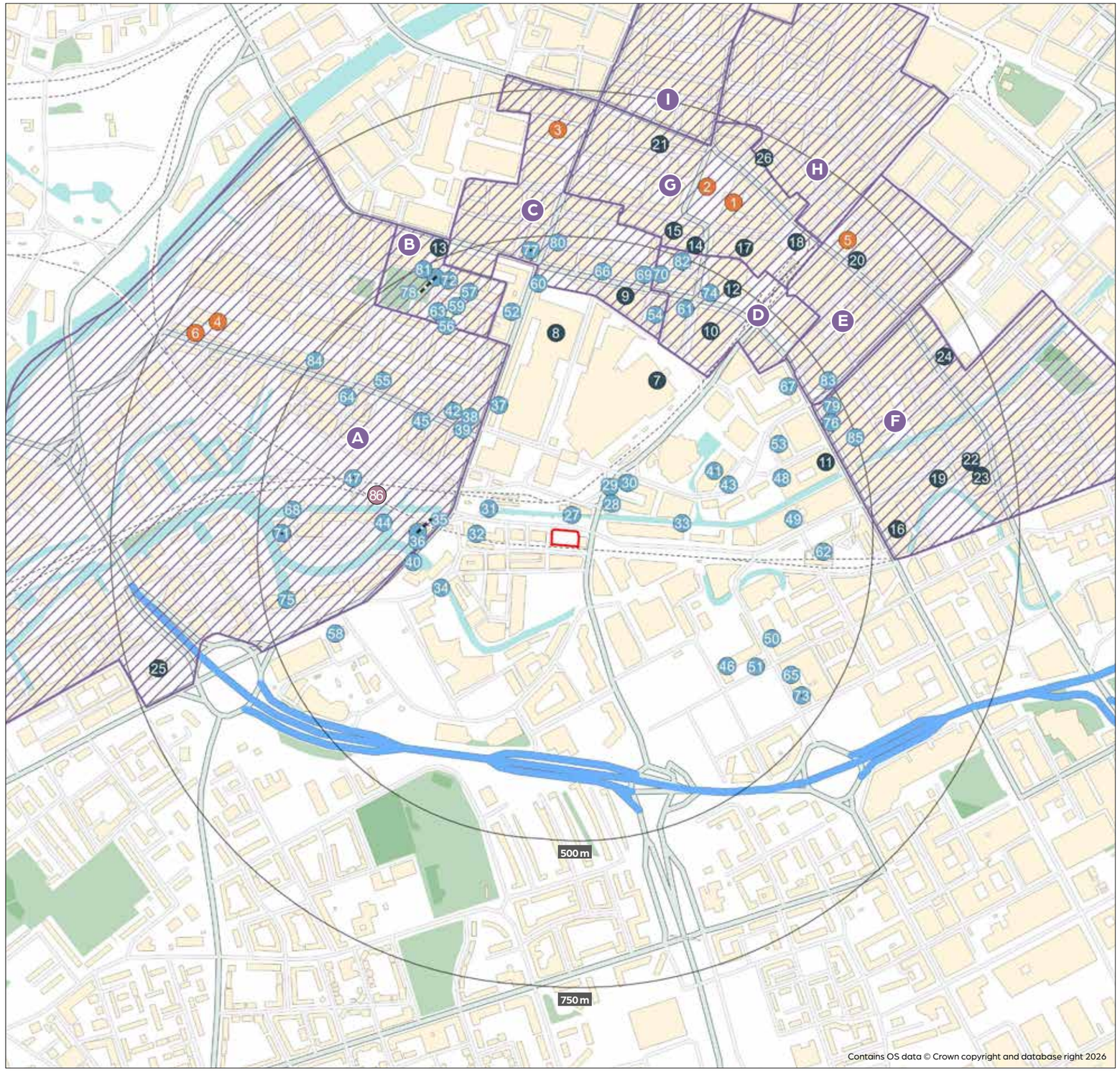
5.4.5 G Mex (Grade II*).

5.5 A qualitative assessment of the heritage value of the remaining receptors is provided below, including the contribution made by setting.

5.6 The BHTVIA includes an assessment only of those built heritage receptors that are likely to experience change to their setting, and by extension, their heritage value. The receptors scoped out of assessment were agreed as part of the EIA Scoping process (Ref: EIASCO/25/006). The scoped out heritage receptors are listed below at **Table 5.1**.

MAP REF	NAME	GRADE (IF APPLICABLE)
Conservation Areas		
B	St John Street Conservation Area	N/A
C	Deansgate and Peter Street	N/A
F	Whitworth Street and Princess Street Conservation Area	N/A
I	St Ann's Square Conservation Area	N/A
Listed Buildings		
3.	John Rylands Library and attached Railings, Grates and Lamp Standards	Grade I
9	Free Trade Hall	Grade II*
11	Tootal, Broadhurst and Lee Building	Grade II*
13	Cobden House, 19 Quay Stree	Grade II*
14	Lawrence Buildings	Grade II*
15	Memorial Hall	Grade II*
16	Former Refuge Assurance Company Offices	Grade II*
19	India House (including attached Wrought Iron Gateway linked to Lancaster House)	Grade II*
21	Roman Catholic Church of St Mary (The Hidden Gem)	Grade II*
22	Lancaster House	Grade II*
23	Asia House	Grade II*
24	103, Princess Street	Grade II*
26	Manchester Law Library	Grade II*
37	235–291, Deansgate	Grade II
39	K6 Telephone Kiosk Beside South West Corner of No. 330 Deansgate	Grade II
43	Peveril of The Peak Public House	Grade II
46	Former Cotton Mill on West Side of Junction with Cambridge Street	Grade II
48	Lee House	Grade II
50	Chorlton New Mill and attached Chimney	Grade II
51	Mill Chimney Stack on West Side of Junction with Cambridge Street	Grade II
52	K6 Telephone Kiosk in front of St John Street Chambers	Grade II
54	Royale Club	Grade II
57	8 and 8a, 10, 12–16, 18 and 20, 22, 24, 24a and 26, and 28, St John Street	Grade II
59	11–17, 19, and 21–25, St John Street	Grade II
60	Former Entrance to Deansgate Goods Station including Nos 223 to 233	Grade II
61	56–58, Peter Street	Grade II
66	Albert Memorial Hall	Grade II
67	Princes Buildings	Grade II
69	Harvester House	Grade II
70	Lancashire House	Grade II
72	15a, Byrom Street	Grade II
74	Sculptural Group adrift to South-West of Central Public Library, Peter Street, Manchester	Grade II
75	Middle Warehouse, at former Castle Field Goods Yard	Grade II
76	61, Oxford Street	Grade II
77	Royal London House	Grade II
78	Two Bollards at East End of St Johns Passage	Grade II
79	127–133, Portland Street	Grade II
80	Onward Buildings	Grade II
81	No. 14, Byrom Street	Grade II
82	Manchester Quaker Meeting House, Boundary Walls and Steps	Grade II
83	116 and 118, Portland Street	Grade II
84	Power Hall of Museum of Science and Industry	Grade II
85	St James Buildings	Grade II

Table 5.1 Heritage Assets Scoped Out of the Assessment



HERITAGE ASSET PLAN

Application Site

Conservation Areas

A. Castlefield
B. St John Street
C. Deansgate and Peter Street
D. St Peter's Square
E. George Street
F. Whitworth Street and Princess Street
G. Albert Square
H. Upper King Street
I. St Ann's Square

Listed Buildings

Grade I

1. Town Hall
2. Albert Memorial
3. John Rylands Library and attached Railings, Gates and Lamp Standards
4. Old Warehouse to North of former Liverpool Road Railway Station
5. Manchester Art Gallery
6. Former Liverpool Road Railway Station, Station Masters House

Grade II*

7. G Mex
8. Deansgate Goods Station and attached Carriage Ramp
9. Free Trade Hall
10. Midland Hotel
11. Tootal, Broadhurst and Lee Building
12. Central Public Library
13. Cobden House, 19 Quay Street
14. Lawrence Buildings
15. Memorial Hall
16. Former Refuge Assurance Company Offices
17. Town Hall Extension
18. Manchester War Memorial
19. India House (including attached Wrought Iron Gateway linked to Lancaster House)
20. The Athenaeum
21. Roman Catholic Church of St Mary (The Hidden Gem)
22. Lancaster House
23. Asia House
24. 103, Princess Street
25. Church of St George
26. Manchester Law Library

Grade II (within 500m)

27. Rochdale Canal Lock No. 90, Approx. 30 metres West of Albion Bridge
28. 13–17, Albion Street
29. Manchester South Junction and Altrincham Railway Viaduct
30. The Britons Protection Public House
31. Rochdale Canal Lock Keepers Cottage at Lock No. 91, Next to Gaythorn Tunnel, and Rochdale Canal Lock No. 91 at East End of Gaythorn Tunnel
32. Deansgate Station
33. Rochdale Canal Lock No. 89 (Tib Lock), on South Side of Havelock Mills
34. Boundary Stone on Knott Mill Bridge, and Floodgate on East Side of Knott Mill Bridge
35. Former Congregational Chapel
36. Electricity Junction Box in Castlefield Canal Basin, Manchester
37. 235–291, Deansgate
38. Castlefield Information Centre
39. K6 Telephone Kiosk Beside South West Corner of No. 330 Deansgate
40. Electricity Junction Box in Castlefield Canal Basin, Manchester
41. Chepstow House
42. Former Market Hall
43. Peveril of The Peak Public House
44. Electricity Junction Box on Castle Street, Manchester
45. 29–41, Liverpool Road
46. Former Cotton Mill on West Side of Junction with Cambridge Street
47. Castlefield Railway Viaduct from G-Mex to Dawson Street
48. Lee House
49. The Ritz Dance Hall
50. Chorlton New Mill and attached Chimney
51. Mill Chimney Stack on West Side of Junction with Cambridge Street
52. K6 Telephone Kiosk in front of St John Street Chambers
53. Canada House
54. Royale Club
55. Museum of Science and Industry, Air and Space Museum
56. Manchester & Salford Junction Canal Tunnel
57. 8 and 8a, 10, 12–16, 18 and 20, 22, 24, 24a and 26, and 28, St John Street
58. Bridgewater Canal Offices
59. 11–17, 19, and 21–25, St John Street
60. Former Entrance to Deansgate Goods Station including Nos 223 to 233
61. 56–58, Peter Street
62. Manchester Oxford Road Station (including Platform Structures)
63. Nos 25 to 31 and attached former Chapel
64. Former St Matthews Sunday School
65. Chorlton Old Mill
66. Albert Memorial Hall
67. Princes Buildings
68. Rochdale Canal Lock No. 92 and Castle Street Bridge
69. Harvester House
70. Lancashire House
71. Merchants Warehouse
72. 15a, Byrom Street
73. Mill on North East Corner of Junction with Chester Street
74. Sculptural Group adrift to South-West of Central Public Library, Peter Street, Manchester
75. Middle Warehouse, at former Castle Field Goods Yard
76. 61, Oxford Street
77. Royal London House
78. Two Bollards at East End of St Johns Passage
79. 127–133, Portland Street
80. Onward Buildings
81. No. 14, Byrom Street
82. Manchester Quaker Meeting House, Boundary Walls and Steps
83. 116 and 118, Portland Street
84. Power Hall of Museum of Science and Industry
85. St James Buildings

Scheduled Monuments

86. Remains of eastern wall of the Roman fort

LOCATION:
10–12 Whitworth Street West, Manchester

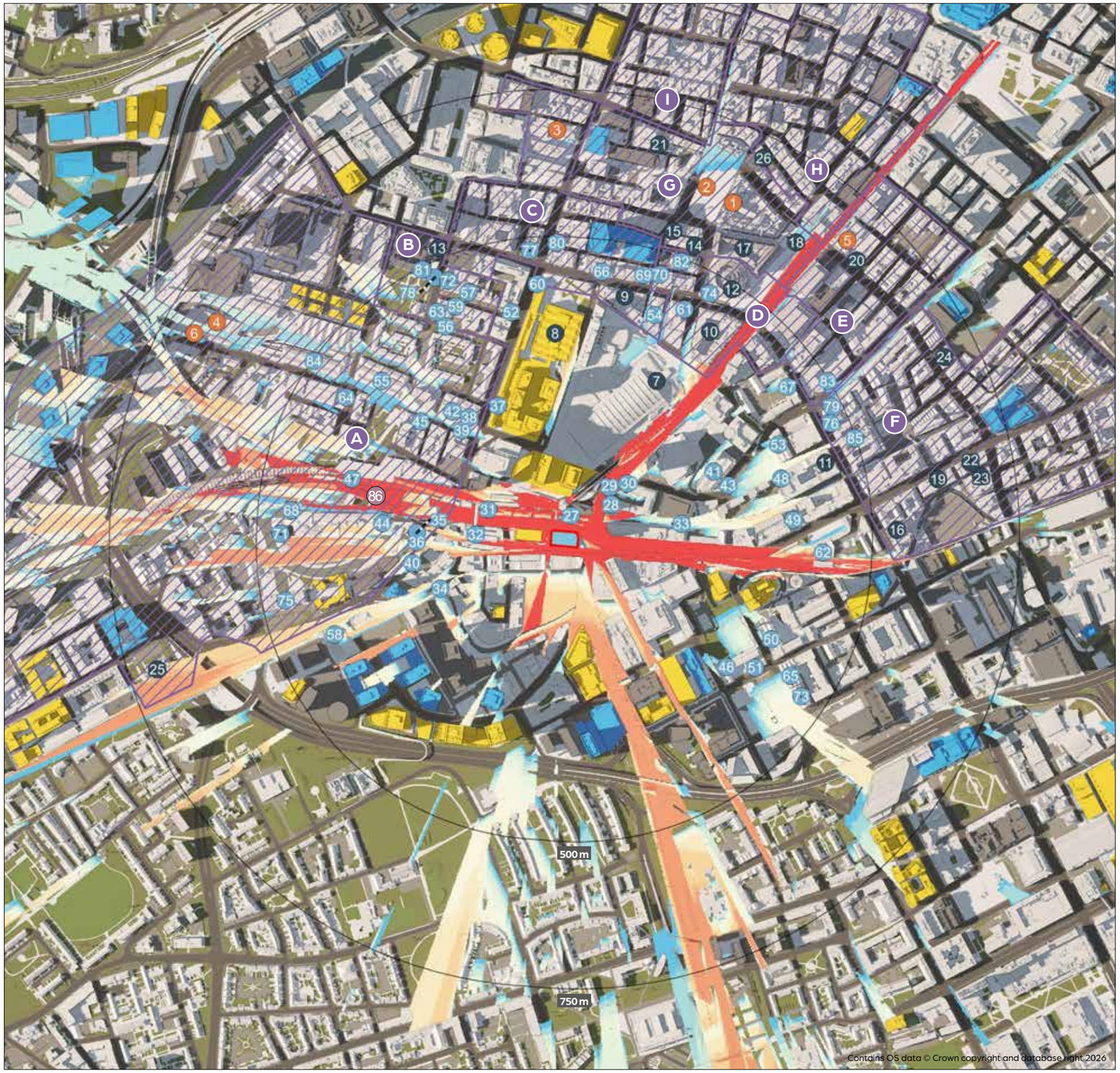
DATE:
April 2026

SCALE:
1:7,500 @ A3

FIGURE 5.1 Heritage receptor Plan

▲ **NORTH**

MONTAGU EVANS
CHARTERED SURVEYORS
70 ST MARY AXE,
LONDON, EC3A 8BE
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HERITAGE ASSET PLAN & ZTV OVERLAY

Application Site

Conservation Areas

A. Castlefield
B. St John Street
C. Deansgate and Peter Street
D. St Peter's Square
E. George Street
F. Whitworth Street and Princess Street
G. Albert Square
H. Upper King Street
I. St Ann's Square

Listed Buildings

Grade I

1. Town Hall
2. Albert Memorial
3. John Rylands Library and attached Railings, Gates and Lamp Standards
4. Old Warehouse to North of former Liverpool Road Railway Station
5. Manchester Art Gallery
6. Former Liverpool Road Railway Station, Station Masters House

Grade II*

7. G Mex
8. Deansgate Goods Station and attached Carriage Ramp
9. Free Trade Hall
10. Midland Hotel
11. Tootal, Broadhurst and Lee Building
12. Central Public Library
13. Cobden House, 19 Quay Street
14. Lawrence Buildings
15. Memorial Hall
16. Former Refuge Assurance Company Offices
17. Town Hall Extension
18. Manchester War Memorial
19. India House (including attached Wrought Iron Gateway linked to Lancaster House)
20. The Athenaeum
21. Roman Catholic Church of St Mary (The Hidden Gem)
22. Lancaster House
23. Asia House
24. 103, Princess Street
25. Church of St George
26. Manchester Law Library

Grade II (within 500m)

27. Rochdale Canal Lock No. 90, Approx. 30 metres West of Albion Bridge
28. 13–17, Albion Street
29. Manchester South Junction and Altrincham Railway Viaduct
30. The Britons Protection Public House
31. Rochdale Canal Lock Keepers Cottage at Lock No. 91, Next to Gaythorn Tunnel, and Rochdale Canal Lock No. 91 at East End of Gaythorn Tunnel
32. Deansgate Station
33. Rochdale Canal Lock No. 89 (Tib Lock), on South Side of Havelock Mills
34. Boundary Stone on Knott Mill Bridge, and Floodgate on East Side of Knott Mill Bridge
35. Former Congregational Chapel
36. Electricity Junction Box in Castlefield Canal Basin, Manchester
37. 235–291, Deansgate
38. Castlefield Information Centre
39. K6 Telephone Kiosk Beside South West Corner of No. 330 Deansgate
40. Electricity Junction Box in Castlefield Canal Basin, Manchester
41. Chepstow House
42. Former Market Hall
43. Peveril of The Peak Public House
44. Electricity Junction Box on Castle Street, Manchester
45. 29–41, Liverpool Road
46. Former Cotton Mill on West Side of Junction with Cambridge Street
47. Castlefield Railway Viaduct from G-Mex to Dawson Street
48. Lee House
49. The Ritz Dance Hall
50. Chorlton New Mill and attached Chimney
51. Mill Chimney Stack on West Side of Junction with Cambridge Street
52. K6 Telephone Kiosk in front of St John Street Chambers
53. Canada House
54. Royale Club
55. Museum of Science and Industry, Air and Space Museum
56. Manchester & Salford Junction Canal Tunnel
57. 8 and 8a, 10, 12–16, 18 and 20, 22, 24, 24a and 26, and 28, St John Street
58. Bridgewater Canal Offices
59. 11–17, 19, and 21–25, St John Street
60. Former Entrance to Deansgate Goods Station including Nos 223 to 233
61. 56–58, Peter Street
62. Manchester Oxford Road Station (including Platform Structures)
63. Nos 25 to 31 and attached former Chapel
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83. 116 and 118, Portland Street
84. Power Hall of Museum of Science and Industry
85. St James Buildings

Scheduled Monuments

86. Remains of eastern wall of the Roman fort

LOCATION:
10–12 Whitworth Street West, Manchester

DATE:
April 2026

SCALE:
1:7,500 @ A3

FIGURE 5.2 Heritage receptor Plan with overlay of the ZTV.

▲ **NORTH**

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5.7 Following the receipt of the Scoping Opinion and the provision of an updated model of the Proposed Development, it was identified that certain heritage receptors previously scoped out may have potential intervisibility with the proposals. Accordingly, these receptors have been brought back into scope for assessment and are listed below.

- 5.7.1 St Peter's Square Conservation Area (Map Ref: D)
- 5.7.2 Geroge Street Conservation Area (Map Ref: E)
- 5.7.3 Albert Square Conservation Area (Map Ref: G)
- 5.7.4 Upper King Street Conservation Area (Map Ref: H)
- 5.7.5 Deansgate Goods Station and attached Carriage Ramp (Map Ref: 8)
- 5.7.6 Town Hall Extension (Map Ref: 17)
- 5.7.7 Castlefield Information Centre (Map Ref: 38)
- 5.7.8 Chepstow Manchester (Map Ref: 41)
- 5.7.9 Former Market Hall (Map Ref: 42)
- 5.7.10 Canada House (Map Ref: 53)
- 5.7.11 Museum of Science and Industry, Air and Space Museum (Map Ref: 55)
- 5.7.12 Chorlton Old Mill (Map Ref: 65)
- 5.7.13 Mill on North East Corner of Junction with Chester Street (Map Ref: 73)

DESIGNATED HERITAGE RECEPTORS

CONSERVATION AREAS

CASTLEFIELD CONSERVATION AREA (MAP REF: A)

5.8 Designated in 1979, the conservation area's boundary follows that of the city along the River Irwell, New Quay Street, Quay Street, Lower Byrom Street, Culvercliff Walk, Camp Street, Deansgate, Bridgewater Viaduct, Chester Road, Arundel Street, Ellesmere Street, Egerton Street, Dawson Street and Regent Road. On 26 June 1985 the area was extended by the addition of land bounded by Ellesmere Street, Hulme Hall Road and the River Irwell.

5.9 Castlefield is the site of Manchester's earliest known settlement, beginning with the Roman fort of Mamucium built in 79 AD, which later declined after the Roman withdrawal. From the 18th century, the area was transformed by river navigation and the construction of the Bridgewater Canal, followed by the Rochdale Canal, making Castlefield the hub of Manchester's canal network.

5.10 In the 19th century, rapid industrial growth led to the construction of warehouses and the world's first passenger railway station at Liverpool Road in 1830, with extensive railway viaducts crossing the area. Following the decline of canal and rail transport in the 20th century, Castlefield was regenerated as Britain's first Urban Heritage Park, with restored historic structures, reconstructed Roman remains, and a new focus on leisure, tourism, and cultural activity.

CHARACTER AND APPEARANCE

5.11 Castlefield Conservation Area is one of the largest conservation areas in Manchester. The character of the conservation area is largely defined by its transport network, which is formed of the Bridgewater Canal (1761), which connected coal mines in Worsley to Manchester. The later railway lines were constructed on viaducts above the Castlefield area due to the wharves being so numerous below.

5.12 The Castlefield Conservation Area is characterised by a distinctive industrial and transport network, shaped by canals, railways, warehouses, and engineering structures layered across multiple levels. Its character is strongly influenced by the adaptive reuse of historic buildings, with former warehouses and transport structures refurbished and converted into flats, offices, galleries, and cultural spaces. This process of regeneration has retained the area's robust industrial identity while introducing new life and activity.

5.13 Architecturally, Castlefield is defined by early railway and canal infrastructure of exceptional historic importance, demonstrating pioneering design. The long, curved railway warehouse, multi-level servicing arrangements, canal arms entering warehouses, and extensive viaducts and bridges create a complex, functional landscape that clearly expresses the area's role as an interchange between canal, road, and rail transport.



Figure 5.3 View of the viaduct to the north of the Castlefield Basin



Figure 5.4 The canal to the south of the conservation area

5.14 Open spaces created by former markets and church sites contrast with dense industrial forms, while surviving ecclesiastical buildings add architectural variety. Contemporary additions, such as modern bridges and large-scale event structures, sit alongside historic fabric, reinforcing Castlefield's evolving character as a place where industrial heritage, innovation, and modern regeneration coexist.

5.15 The result of these innovations is a multi-level and unique character which contributes to the interest of the area.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.16 The conservation area's location at the confluence of the Rivers Irwell and Medlock is a key element of its setting, allowing the historic and functional relationship between the waterways and the industrial activity of the 18th, 19th, and 20th centuries to be clearly understood. This relationship underpins Castlefield's development as a centre of transport, trade, and engineering innovation.

5.17 Views out of the conservation area towards adjacent historic areas, including Deansgate and Liverpool Road, further enhance understanding of Castlefield's role within the wider city centre and its historic connections to Manchester's commercial and industrial growth.

5.18 There is a clear awareness of modern tall building development to the south of the conservation area; however, these structures are read as a later phase of Manchester's urban evolution. Their contemporary scale and glazed character provide a deliberate contrast to the robust industrial fabric of Castlefield, reinforcing the legibility of the area's historic character rather than detracting from it.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.19 Due to separating distance and lack of intervisibility between the Site and the conservation area, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.20 Heritage value: **High**



Figure 5.5 View orientated west from within the Castlefield Conservation Area



Figure 5.6 View orientated north-east from within St Peter's Square

ST PETER'S SQUARE CONSERVATION AREA (MAP REF: D)

5.21 St Peter's Square Conservation Area was designated in 1973 and the boundaries follow Museum Street, Peter Street and Southmill Street, Central Street and Library Walk, Dickinson Street and George Street, Hall Street, Bale Street, Lower Mosley Street and Windmill Street. The Square is overlooked by the Town Hall Extension, Central Library and the Midland Hotel.

5.22 The area consisted of fields on the outskirts of the small Georgian town of Manchester until 1788, when St Peter's Church was constructed. The area became more commercial at the end of the 18th century and residential population slowly moved out, resulting in the demolition of St Peter's Church in 1907. St Peter's Square was created following the removal of the church, and large buildings replaced old houses, such as the Midland Hotel (1898–1903), the YMCA (1909) and the Central Library (1934) and the Town Hall Extension (1938). The south side of the square was developed in the 1960s and 1970s.

CHARACTER AND APPEARANCE

5.23 The conservation area is defined by its civic grandeur and formal urban space, as well as commercial buildings largely constructed in the late-19th century to early-20th century. The built form displays a mix of styles, including Greek Classical, Victorian, and early 20th-century Classical Revival, often constructed in high-quality materials such as red brick, terra cotta, red granite, and Portland stone. Building heights vary, with multi-storey hotels, libraries, and civic offices contrasting with smaller commercial properties.

5.24 The building plots within the conservation area are tightly developed with buildings forming continuous building lines that give a cohesive and monumental character that contrasts the openness of the square itself, which is a prominent open space, bounded by large-scale buildings.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.25 The conservation area abuts the Deansgate and Peter Street Conservation Area to the west, the Albert Square Conservation Area to the north, and the George Street Conservation Area to the east, forming a continuous and cohesive band of historic townscape at the centre of Manchester. The neighbouring conservation areas contain well-preserved 19th century civic, commercial and institutional architecture, reflecting the city centre's rapid Victorian and Edwardian expansion. Together, they frame St Peter's Square within a wider civic landscape of high townscape quality and reinforce its role as a focal point within Manchester's historic core.

5.26 The boundaries of these adjoining areas intersect across St Peter's Square, creating a permeable and visually connected setting that allows uninterrupted views between them. This intervisibility enables prominent civic landmarks, including the Midland Hotel, Manchester Central Library and the Town Hall Extension, to be appreciated in a wider townscape context, strengthening the legibility of the square as Manchester's civic core. Beyond this immediate historic setting, there is also an awareness of tall-building development elsewhere in the city centre. Where visible, these taller structures are understood as part of the wider metropolitan skyline, contrasting with, but not impacting, the established historic scale of St Peter's Square and emphasising its distinctive civic character.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.27 Due to separating distance and lack of intervisibility between the Site and the conservation area, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.28 Heritage value: **High**

GEORGE STREET CONSERVATION AREA (MAP REF: E)

5.29 George Street conservation area was designated in 1985, consolidating a number of conservation areas by linking those of Whitworth Street, St Peter's Square, Albert Square and Upper King Street. The conservation area is located within the city centre and is bounded by Mosley Street, Charlotte Street, Portland Street, Oxford Street, George Street and Dickinson Street.

5.30 The area was developed in the Georgian period, when former agricultural land was laid out in a regular street grid and became a fashionable residential district centred on St James's Church (1786). The area reflected the cultural and scientific achievements of the time, hosting institutions such as the Scientific and Medical Society, the Literary and Philosophical Society, and nearby libraries and art galleries.

5.31 During the Industrial Revolution, many houses were converted into textile warehouses as residents moved to the suburbs, and by the late 19th and early 20th centuries, the area became largely commercial, with buildings falling into disrepair following the decline of the cotton industry. From the mid-20th century, the area was revitalised by the Chinese community, which established restaurants and cultural facilities, leading to the growth of Manchester's Chinatown.

CHARACTER AND APPEARANCE

5.32 Today, the area retains its historic street pattern and buildings while accommodating cultural landmarks, such as the Chinese Imperial Arch, and new residential development, blending its Georgian heritage with contemporary use.

5.33 The George Street Conservation Area retains the regular Georgian street grid, which remains a defining feature of its layout and urban character. The area is a mix of civic, commercial, and small-scale residential buildings, with wider streets around landmark buildings like the City Art Gallery and the Athenaeum providing a sense of openness and visual prominence.

5.34 Architecturally, the area is distinguished by a variety of stone and brick buildings in classical styles. The City Art Gallery, designed by Sir Charles Barry in Greek Ionic style, and the adjacent Athenaeum in Italian Palazzo style, create a strong civic presence. This Italianate influence is echoed along Charlotte Street, where mid-19th-century warehouses by Edward Walters display formal proportions, regular fenestration, and robust detailing. Later 19th-century buildings along Princess Street include tall chimneys reflecting historic fire regulations, while small-scale Georgian buildings survive near Portland Street, many now used for shops and pubs.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.35 The George Street Conservation Area abuts the St Peter's Square, Albert Square and Upper King Street Conservation Areas to the west, and the Whitworth Street and Princess Street Conservation Area to the east, creating a continuous sequence of historic townscape that situates it within the civic and commercial core of Manchester city centre. Its setting is further defined by the tight Georgian street grid from which it originated, and by its close proximity to major civic and cultural landmark buildings, such as the City Art Gallery, the Athenaeum, and the Portico Library.

5.36 Beyond this immediate and predominantly historic context, there is a clear awareness of tall building development in the wider city centre, most notably in long-range views to the south along Lower Mosley Street. These taller structures, though outside the conservation area, form part of the evolving urban skyline and are read as the city's most recent phase of commercial expansion and regeneration and contribute to the varied townscape that characterises the city centre beyond the boundaries of the conservation area.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.37 Due to separating distance and lack of intervisibility between the Site and the conservation area, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.38 Heritage value: **High**

ALBERT SQUARE CONSERVATION AREA (MAP REF: G)

5.39 The Albert Square Conservation Area was designated as a conservation area in 1972 to encompass many of Manchester's civic spaces. In 1985 it was extended to include the area bounded by Lloyd Street, Deansgate and John Dalton Street.

5.40 The conservation area was originally open fields until the mid-19th century when the area was developed to contain a mix of houses, workshops, public houses and small businesses.

5.41 In 1877 the Town Hall (Grade I) designed by Alfred Waterhouse was completed and became the focal point of Albert Square, which was gradually surrounded by other Victorian buildings. Further civic improvements were make, including the installation of the Albert Memorial, additional statues, and landscaped public spaces. The civic character of the area contributed to evolve in the early-20th century with the Tall Hall Extension and the Central Library, whilst spaces to the east were converted into landscaped gardens and memorial features, including Lincoln Square.



Figure 5.7 View orientated north-east within Albert's Square

CHARACTER AND APPEARANCE

5.42 The Albert Square Conservation Area is largely defined by its civic buildings, centred on the central public square and monumental presence of the Town Hall. However, the area also contains a mix of commercial properties and smaller-scale buildings, particularly towards the periphery of the, creating a varied but coherent urban character.

5.43 Architecturally, the area is characterised by richly detailed Victorian and later buildings, predominantly in stone and brick, arranged to frame and contain the square. The Gothic Revival Town Hall forms the visual and symbolic civic focus, while the Albert Memorial provides a highly ornate focal point within the space. Surrounding buildings, including later 20th-century office blocks, are designed to be sympathetic to the 19th century scale of the square's and provide enclosure without competing with its principal landmarks.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.44 The Albert Square Conservation Area is located within Manchester's civic core and directly abuts the St Peter's Square, George Street, St Anne's Square, Deansgate and Peter Street, and Upper King Street Conservation Areas, meaning it is almost entirely surrounded by other designated heritage areas. This creates a continuous and coherent historic landscape which strongly reflects Manchester's 19th and early 20th century transformation into a major civic, commercial, and administrative centre. The ability to experience views from the periphery of Albert Square into these adjoining conservation areas provides visual interconnectedness that enhances the area's legibility, reinforcing its role as part of a wider and long-established historic city centre. Beyond this dense historic townscape, there is also an awareness of tall-building development within the wider city centre, which reads as part of the evolving metropolitan skyline and provides a contrasting backdrop to the established scale and character of the conservation area.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.45 Due to separating distance and lack of intervisibility between the Site and the conservation area, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.46 Heritage value: **High**

UPPER KING STREET CONSERVATION AREA (MAP REF: H)

5.47 The Upper King Street Conservation Area was designated in 1970 and is situated in Manchester city centre. It comprises the central financial district around the eastern portion of King Street. The area was extended in 1985 to include properties up to Market Street and Mosley Street.

5.48 Building began in the late 17th century with the construction of Cross Street Chapel, followed in the early 18th century by fashionable residential development.

5.49 By the late 18th and early 19th centuries, the area had become a centre for cultural life with theatres and concert halls, before rapidly evolving into a commercial and civic district as Manchester expanded. Residences were replaced by business premises, banks, and insurance offices.

5.50 By the early 20th century, the area had become the city's principal financial district, characterised by prestigious office buildings.

CHARACTER AND APPEARANCE

5.51 The Upper King Street Conservation Area is characterised by a strong sense of commercial prestige, reflecting its long-standing role as Manchester's financial and professional core. King Street's gentle slope enhances the visual impact and grandeur of its buildings, creating impressive views along the street. The townscape displays a wide range of architectural styles and periods, from richly ornamented historic stone façades to high-quality modern buildings, all of which contribute to a layered streetscape.

5.52 The area is notable for its classical and Italianate architecture, particularly the early warehouses on Mosley Street in the Italian Palazzo style, which set the pattern for many later commercial buildings in Manchester. Along King Street, Classical bank buildings in stone sit alongside later early-20th-century designs in Portland stone and elaborate Baroque styles, creating a cohesive yet varied architectural character.

5.53 Toward Market Street, the architectural quality becomes more mixed, with mid-Victorian to contemporary buildings forming a contrasting commercial frontage, set against the modern scale of the Arndale Centre.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.54 The Upper King Street Conservation Area abuts St Ann's Square, Albert Square and George Street Conservation Areas, creating a continuous historic townscape that reflects Manchester's commercial and civic development from the eighteenth century onwards. This close relationship reinforces its character and legibility as part of the city's historic core, while views toward tall buildings in the wider city centre introduce a contrasting modern skyline that highlights the conservation area's finer grain and established historic scale

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.55 Due to separating distance and lack of intervisibility between the Site and the conservation area, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.56 Heritage value: **High**

LISTED BUILDINGS

TOWN HALL (GRADE I) (MAP REF: 1)

5.57 The Town Hall was listed at Grade I in 1952 (list entry number: 1207469).

5.58 The Town Hall was constructed between 1868–77 to the designs of Alfred Waterhouse. It is constructed in neo-Gothic style. It has sandstone ashlar facing over a brick interior. It is four storeys with a steeply pitched slate roof. The clock tower sits above the west front and marks the main entrance to the building. The building has a triangular footprint with three main ranges enclosing a triangular courtyard. The interiors contain mural paintings by Ford Madox Brown.

HISTORIC VALUE

5.59 The list description describes the building as a 'building of major importance', and it is largely considered one of the United Kingdom's most important civic buildings. The building's association with Waterhouse, one of the most important British architects of the 19th century, adds to its significance and is often considered his most ambitious project and the defining work of his career.

5.60 The scale and grandeur of the building embodies Manchester's ambitious and status in the late-19th century as one of the leading cities of the Industrial Revolution and it continues to serve as the headquarters of Manchester City Council.

ARCHITECTURAL VALUE

5.61 Architecturally, the Town Hall is regarded as one of the finest and most complete examples of High Victorian Gothic Revival architecture, as reflected in its monumental scale, technical innovation, which embody the Victorian civic pride. Its elaborate Gothic detailing and exceptional masonry work also contributes to its Gothic Revival identity and include tall arched windows, buttresses, stone carving and clock tower that dominates Albert Square. The building included technological advances of the period, such as warm-air heating, iron framing to improve interior light and structure, and concealed gas lighting systems, which contribute to its significance.

5.62 Internally, the mural paintings by Ford Madox Brown in the Great Hall are of particular importance, and were commissioned as part of the original architectural conception of the building. The depictions of key moments in Manchester's history reinforce the communal and historic values the building embodies.



Figure 5.8 View of the west façade that fronts Albert's Square. The Grade I listed Albert Memorial sits in front of the Town Hall.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.63 The building is located within the Albert Square Conservation Area and forms a highly important civic group with the Town Hall Extension and Central Library, which are situated around Albert Square and St Peter's Square. When considered together, these buildings reflect the strong civic pride present in Manchester during the 19th that was carried into the 20th century, as reflected in the various phases of architecture.

5.64 The Town Hall occupies a prominent position facing Albert Square, which allows for an appreciation of its monumental Gothic Revival composition that forms a major landmark within the surrounding area. The building also faces onto St Peter's Square to the south, where the Manchester Cenotaph stands, further embedding the Town Hall within the city's ceremonial topography.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.65 Due to separating distance and lack of intervisibility between the Site and the listed building, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.66 Heritage value: **Very High**

ALBERT MEMORIAL (GRADE I) (MAP REF: 2)

5.67 The Albery Memorial was listed at Grade I in 1963 (list entry number: 1197820).

5.68 The Memorial to Prince Albert (1862–65), designed by Thomas Worthington with a statue by Matthew Noble, is an elaborate Gothic Revival monument constructed mainly of sandstone, with a white marble statue of Albert beneath a richly carved canopy. Inspired by the 13th-century church of Santa Maria della Spina in Italy, it takes the form of a Gothic ciborium with pointed arches, gabled elevations, crocketed canopies, and an octagonal spire, incorporating statues symbolising Art, Commerce, Science, and Agriculture.

HISTORIC VALUE

5.69 The memorial was the first major Albert Memorial to be completed after his death in 1861, which contributes largely to its historic value. The early date also means it likely served as a prototype for later and more famous Albert memorials, such as Sir George Gilbert Scott's memorial in Kensington, helping to define how Albert was publicly commemorated across Britian. The grandeur of the memorial reflects the significance of Albert's legacy, particularly in progress, education and industry.

ARCHITECTURAL VALUE

5.70 Architecturally, the memorial is a richly detailed example of High Victorian Gothic and displays fine craftmanship. Its medieval Spanish inspiration contributes to its interest, and features such as its elaborate ciborium and octagonal spire make it an important example of both civic symbolism and architectural craftmanship, contributing to its heritage value.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.71 The memorial is situated within the Albert Square, a prominent public civic space, which emphasises its role as a landmark that is designed to be highly visible. The open setting allows for the memorial to function as a focal point and landmark within the square, and its highly elaborate neo-Gothic feature are experienced in the round, which further contribute to an appreciation of its architectural interest.

5.72 The memorial forms an important group with nearby civic buildings, including Manchester Town Hall, and the two represent Victorian civic pride, which reinforce the memorial's symbolic associations with Albert's ideals of industry, culture and advancement. Key views of the memorial are from within the square itself, where the memorial forms a key landmark, backdropped by the Town Hall. As such, the setting of the memorial contributes positively to the historic value of the listed structure.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.73 Due to separating distance and lack of intervisibility between the Site and the listed structure, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.74 Heritage value: Very high

OLD WAREHOUSE TO NORTH OF FORMER LIVERPOOL ROAD RAILWAY STATION (GRADE I) (MAP REF: 4)

5.75 The Old Warehouse was listed at Grade I in 1973 (list entry number: 1282991).

5.76 The Old Warehouse was built as a railway warehouse in c.1830 alongside the Liverpool Road Railway Station. The building was designed by George Stephenson and his son, Robert. The building is a long, slightly curved red-brick industrial building constructed in Flemish bond with sandstone dressings and slate roofs. It is three storeys, presenting as two from the track level, and divided into ten gabled bays with slotted pilasters, a moulded stone cornice with lunettes, and stone gable copings. The elevations feature segmental-headed wagon archways, barred windows, loading slots with former hoists, and doorways with stone surrounds, while the interior retains visible timber construction.

HISTORIC VALUE

5.77 The Old Warehouse derives its historic significance as one of the earliest purpose-built railway warehouses in the world, and its association with the pioneering Liverpool Road Railway Station and the development of early rail transport in Britain.

ARCHITECTURAL VALUE

5.78 Architecturally, the building reflects early railway industrial design, as evidenced in its curved plan, multiple gabled bays, wagon arches and hoists. It's robust brick and timber construction and functional appearance, make it an important example of early-19th century railway architecture and reflective of engineering innovations of the period.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.79 The building forms group value with the nearby former Liverpool Road Railay Station, also listed at Grade I. The two form a pair, associated by their functional relationship to the railway, which also survives and forms a positive contributor in the immediate setting of the listed building. The railway infrastructure in the wider area survives and elements are also Grade II listed, such as the viaduct at the former Liverpool Road Goods Depot and viaduct that links to the bridge over the nearby River Irwell. As such, the setting of the Old Warehouse contributes to the heritage value of the listed buildings.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.80 Due to separating distance and lack of intervisibility between the Site and the listed building, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.81 Heritage value: **Very high**

MANCHESTER ART GALLERY (GRADE I) (MAP REF: 5)

5.82 The Manchester Art Gallery was listed at Grade I in 1952 (list entry number: 1282980). The list entry was amended in 2018 as part of the centenary commemorations of the 1918 Representation of the People Act.

5.83 The listed building was originally constructed as the Royal Manchester Institution in 1824-35 to the designs of Sir Charles Barry. It later became the City Art Gallery and is now the Manchester Art Gallery. The building was designed in Greek Ionic style, constructed of rusticated ashlar and set back from the street on a rectangular plan with a prominent central portico. The symmetrical façade features a six-column Ionic portico, flanking colonnaded ranges and pavilions, with a central attic forming a lantern over the entrance hall, while the interior contains a square entrance hall with an imperial stone staircase.

HISTORIC VALUE

5.84 Historically, the building is notable as the site of the first suffragette attack on artworks in 1913, when members of the Women's Social and Political Union damaged paintings in protest at the imprisonment of Emmeline Pankhurst, an event later recognised in the building's amended listing in 2018. The building also has historic associations with Sir Charles Barry, and reflects an important example of his early work, establishing his national reputation which led his to design larger later projects, most notably the Palace of Westminster.

ARCHITECTURAL VALUE

5.85 Architecturally, the building reflects Barry's scholarly understanding of classical architecture through its symmetry, Ionic order, monumental portico and considered classical proportions. The scale and grandeur of the building reflect its formal and civic character.



Figure 5.9 Manchester Art Gallery

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.86 The principal frontage of the building is orientated towards Mosley Street, from where clear views of its symmetrical Greek Revival façade and monumental Ionic portico can be appreciated. Much of the listed building's original historic setting has been eroded by later redevelopment, with surrounding 20th- and 21st-century large-scale office buildings that do not share an architectural relationship with the gallery. However, within the wider setting, particularly along Princess Street, a number of 19th-century listed buildings survive which historically relate to the gallery and make a positive contribution to its setting.

5.87 Manchester Art Gallery and the nearby Grade II* listed Antenaeum form an important group, due to their association with Charles Barry, their distinctive classical styles, use of Portland stone and detailing, and their civic function. Views where these two buildings can be seen alongside one another, such as along Moseley Street and Princess Street, are important and contribute to heritage value.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.88 Due to separating distance and lack of intervisibility between the Site and the listed building, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.89 Heritage value: **Very high**

FORMER LIVERPOOL ROAD RAILWAY STATION, STATION MASTERS HOUSE (GRADE I) (MAP REF: 6)

5.90 The Former Liverpool Road Railway Station was listed at Grade I in 1963 (list entry number: 1291477). The building is now part of the Museum of Science and Industry.

5.91 The building was constructed in 1830 to the designs of George Stephenson as a passenger railway station at the terminus of Liverpool and Manchester Railway, which is now part of the museum complex. The building is constructed in red brick with sandstone ashlar and stuccoed booking offices under hipped slate roofs, it has a rectangular plan parallel to the street, with an attached earlier house of 1808 to the left and a later range to the right.

5.92 The classical-style booking offices form a symmetrical two-storey façade with rusticated ground floor, pilasters, moulded cornice, and a slightly projecting central bay marking the principal entrance. The station ceased passenger use in 1844 but continued as a goods station until 1975, and it now forms part of a historic railway group with the Old Warehouse opposite the track.

HISTORIC VALUE

5.93 Liverpool Road Station is of exceptional historic and architectural interest as the world's oldest surviving passenger railway station. Historically, it marks the birth of modern rail travel, which revolutionised transport, commerce and industrial development. The building survives as an example of early railway operations, including separate first and second class booking halls, and integration with associated buildings such as the station agent's house and goods facilities.

ARCHITECTURAL VALUE

5.94 The building is a rare example of early railway building design, which contributes greatly to its architectural value. Its symmetrical tow storey façade, rusticated ground floor, pilastered upper floor and moulded cornices reflect the high-quality design and craftsmanship, which give it a clear civic function.



Figure 5.10 View along Liverpool Road towards the station. The Grade I Old Warehouse sits behind

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.95 The building shares an intrinsic historic and functional relationship to the nearby Grade I listed Old Warehouse, which was also designed by Stephenson. The survival of these two buildings allows for legibility of its original operational context as a terminus. Its orientation to Liverpool Road and linear form allow for long views of the classical façade and attached station house, which contribute to an understanding of its functional purpose. The railway infrastructure survives within the immediate setting of the building, making the setting a positive contributor to an understanding of the station's historic and architectural value as part of the earliest railway complex in the world.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.96 Due to separating distance and lack of intervisibility between the Site and the listed building, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.97 Heritage value: **Very high**

G MEX (GRADE II*) (MAP REF: 7)

5.98 G Mex was listed at Grade II* in 1963 (list entry number: 1270514). The list entry was amended in 1994.

5.99 The building was constructed as a the Manchester Central railway station in 1876–9 to the designs of Sir John Folwer for the Midland Railway Company. The building operated until 1969, when It was closed. The building is now used as an exhibition hall and car park.

5.100 The building is constructed from iron and glass over a brick undercroft, with brick walls, and has a rectangular plan. The main hall is a single segmental-vaulted vessel of 15 bays spanning 64m, built on extensive undercrofts featuring intersecting tunnel vaults. The south side presents a two-storey pilastered façade, with round-headed windows at ground level and square-headed windows above, while the roof incorporates segmental arches with ridged bands of glazing. A 20th-century glazed canopy marks the entrance at the north end, although the originally intended entrance block was never built.

HISTORIC VALUE

5.101 The building derives its heritage value as an important example of late-19th century railway engineering and architecture. Historically, it represents the expansion of the Midland Railway during the Victorian era, and the scale of the building reflects the ambition and civic importance of railway infrastructure at the height of railway expansion.

ARCHITECTURAL VALUE

5.102 The building demonstrates the combination of iron-and-glass engineering with traditional brick construction typical of late 19th-century railway architecture. The survival of its extensive undercrofts, the large, vaulted hall, and the long-span roof reflect the functional requirements of a major terminus and are an important example of railway architecture of this period. The segmental-vaulted roof with ridged glazing bands demonstrate engineering innovation, that further contributes to the architectural value of the building.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.103 The building's scale and form make it a landmark within its surrounding context. This is emphasised by its prominent position, where multiple routes through the city converge, creates a focal point in the city centre, allowing the building to be appreciated from numerous angles and in the round.

5.104 Although the building no longer functions as a railway station, some elements of the original railway infrastructure remain, helping to convey its historic relationship to the railway alignment and operational use. These aspects of its setting, where they survive, contribute positively to its heritage value.

5.105 Much of the building's wider historic context has been altered by extensive 20th- and 21st-century redevelopment, yet its central location and urban surroundings continue to reflect its original role as a major transportation hub in the heart of the city.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.106 Due to separating distance and lack of intervisibility between the Site and the listed building, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.107 Heritage value: **High**

DEANSGATE GOODS STATION AND ATTACHED CARRIAGE RAMP (GRADE II*) (MAP REF: 8)

5.108 Deansgate Goods Station and attached Carriage Ramp was listed at Grade II* in 1979 (list entry number: 1268529). The list description was amended in 1996.

5.109 The Deansgate Goods Station was constructed in 1885–96 and 1899 for the Great Northern Railway Company. It is a large, five-storey, steel-framed railway warehouse clad in red brick with blue brick banding. Rectangular in plan, it features long elevations of segmental-headed windows with cast-iron glazing bars and a continuous white-brick frieze bearing the building's name. At ground and first-floor levels, wide cart and loading entrances accommodated the movement of goods by road and rail.

5.110 Attached to the west side, the 1899 carriage ramp is built of brick, iron and steel, paved with granite setts, and forms a three-sided elevated approach to the upper floors.



Figure 5.11 Deansgate Goods Station

HISTORIC VALUE

5.111 The Deansgate Goods Station derives historic value as one of Manchester's largest and most technologically advanced Victorian freight complexes. Its design represented cutting-edge innovation for its time, with monumental fireproof engineering, extensive storage capacity, and a unique multi-modal arrangement linking rail, road and canal. Together, these features made it one of the most sophisticated goods stations in the country and a powerful expression of Manchester's status as a major industrial and commercial powerhouse.

ARCHITECTURAL VALUE

5.112 The complex is a rare surviving example of a three-way railway goods exchange station, designed to integrate railway, road and canal transport through an innovative hydraulic haulage system that connected subterranean canal access with multiple storage levels. Considered one of the most advanced facilities of its kind when built, it remains one of the finest surviving examples of purpose-built Victorian goods warehouses.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.113 The setting of the Deansgate Goods Station contributes to its heritage value by illustrating its historic role as a major multi-modal transport hub. Its proximity to the Manchester and Salford Junction Canal and the former Manchester Central Railway Station reflects the building's functional relationship with its surroundings and its historic integration of rail, road and canal transport. Surviving elements of the former marshalling yards, carriage ramp alignments and canal tunnel infrastructure further enhance its significance by retaining legibility of how the complex once operated as one of the city's most sophisticated Victorian goods exchanges

CONTRIBUTION OF SITE TO SIGNIFICANCE

5.114 Due to separating distance and lack of intervisibility between the Site and the listed building, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.115 Heritage value: **High**

MIDLAND HOTEL (GRADE II*) (MAP REF: 10)

5.116 The Midland Hotel was listed at Grade II* in 1974 (list entry number: 1271154).

5.117 The hotel was constructed in 1893–1903 to the designs of Charles Trubshaw for the Midland Railway Company. It is a steel-framed hotel clad in granite, red brick, and glazed terracotta, occupying a large irregular pentagonal island site. Its eclectic Baroque façades feature giant round-headed arches, attic gables, turrets, coupled windows with terracotta detailing, and decorative wrought-iron balconies. The ground floor includes a granite-clad entrance beneath two semi-circular arches with a wyvern roundel and "MIDLAND HOTEL" frieze. The side and rear elevations follow similar treatment, with additional curved and bow-shaped balconies and domed corner turrets. Internally, it originally contained extensive facilities including a palm court, concert hall, winter gardens, baths, a roof garden, numerous lifts, long corridors, and around 400 bedrooms.

HISTORIC VALUE

5.118 The Midland Hotel derives its significance from its role as a major Edwardian railway hotel that was constructed to serve passengers arriving at Manchester Central station. Conceived as a flagship terminus for the Midland Railway Company, it's scale and grandeur reflect the success of the city's most important rail terminus at the height of Manchester's industrial and transport power.

ARCHITECTURAL VALUE

5.119 The hotel displays an elaborate Edwardian Baroque style, characterised by its scale, rich ornamentation and use of contrasting materials. Contained within the structure of the hotel is a steel frame, which was unusual and technologically advanced at the time, allowing the building to reach an unprecedented size for a commercial hotel in Manchester. The polished granite, red brick and brown glazed terracotta reflect the high quality architecture applied to the building.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.120 The building shares an intrinsic historic and spatial relationship with the Manchester Central Railway Station, which it was built to serve. This siting means its relationship with the railway network is legible, contributing to its historic value.

5.121 The hotel faces St Peter's Square, placing it within a major civic and architectural ensemble. The open character of the square allows for long views across the view south towards the principal frontage of building, where its monumental scale and ornamented Edwardian Baroque facades are best appreciated.

CONTRIBUTION OF SITE TO SIGNIFICANCE

5.122 Due to separating distance and lack of intervisibility between the Site and the listed building, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.123 Heritage value: **High**

CENTRAL PUBLIC LIBRARY (GRADE II*) (MAP REF: 12)

5.124 The Central Public Library was listed at Grade II* in 1974 (list entry number: 1270759).

5.125 The public library was constructed in 1930–4 to the designs of Vincent Harris. It is a classical building constructed from Portland stone with a concealed glazed lantern roof, arranged on a circular plan with a rectangular east-facing portico. It rises to four storeys with basement and attic, with rusticated lower floors, a Greek-key frieze, and a continuous Tuscan colonnaded screen to the upper levels, while the principal elevation features a giant Corinthian portico. Internally, the building is organised around a large domed circular reading room, enclosed by a giant Tuscan colonnade.

HISTORIC VALUE

5.126 The Central Library is reflective of Manchester's strong tradition of municipal ambition and education, and forms a major civic institution in the city centre. Its continued use as a public library reinforces its historic role as a active civic building that continues to provide a service for the population of Manchester.

5.127 The building's association with Vincent Harris is also of value, as he was one of Britain's leading architects of public and civic buildings in the early-20th century. The Central Library is widely regarded as one of his most accomplished works.

ARCHITECTURAL VALUE

5.128 The Architect and Building News in 1934 wrote:

> *The Manchester library is of international importance. In arrangement it resembles no other building of its kind; the way in which the "bones" of the plan are put together contributes something new to the theory of planning.*

5.129 The Central Library is largely regarded as one of the finest examples of Classical Revival architecture in Manchester. Inspired by the Pantheon in Rome, its circular plan, monumental portico and large domed reading room are features of exceptional architectural quality and design and give it a landmark status within the city centre.



Figure 5.12 Central Public Library from St Peter's Square

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.130 The library's position on St Peter's Square, opposite the Town Hall Extension and near Albert Square, ensures the library is read as part of a larger civic ensemble, reinforcing its historic and cultural importance. The building is also situated at a point where key routes through the city centre coalesce, affording key views that allow for the landmark character of the library to be appreciated. Channelled views along Oxford Road that are terminated by the library are of particular importance.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.131 Due to separating distance and lack of intervisibility between the Site and the listed building, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.132 Heritage value: **High**

TOWN HALL EXTENSION (GRADE II*) (MAP REF: 17)

5.133 The Town Hall Extension was listed at Grade II* in 1974 (listed entry number: 1197917).

5.134 The Town Hall Extension was constructed in 1938 to the designs of Vincent Harris. The building is a large, eight-storey steel-framed structure clad in sandstone ashlar with a steep slate roof, designed in an eclectic style with Gothic influences. Its irregular plan includes a prominent concave south elevation, while its facades to Lloyd Street and St Peter's Square feature a ground-floor arcade, horizontally banded upper storeys and mullioned windows to the set-back upper floors. The Mount Street frontage has five dramatic multi-storey oriels filled with gridded mullion-and-transom windows. The gabled end elevations include tall stair-turrets with traceried windows and statue niches, and at the rear the wings are linked by a curved four-storey range articulated with round-headed arches and small windows.

HISTORIC VALUE

5.135 The Town Hall extension derives historic value as a major civic building constructed to accommodate the expanding administrative functions of Manchester during the early 20th century. Also of note it the building's association with E. Vincent Harris, who also designed the adjacent Central Library, and was intended to bridge the stylistic gap between Waterhouse's ornate Gothic Revival Town Hall and Harris's Classical Central Library. The building symbolises the evolution of municipal governance in Manchester and reflects the city's ambition during a period of substantial growth in public services.

ARCHITECTURAL VALUE

5.136 Architecturally, the Town Hall Extension is notable for its eclectic Gothic-influenced design, executed in sandstone ashlar, with a steeply pitched slate roof, carved tracery, and an irregular plan including a distinctive concave elevation facing the Central Library. Its eight-storey form incorporates features such as arcaded ground floors, set-back upper storeys, mullioned windows and prominent stair-turrets. The building's design was intended to harmonise with both neighbouring landmark structures and contributes strongly to the architectural character of St Peter's Square.



Figure 5.13 The Town Hall Extension from St Peter's Square

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.137 The building's position on St Peter's Square, located between the Town Hall and the Central Library, is a key aspect of its setting, as it allows its intended role as a stylistic bridge between the Gothic Revival Town Hall and the Classical Library to be clearly understood. Its placement within this civic grouping ensures it is perceived as part of a unified architectural ensemble, reinforcing its historic and cultural importance within the city's administrative heart. The building also occupies a key urban junction where major city-centre routes converge, allowing for a series of prominent views that emphasise its landmark qualities and its contribution to the wider townscape of St Peter's Square.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.138 Due to separating distance and lack of intervisibility between the Site and the listed building, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.139 Heritage value: **High**

MANCHESTER WAR MEMORIAL (GRADE II*) (MAP REF: 18)

5.140 Manchester War Memorial was listed at Grade II* in 1974 (list entry number: 1270697). The list entry was amended in 1994, and again in 2015.

5.141 The memorial was constructed in 1925 to the designs of Sir Edwin Lutyens, with later additions for the Second World War.

5.142 The memorial, constructed of Portland stone, consists of a central cenotaph, two flanking obelisks, and a War Stone, all set on a slightly raised platform. The cenotaph, modelled on the Whitehall memorial, is formed of diminishing stages supporting a catafalque with a sculpted figure of an Unknown Soldier, accompanied by wreaths, a sword, and an Imperial crown, and inscribed with dedicatory and commemorative texts. The shorter obelisks feature swaged garlands, while the War Stone is positioned centrally behind the cenotaph.

HISTORIC VALUE

5.143 The heritage receptor derives historic value from its commemoration to those who gave their lives in the conflicts of the 20th century. The memorial derives significance for being part of a wider tradition of British war memorials.

5.144 The memorial's association with the nationally renowned architect, Sir Edwin Lutyens, who designed extant 58 memorials at home and abroad, including the Cenotaph in Whitehall, also contributes to the value of the structure.

ARCHITECTURAL VALUE

5.145 Architecturally, the memorial is among the more ambitious of Lutyens' eight cenotaph memorials that incorporate obelisks and a War Stone into the design.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.146 Manchester War Memorial is located within St Peter's Square, where it forms an important civic group with the Grade I listed Town Hall and the Grade II* listed Town Hall Extension, all of which are experienced together within a shared public space. The memorial's position in an open setting and at a key junction within the city centre allows clear views of the cenotaph, enabling it to be appreciated in the round and reinforcing its landmark presence and communal commemorative function.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.147 Due to separating distance and lack of intervisibility between the Site and the listed building, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.148 Heritage value: **High**

THE ATHENAEUM (GRADE II*) (MAP REF: 20)

5.149 The Athenaeum was listed at Grade II* in 1974 (list entry number: 1270889).

5.150 The Athenaeum was constructed in 1837 to the designs of Sir Charles Barry. It was originally built as a cultural club and is now an annexe to Manchester City Art Gallery. Constructed of sandstone ashlar with a slate roof, it has a rectangular plan with a rear extension and is designed in an Italian palazzo style, rising to two storeys and basement with a later attic addition.

5.151 The building has a symmetrical nine-window façade with rusticated detailing, sill bands, a lettered frieze, a prominent mutuled cornice, and a balustraded parapet with tall chimneys. The principal entrance is marked by a Roman Doric porch leading to a round-arched recessed doorway, while tall two-light windows with classical detailing articulate both floors. The building is historically notable as an early and influential example of Italian palazzo architecture in Manchester.

HISTORIC VALUE

5.152 The Athenaeum is particularly significant for its association with Sir Charles Barry, who helped Barry helped to popularise the palazzo tradition in Britain. The Athenaeum is widely regarded as a precursor to the Italian palazzo style in Manchester, including the character of later 19th century civic and commercial architecture in the city. The Athenaeum, and the nearby Manchester Art Gallery form important examples of Barry's architectural legacy, and illustrate his role in shaping Manchester's architectural identity.

5.153 The building also reflects the city's strong tradition of learning and civic engagement during the 19th century. It's later adaptation to the City Art Gallery reflects its continued use as a centre for learning.

ARCHITECTURAL VALUE

5.154 The building is a fine example of the Italian palazzo style in Manchester. Its symmetrical composition, rusticated ashlar, classical detailing, and articulated entrance reflects Barry's scholarly approach to Renaissance architecture.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.155 The Athenaeum and the nearby Grade II* listed Manchester Art Gallery form an important group, due to their association with Charles Barry, their distinctive classical styles, use of Portland stone and detailing, and their civic function. Views where these two buildings can be seen alongside one another, such as along Moseley Street and Princess Street, are important and contribute to heritage value.

5.156 The building occupies a prominent position on the edge of St Peter's Square and on the corner of the junction between Princess Street and Mosley Street. This makes it highly visible from multiple approaches, allowing for its symmetrical façade, classical detailing and Italian palazzo style to be fully appreciated, reinforcing its identity as a civic landmark.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.157 Due to separating distance and lack of intervisibility between the Site and the listed building, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.158 Heritage value: **High**

CHURCH OF ST GEORGE (GRADE II*) (MAP REF: 25)

5.159 The Church of St George was listed at Grade II* in 1974 (list entry number: 1208640).

5.160 The church was constructed in 1826–8 by Francis Goodwin, and later restored in 1884 by J.S. Crowther. It is constructed from sandstone ashlar with slate roofs in a Gothic Perpendicular style. The church has a nave with north and south aisles, diagonal west porches, a high polygonal apse, and a tall four-stage west tower with embattled parapets, octagonal pinnacles, crocketed spirelets, and traceried windows. The aisles feature six bays with buttressed pinnacles and large Perpendicular-style windows, while the nave has an embattled parapet terminating in octagonal east turrets. Internally, it contains galleries, Perpendicular arcades, and a wall monument to The Hon. George Berkeley Molyneux.

HISTORIC VALUE

5.161 The Church of St George's association with prominent architects in 19th century English church design, such as Francis Goodwin and J.S. Crowther contributes to its historic value. The church reflects the need to provide new parish churches to serve the expanding population of Manchester in the early-19th century.

ARCHITECTURAL VALUE

5.162 The church derives architectural value from its distinctly Perpendicular Gothic style, as evidenced in its four-stage west towner, embattled parapets, octagonal pinnacles and traceried windows.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.163 Within the immediate setting of the church is its churchyard, which partly contributes to the value of the church, as its open space allows for views of the tower and polygonal apse, reinforcing the building's landmark character. However, part of the churchyard to the north of the church has been given over to a car park, which visual detracts from the church in key views from Ellesmere Street.

5.164 The wider historic setting of the church has been almost entirely eroded by modern development, and the church is no longer appreciated within its original residential parish setting. The noise and fast moving traffic on the nearby dual carriage way and the Deansgate Interchange further detract from the setting of the heritage receptor.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.165 Due to separating distance and lack of intervisibility between the Site and the listed building, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.166 Heritage value: **High**

ROCHDALE CANAL LOCK NO. 90, APPROX. 30 METRES WEST OF ALBION BRIDGE (GRADE II) (MAP REF: 27)

5.167 The Rochdale Canal Lock No. 90 was listed at Grade II in 1994 (list entry number: 1247557).

5.168 The canal lock was constructed in 1804–5 for the Rochdale Canal Company and later restored. It is constructed of coursed squared sandstone with wooden gates. The 14-foot-wide chamber has pairs of gates at both ends and a ladder on the south side.

HISTORIC VALUE

5.169 The lock is the first of nine locks linking the former Rochdale Canal basin at Dale Street to the Bridgewater Canal basin at Castlefield, demonstrating the strategic importance of Manchester's waterways in facilitating trade, industry and the growth of the city. It's continued operation further contributes to its value as transport infrastructure in the centre of the city.

ARCHITECTURAL VALUE

5.170 The lock is a well preserved example of canal engineering, built in coursed squared sandstone with traditional wooden gates. Its robust deign reflects its functional use and its survival is an important remnant of Manchester transport network in the early 19th century.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.171 The canal lock derives value as part of a coherent group with the nearby Dale Street Warehouse and the adjoining sequence of locks and canal-side structures. This well preserved group reinforces an understanding of how the waterway operated as an integrated industrial system. The canal itself and the surrounding environment allows for an appreciation of the lock in situ and belonging to a wider network of structures. The lock and canal sit lower than the surrounding street level, meaning that it is best appreciated by those walking along the tow path in an enclosed setting. However, there is an awareness of wider Manchester, including tall building in views outside of the channel the canal sits within.



Figure 5.14 Rochdale Canal Lock No. 90

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.172 The lock is situated north of the Site, to the north of Whitworth Street. Due to the dropped level of the canal, which sits well below street level, the heritage receptor little intervisibility with the Site. In its current form, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.173 Heritage value: **High**

13-17, ALBION STREET (GRADE II) (MAP REF: 28)

5.174 13–17, Albion Street was listed at Grade II in 1974 (list entry number: 1279694).

5.175 13–17, Albion Street was constructed as a warehouse in c.1860–70 and is now used as offices. It was built in red brick with sandstone dressings and a slate hipped roof, arranged on a shallow U-shaped plan in a Venetian Gothic style. It is four storeys with a basement and a nine-bay façade, the left corner canted, articulated by pilasters, sill bands and a brick corbelled frieze. The building retains a segmental-headed corner doorway and three-light upper-floor windows with Gothic tracery, although the ground-floor frontage, rear and interior have been altered.

HISTORIC VALUE

5.176 The building represents Manchester's period of rapid industrial and commercial expansion in the mid-19th century, when warehouses like 13–17 Albion Street were a key feature of Manchester's urban landscape, led by its textile economy. Its conversion to offices contributes to its value, as it demonstrates the evolution and reuse of the buildings to reflect the city's evolution away from an industrial-led economy.

ARCHITECTURAL VALUE

5.177 The building's distinctive Venetian Gothic style, as evidenced by its decorative detailing such as window tracery, pilasters and corbelled brick frieze demonstrates that the building was built to serve more than a functional purpose. The ornamentation reflects the status, wealth and ambition of Manchester's commercial and industrial sectors.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.178 The building occupies a prominent position on the junction between Albion Street and Great Bridgewater Street, enhancing its prominence within the streetscape and allowing for an appreciation of its Venetian Gothic style and ornamentation. The building was designed to respond to its position, with the canted corner emphasising its architectural presence within its immediate surroundings.

5.179 The wider setting of the listed building comprises a mix of surviving 19th-century townscape, including the G-Mex building and viaduct and the Britons Protection Public House, alongside later modern development. Where historic buildings remain, they make a positive contribution to the setting of 13–17 Albion Street by reflecting the area's original historic context and reinforcing its former commercial and industrial character.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.180 Due to intervening development resulting in lack of intervisibility between the Site and the listed building, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.181 Heritage value: **High**

MANCHESTER SOUTH JUNCTION AND ALTRINCHAM RAILWAY VIADUCT (GRADE II) (MAP REF: 29)

5.182 The Manchester South Junction and Altrincham Railway Viaduct was listed at Grade II in 1994 (list entry number: 1200837).

5.183 The Manchester South Junction & Altrincham Railway viaduct was built in 1846–9 by David Bellhouse junior for the MSJ&AR Company as part of one of Britain's earliest suburban railways and the first in Manchester. Extending for about 1¾ miles, it carries the line from Manchester Piccadilly via Oxford Road and Deansgate, branching at Castlefield, and is constructed of brick with 224 arches, supplemented by a series of cast-iron bridges by Edward Taylor Bellhouse, William Baker and William Cubitt. The viaduct incorporates arched and skewed spans, bridges over canals and streets, and decorative Gothic and classical ironwork, with later alterations including infilled arches, repairs and 20th-century electrification infrastructure.

HISTORIC VALUE

5.184 The viaduct represents an early example dating from the second phase of railway development, which dates from 1841–50, in which rapid expansion of the rail network was driven by commercial rivalry. Historically, the viaduct forms an important and integral component of the MSJ&AR, which was one of the country's earliest suburban railways and the first in Manchester, playing an important role in extending rail transport into surrounding districts.

ARCHITECTURAL VALUE

5.185 The viaduct derives architectural value as an impressive 1 ¾ mile long urban viaduct incorporating a series of well-detailed bridges that display highly decorative Gothic-style ironwork. Its scale, engineering sophisticated and detailed design are aspects that contribute to its value.



Figure 5.15 View along the Manchester South Junction and Altrincham Railway Viaduct

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.186 The viaduct has strong group value with nearby railway structures, including the Grade I listed 1830 stone bridge and Grade II listed 1869 girder bridge over the River Irwell, the Grade II listed Castlefield Viaduct, Manchester Oxford Road and Deansgate stations, and the Grade II listed former goods offices and train shed at Manchester Piccadilly Station.

5.187 Due to the scale of the viaduct, it is experienced as a series of views and from a number of vantage points rather than a single static points within its surrounding setting. In these views, the viaduct will be backdropped by the wider urban landscape of Manchester, which is characterised by various phases of development and redevelopment, created a mixed urban environment.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.188 The Site forms part of the wider setting of the viaduct and the two share intervisibility across Whitworth Street. The undeveloped and open character of the Site is at odds with the wider dense urban and built setting of the viaduct. In its current form, the Site does not contribute to the heritage value of the receptor.

5.189 Heritage value: **High**

THE BRITONS PROTECTION PUBLIC HOUSE (GRADE II) (MAP REF: 30)

5.190 The Britons Protection Public House was listed at Grade II in 1990 (list entry number: 1292050).

5.191 The Britons Protection Public House is an early 19th-century public house, internally remodelled around 1930, constructed in red brick with a slate roof and a painted front. It has a double-depth plan with added rear wings, a long front bar parallel to the street, and rooms behind. The three-storey façade is symmetrical, with pilastered doorways, sash windows with moulded architraves, and a high parapet stepped over the centre. Internally, much of the 1930 remodelling survives, including an ornate Lincrusta ceiling, panelled bar, dog-leg staircase with barley-sugar balusters, tiled corridors and toilets, and original back rooms with fixed seating and fireplaces, giving the building much of its current character.

HISTORIC VALUE

5.192 The continuous use of the building as a public house contributes to its historic value, as it reflects the important role of inns and pubs in the social and commercial life of Manchester throughout the 19th and 20th centuries. The 1930s remodelling of the pub further contributes to its value, as it reflects the evolution of pub design.

ARCHITECTURAL VALUE

5.193 The building derives value from both the early-19th century exterior and the 1930s remodelled interiors. The high-quality and ornate interior, which include a Lincrusta ceiling, panelled bar fronts and a dog-leg staircase with decorative balusters, survive largely intact, and are an important insight into drinking practices and pub design of the period.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.194 The Britons Protection occupies a prominent corner position at the junction of Great Bridgewater Street, Albion Street, and Lower Mosley Street, giving it strong street presence and allowing key views of its façade, particularly along Lower Mosley Street. While the wider setting is dominated by large-scale, modern development, the building's central urban location continues to highlight its historic role and contributes to an understanding of the evolving streetscape of Manchester city centre.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.195 Due to intervening development resulting in lack of intervisibility between the Site and the listed building, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.196 Heritage value: **High**

ROCHDALE CANAL LOCK KEEPERS COTTAGE AT LOCK NO. 91, NEXT TO GAYTHORN TUNNEL (GRADE II) AND ROCHDALE CANAL LOCK NO. 91 AT EAST END OF GAYTHORN TUNNEL (GRADE II) (MAP REF: 31)

5.197 The Rochdale Canal Lock Keepers Cottage and the Rochdale Canal Lock No. 91 were both listed at Grade II in 1986 (list entry numbers: 1247597 and 1247483). The list entry for the cottage was amended in 1994.

5.198 Both the Rochdale Canal Lock Keepers Cottage (also known as No. 6 Century Street) and Lock No. 91 were constructed in c.1805 for the Rochdale Canal Company.

5.199 The cottage is a three storey red brick building in Flemish bond with sandstone dressings and a slate hipped roof. It has a rectangular, double-fronted plan, with a full-height basement forming the lowest storey and the main entrance at street level reached via a raised access deck. The building retains a round-headed doorway with stone detailing, large flat-arched windows, and a stone parapet.

5.200 The lock is constructed of coursed squared sandstone with wooden gates. It has a 14-foot-wide chamber with pairs of gates at both ends, a central ladder on the north side, and a towpath island with a curved stone staircase on the south side. It is eighth in a series of nine locks on an extension linking the former Rochdale Canal basin at Dale Street with the Bridgewater Canal basin at Castlefield.

HISTORIC VALUE

5.201 The cottage and the lock survive as important elements of the wider network of 19th century canals in Manchester. The cottage demonstrates the type of accommodation that was provided for canal workers at a time when the waterways were central to Manchester's trade and transport economy. Their c.1805 date makes them an important and relatively early example of the infrastructure and management associated with canal operation. This further contributes to their heritage value.

ARCHITECTURAL VALUE

5.202 The early-19th century date of the cottage is reflected in the plain but well-proportioned form and limited detailing, which is characteristic of buildings of this period and reflect its functional use, making it a good example of early canal architecture.

5.203 The lock is a well preserved example of canal engineering, built in coursed squared sandstone with traditional wooden gates. Its robust deign reflects its functional use and its survival is an important remnant of Manchester transport network in the early 19th century

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.204 The cottage and the canal lock derive value as part of a coherent group with the nearby Dale Street Warehouse and the adjoining sequence of locks and canal-side structures. This well preserved group reinforces an understanding of how the waterway operated as an integrated industrial system. The canal itself and the surrounding environment allows for an appreciation of the lock in situ and belonging to a wider network of structures.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.205 The Site forms part of the wider setting of the lock and cottage. However, due to the dropped level on which the lock and cottage sit, the Site shares little intervisibility with the receptors in its current form. The hoardings around the Site and its undeveloped character are detracting features. In its current form, the Site does not contribute to the heritage value of the receptor.

5.206 Heritage value: **High**

DEANSGATE STATION (GRADE II) (MAP REF: 32)

5.207 Deansgate Station was listed at Grade II in 1998 (list entry number: 1376146).

5.208 The original station was opened as Knot Mill and Deansgate in 1849 on the Manchester South Junction and Altrincham Railway. After the station was deemed inadequate and dated, it was improved and rebuilt at street level in 1896 by Robert Neill and Son. The line was electrified in 1931, and the station was renamed Deansgate in 1974.

5.209 It is constructed of red brick with blue brick banding and stone and terracotta dressings, in a Baronial style on a sharply angled corner site. It is two storeys high, with paired pointed-arched entrances featuring decorative terracotta surrounds, mock portcullises, battlemented parapets, and a dated shield bearing the name Knott Mill Station.

HISTORIC VALUE

5.210 The station derives much of its historic interest as one of the earliest suburban railways in Britain and the first in Manchester, which played a key role in the development of the city's hinterland. The later rebuilding of part of the station and its electrification in the 1931 reflects the continued expansion and modernisation of the railway network in through the 19th and 20th centuries as changing transport technology developed.

ARCHITECTURAL VALUE

5.211 The building is a distinctive example of late Victorian railway architectural in a Baronial style, which reflects its civic identity. This is further emphasised with the use of red and blue brick with stone and terracotta detailing, together with features such as pointed-arched entrances, mock battlements, turrets, and heraldic carving.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.212 The city centre location of railway station contributes to its heritage value by reinforcing its role as a key transport node within Manchester. Its position adjacent to the railway viaduct and within an area characterised by its dense railway infrastructure provides legibility of its function and understanding of its role as one of the city's earliest suburban rail routes.

5.213 The station occupies a prominent corner at the junction of Whitworth Street, Bridgewater Viaduct, Deansgate, and Castle Street, giving it a strong presence in the streetscape. Its corner turret emphasises the junction, enhancing its landmark character, with key views along Deansgate looking south and along Whitworth Street providing the best appreciation of its architectural prominence.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.214 The Site forms the wider setting of the station along Whitworth Street, and both are visible in conjunction with one another in views east and west along the street. Where visible together, the undeveloped character of the Site is at odds with the surrounding dense urban landscape that characterises the station's setting. The Site in its current form does not contribute to the heritage value of the listed building.

5.215 Heritage value: **High**



Figure 5.16 Deansgate Station

ROCHDALE CANAL LOCK NO. 89 (TIB LOCK), ON SOUTH SIDE OF HAVELOCK MILLS (GRADE II) (MAP REF: 33)

5.216 Rochdale Canal Lock No. 89 was listed at Grade II in 1994 (list entry number: 1247596).

5.217 The canal lock was built in 1804–5 for the Rochdale Canal Company and later restored, is constructed of coursed squared sandstone with wooden gates. It has a 14-foot-wide chamber with pairs of gates at each end and a central ladder on the north side. It is the sixth of nine locks linking the former Rochdale Canal basin at Dale Street with the Bridgewater Canal basin at Castlefield.

HISTORIC VALUE

5.218 The lock is part of a wider network of locks linking the former Rochdale Canal basin at Dale Street to the Bridgewater Canal basin at Castlefield, demonstrating the strategic importance of Manchester's waterways in facilitating trade, industry and the growth of the city. It's continued operation further contributes to its value as transport infrastructure in the centre of the city.

ARCHITECTURAL VALUE

5.219 The lock is a well preserved example of canal engineering, built in coursed squared sandstone with traditional wooden gates. Its robust deign reflects its functional use and its survival is an important remnant of Manchester transport network in the early 19th century.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.220 The canal lock derives value as part of a coherent group with the nearby Havelock Mills, Albion Street Bridge and the adjoining sequence of locks and canal-side structures. This well preserved group reinforces an understanding of how the waterway operated as an integrated industrial system. The canal itself and the surrounding environment allows for an appreciation of the lock in situ and belonging to a wider network of structures.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.221 Due to intervening development resulting in lack of intervisibility between the Site and the listed structure, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.222 Heritage value: **High**

BOUNDARY STONE ON KNOTT MILL BRIDGE, AND FLOODGATE ON EAST SIDE OF KNOTT MILL BRIDGE (GRADE II) (MAP REF: 34)

5.223 The boundary stone on Knott Mill Bridge was listed at Grade II in 1994 (list entry number: 1282975). The floodgate was listed at Grade II in 1994 (list entry number: 1210156).

5.224 The stone is an 18th century township boundary stone formed of sandstone. It is a round-headed slab inscribed with the lettering "TOWNSHIP". The floodgate is a simple stone structure dating to c.1765, attributed to James Brindley for the Duke of Bridgewater, and formed part of the hydraulic system that controlled water between the Bridgewater Canal terminus and the diverted River Medlock

HISTORIC VALUE

5.225 Together, the floodgate and boundary stone represent rare surviving elements of Manchester's early urban and industrial development.

ARCHITECTURAL VALUE

5.226 The floodgate derives architectural value as a nationally important component of the hydraulic system that managed water flow between the Bridgewater Canal terminus and the diverted River Medlock.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.227 Their position on Knott Mill Bridge preserves the original functional context of both structures. The floodgate remains beside the diverted Medlock and former Bridgewater Canal works, making its hydraulic role clear. The boundary stone's location on the historic crossing point between Manchester and Hulme keeps its purpose as a township marker immediately legible

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.228 Due to intervening development resulting in lack of intervisibility between the Site and the listed structure, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.229 Heritage value: **High**

FORMER CONGREGATIONAL CHAPEL (GRADE II) (MAP REF: 35)

5.230 The Former Congregation Chapel was listed at Grade II in 1988 (list entry number: 1292311). The list entry was amended in 2019.

5.231 The Former Congregation Chapel was built in 1858 to the designs of Edward Walters. It was converted to a sound recording studio in the 1980s and in 2006 it was converted to offices.

5.232 The building is an Italianate-style church or chapel of red brick (part-painted blue) with slate roofs, featuring a nave and aisles with front porches and a tall square campanile tower rising above a basement, likely originally a schoolroom. The gabled east front has a pedimented centre with paired round-headed windows, coloured panes, and a wheel window, while the porches have elaborately moulded doorways with panelled doors and decorative oculi. The tower includes blank arches, a stone belfry with coupled openings, and a short slated spire, with the south side articulated by round-headed windows and a clerestory.

HISTORIC VALUE

5.233 The building derives historic value as a representation of 19th century nonconformist religious architecture, reflecting the growth and influence of the Congregationalist movement in Manchester during the Victorian period. The building contained a schoolroom, which demonstrates the church's educational role within the surrounding community. The church's later use as a recording studio also contributes some historic interest, as it reflects its adaptive reuse to transition from a religious to a creative function, reflecting the significance of the city's music and arts culture at the time.

ARCHITECTURAL VALUE

5.234 Architecturally, the former Congregational Church is a striking example of the Italianate style, evident in its campanile tower with spire, round-headed windows, saw-tooth bands, moulded surrounds, and decorative oculi. Despite later adaptations for different uses, the building largely retains its original form and ornamentation, allowing its original ecclesiastical character to remain legible.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.235 The former Congregational Church is experienced within the Castlefield Conservation Area, a well-preserved district of 19th-century canal infrastructure and warehouses, which provides important historic context for the building.



Figure 5.17 Former Congregational Chapel

5.236 The tower and spire of the church are a key aspect of its identity, and give it landmark status within the surrounding streetscape. As such, views that best appreciate its tower are from Castle Street within Castlefield Conservation Area and orientated east. Here, the building forms a focal point in an attractive composition that incorporated the canal, as well as 19th century industrial building. Long views of the tower are also afforded along the Bridgewater Viaduct to the south of the church and orientated north. In these views there is an awareness of later redevelopment and tall buildings within the setting, however, they are read as part of Manchester's ongoing urban evolution.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.237 Due to intervening development resulting in lack of intervisibility between the Site and the listed buildings, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.238 Heritage value: **High**

ELECTRICITY JUNCTION BOX IN CASTLEFIELD CANAL BASIN, MANCHESTER (GRADE II) (MAP REF: 36); ELECTRICITY JUNCTION BOX IN CASTLEFIELD CANAL BASIN, MANCHESTER (GRADE II) (MAP REF: 40); ELECTRICITY JUNCTION BOX ON CASTLE STREET, MANCHESTER (GRADE II) (MAP REF: 44)

5.239 The three electricity junction boxes were listed at Grade II in 2021 (list entry number: 1475255, 1475459 and 1475254).

5.240 The structures are decorative cast-iron electricity junction boxes of early-20th century date by Hardy and Padmore of Worcester.

HISTORIC VALUE

5.241 The electricity junction boxes have historic value as they illustrate the development of electricity into a mass-consumed utility, and the reverence which were accorded to its infrastructure in the early years of the 20th century.

ARCHITECTURAL VALUE

5.242 They are well-detailed structures, displaying a customised design by a world-renowned company, who supplied goods worldwide. The boxes survive with relatively little alteration. They represents an increasingly rare survival of a relic from the first age of electricity.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.243 The electricity boxes share group value with one another and form a good visual relationship with the listed former Congregational Chapel.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.244 Due to intervening development resulting in lack of intervisibility between the Site and the listed structures, the Site does not make any contribution to the heritage receptors by virtue of setting.

5.245 Heritage value: **High**

CASTLEFIELD INFORMATION CENTRE (GRADE II) (MAP REF: 38)

5.246 **Castlefield Information Centre was listed at Grade II in 1974 (list entry number: 1200853).**

5.247 The former Free Library on Deansgate, built in 1882 by George Meek, is a two-storey Romanesque-style red-brick building with sandstone dressings, curved corner elevations and an ornate upper storey of arcaded triple windows. Its displays richly detailed façades, including carved doorways, pilasters and an elaborate parapet.

HISTORIC VALUE

5.248 The former Free Library holds historic value as an purpose-built civic institution, reflecting Manchester's 19th century commitment to public education and cultural provision. Its prominent Romanesque design, combined with a ground-floor arcade of shops, illustrates Victorian efforts to integrate civic, commercial and social functions within the rapidly expanding city.

ARCHITECTURAL VALUE

5.249 The former Free Library has architectural value as a high-quality Romanesque civic building distinguished by its red-brick and sandstone construction, curved corner elevations and richly modelled façades with arcaded windows and carved detailing. Its composition and craftsmanship clearly express late-19th century civic architectural ambition.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.250 The building's connection to the former Higher Campfield Market Hall on Liverpool Road reinforces its historic role within Manchester's Victorian public and commercial precinct. The rounded corner of the building responds to and emphasises its position on the junction between Deansgate and Liverpool, contributing to its prominence in the local streetscape.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.251 Due to intervening development resulting in lack of intervisibility between the Site and the listed buildings, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.252 **Heritage Value: High**

CHEPSTOW HOUSE (GRADE II) (MAP REF: 41)

5.253 Chepstow House was listed at Grade II in 1974 (list entry number: 1283067).

5.254 Chepstow House was built in 1874 as a shipping warehouse by Speakman, Son & Hickson and is a red-brick, sandstone-dressed industrial building occupying an irregular island site between Chepstow Street, Great Bridgewater Street and the former Salford Junction Canal. Eclectic in style, it features a long, articulated façade with a semi-octagonal angle oriel and domed turret, large arched loading doorways with cast-iron surrounds, prominent triple-light and lancet windows.

HISTORIC VALUE

5.255 The warehouse holds historic value as a purpose-built Victorian shipping and textile warehouse constructed in 1874 for prominent textile merchant Sam Mendel, reflecting Manchester's role as a global centre of textile trading and distribution during the late 19th century.

ARCHITECTURAL VALUE

5.256 The warehouse has architectural value as a highly distinctive Victorian commercial building, combining red brick, sandstone dressings and an eclectic mix of Romanesque-influenced features. Its steeply pitched roofline, rich variety of gabled dormers, and carefully modelled façades demonstrate the ambitious design quality applied to Manchester's industrial buildings during the textile boom, making it a notable component of the city's historic warehouse architecture.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.257 Its position on an island site beside the former Salford Junction Canal illustrates the close integration of Victorian warehousing with Manchester's historic transport infrastructure. This prominent, standalone plot allows the building to be appreciated in the round, giving it a strong visual presence and making it a distinctive landscape feature within the surrounding streetscape.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.258 Due to intervening development resulting in lack of intervisibility between the Site and the listed structures, the Site does not make any contribution to the heritage receptors by virtue of setting.

5.259 Heritage value: **High**

FORMER MARKET HALL (GRADE II) (MAP REF: 42)

5.260 The Former Market Hall was listed at Grade II in 1974 (list entry number: 1197915).

5.261 The Higher Campfield Market Hall was constructed in 1878 to the designs of Mangnall and Littlewood. It is a cast-iron and timber market hall with a corrugated and glazed roof, planned as a square with intersecting naves creating a cruciform form. Its symmetrical five-bay façade features cast-iron columns with crocket capitals, large-paned glazing, and a prominent central gabled bay with a tall arched entrance and ventilated ridge. Inside, the hall retains its characteristic cast-iron and glass arched roof.

HISTORIC VALUE

5.262 The building has historic value as a major component of Manchester's Victorian market infrastructure, illustrating the city's rapid growth as an industrial and commercial centre. It represents the expansion and growing importance of public trading facilities.

ARCHITECTURAL VALUE

5.263 Its survival provides valuable evidence of Victorian iron-and-glass construction and the evolution of market architecture in Manchester, contributing to its architectural value.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.264 The building's setting contributes to its value by preserving its historic relationship with the surrounding Victorian commercial district and with the adjacent Lower Campfield Market Hall, which shares its date, architectural style and civic function. This grouping allows the hall to be understood as part of a coherent 19th-century market complex, reflecting Manchester's expansion as a major trading centre. Its position along Liverpool Road and near other historic industrial buildings reinforces its original purpose and enhances appreciation of its iron-and-glass architecture within an urban context.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.265 Due to intervening development resulting in lack of intervisibility between the Site and the listed buildings, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.266 Heritage value: **High**

29-41, LIVERPOOL ROAD (GRADE II) (MAP REF: 45)

5.267 29–41 Liverpool Road were listed at Grade II in 1995 (list entry number: 1219402).

5.268 29–41 Liverpool Road form a row of seven garret workshop houses, built c.1820–30 and now in commercial use. They are constructed of red brick (Nos. 29–35 painted white) with slate roofs. Each three-storey, single-fronted house has a double-depth plan, with altered ground floors, segmental-headed first-floor windows (some sashed), and mostly horizontal rectangular second-floor windows. Remnants of wooden modillioned eaves, ridge chimneys, and multi-light garret windows survive at the rear.

HISTORIC VALUE

5.269 The buildings are an interesting survival of late-Georgia industrial housing in Manchester, where housing from this period was largely lost to Victorian redevelopment of the city. They represent a typology that combined residential and workspaces provided for artisan and small-scale industrial workers. This is reflective of the period where urban housing often incorporated workshops, highlighting Manchester's role in the early Industrial Revolution.

ARCHITECTURAL VALUE

5.270 The buildings are characterised by their simple, functional late-Georgian design, with a form that clearly reflects their dual residential and industrial use. The large multi-light windows at the top maximise natural light into the upper-floor workshops, emphasising their industrial function and providing clear legibility of their original purpose as combined homes and workspaces.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.271 The terraces are located along Liverpool Road, where clear views of their façades are readily appreciated. While much of the wider setting has been altered by modern redevelopment, the survival of nearby historic buildings, such as the Former Market Hall (Grade II), enhances the heritage value of Nos. 29–41 by providing important historic context and reinforcing their original urban and industrial environment.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.272 Due to intervening development resulting in lack of intervisibility between the Site and the listed buildings, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.273 Heritage value: **High**

CASTLEFIELD RAILWAY VIADUCT FROM G-MEX TO DAWSON STREET (GRADE II) (MAP REF: 47)

5.274 The Castlefield Railway Viaduct from G-Mex to Dawson Street was listed at Grade II in 1988 (list entry number: 1292315). The list entry was amended in 1994.

5.275 The viaduct, dating from around 1880, is constructed of cast and wrought iron with red brick sections east of Duke Street. It runs southwest from the former Central Station, splitting over Castlefield before rejoining west of the River Medlock. Key features include cast iron drum piers with square castellated towers supporting a metal lattice parapet, Gothic-style castellated brick piers with stone dressings over the Medlock and roads, and a segmental-arched brick section east of Duke Street. The western end includes a blue brick bridge over Dawson Street.

HISTORIC VALUE

5.276 The Castlefield Railway Viaduct is an important part of Manchester's late-19th century railway infrastructure, representing this phase of the city's rapid expansion during the industrial era. It demonstrates the importance of Castlefield as a major transport hub, much of which survives today and forms the Castlefield Conservation Area.

ARCHITECTURAL VALUE

5.277 The viaduct is notable for its combination of functional engineering and decorative Gothic detailing, such as cast iron drum piers with castellated towers, metal lattice parapets and stone dressings.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.278 The viaduct is a key feature of the Castlefield skyline, forming an important backdrop in views within the conservation area. These views enhance its heritage value by illustrating its place within the network of 19th-century transport and industrial architecture, helping to convey how such infrastructure supported Manchester's trade and industrial growth.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.279 The Site forms part of the wider setting of the viaduct and the two share intervisibility across Whitworth Street. The undeveloped and open character of the Site is at odds with the wider dense urban and built setting of the viaduct. In its current form, the Site does not contribute to the heritage value of the receptor.

5.280 Heritage Value: **High**

THE RITZ DANCE HALL (GRADE II) (MAP REF: 49)

5.281 The Ritz Dance Hall was listed at Grade II in 1994 (list entry number: 1254888).

5.282 The Ritz hosted many well-known dance bands of the 1930s and 1940s. In the 1970s and 1980s the Ritz was a popular music venue before the opening of the The Hacienda nightclub and music venue on Whitworth Street in 1982. It has hosted notable bands such as the Beatles. The venue was given a £2 million refurbishment in 2011 and in 2015 is was re-branded as O2 Ritz Manchester.

5.283 The Ritz Dance Hall was constructed in 1927 of brick with a white glazed terracotta façade, designed in a free 20th-century classical style. It is two storeys with a symmetrical 1:7:1-bay façade, featuring rusticated ground floor, pilastered upper floor, cornice, and stepped parapet. Original interior features include a balcony with Tuscan columns, pilastered walls, and a revolving stage (now altered).

HISTORIC VALUE

5.284 The Ritz Dance Hall derives historic value as a key venue of popular culture in Manchester throughout the 20th and 21st centuries. It's continued use as a dance and music venue contributes to its value and allows it to continue to form an active part of Manchester's cultural life. The ongoing use also helps to ensure the survival and legibility of key architectural features, particularly the auditorium, balcony and stage.

ARCHITECTURAL VALUE

5.285 The building is a rare and well preserved example of a 20th century classical style dance hall, notable for its white glazed terracotta façade, symmetrical bay composition, rusticated ground floor, pilastered upper floor and stepped parapet. Due to its continued use as a music venue, the interior retains a number of original features, including a balcony of Tuscan columns, and a revolving stage, features that illustrate the stylistic and functional approach to popular entertainment architecture in the interwar period.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.286 The Ritz occupies a prominent position on the north side of Whitworth Street, to which it is clearly oriented. Its white glazed terracotta façade, symmetrical composition and restrained classical detailing are best appreciated in views from Whitworth Street to the south, looking north towards the building. Although much of the surrounding historic townscape has been replaced by modern development and therefore offers limited historic context, the Ritz's central location within the city centre strongly reinforces its long-established role as a major urban entertainment venue.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.287 Due to intervening development resulting in lack of intervisibility between the Site and the listed building, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.288 Heritage Value: **High**

CANADA HOUSE (GRADE II) (MAP REF: 53)

5.289 Canada House was listed at Grade II in 1988 (list entry number: 1208597).

5.290 Canada House was constructed as a packing warehouse in 1909 to the designs of W and G Higginbottom. It is an Art Nouveau style and is a cast-iron-framed building with steel truss roof and buff glazed-terracotta cladding. Its five-storey façades feature slender octagonal pinnacled piers, giant segmental-arched window bays, canted oriels, and ornate cornices, with a richly detailed neo-Baroque main entrance. The rear retains the exposed iron frame with glazed panels and loading bay.

HISTORIC VALUE

5.291 The building derives historic value as a 1909 textile packing warehouse built for major Manchester firm J. S. Booth & Co., reflecting the city's role as a global centre of textile export in the early 20th century.

ARCHITECTURAL VALUE

5.292 Canada House derives architectural value from its high-quality Art Nouveau style and surviving features which reflect early-20th century advances in warehouse engineering, such as its cast-iron structural frame, steel truss roof.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.293 It forms part of a wider cluster of warehouses developed as the city expanded south from the Rochdale Canal, illustrating a key phase in Manchester's industrial and commercial growth. Key views of its principal western elevation that best appreciate its Art Nouveau style are from Chepstow Street.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.294 Due to the tunnel's position underground, there is no shared intervisibility between it and the Site. Therefore, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.295 Heritage Value: **High**

MUSEUM OF SCIENCE AND INDUSTRY, AIR AND SPACE MUSEUM (GRADE II) (MAP REF: 55)

5.296 The Museum of Science and Industry, Air and Space Museum was listed at Grade II in 1974 (list entry number: 1200807). The list entry was amended in 1994.

5.297 Formerly known as The Lower Campfield Market Hall, the museum was constructed in 1876 to the designs of Mangnall and Littlewood. It is a large cast-iron and timber market hall arranged as a rectangular nave with north and south aisles, flanked by transepts at the centre and both ends. Its two-storey elevations feature gabled centres and ends, cast-iron columns with crocket capitals, decorative railings, and extensive glazed upper bays, with the central gable dominated by a tall segmental-arched entrance rising into the clerestory.

HISTORIC VALUE

5.298 The Lower Campfield Market Hall has historic value as an 1876 Victorian market building that reflects Manchester's rapid commercial expansion and the evolution of purpose-built municipal market infrastructure in the late 19th century.

ARCHITECTURAL VALUE

5.299 The Lower Campfield Market Hall has architectural value as a high-quality Victorian iron-and-glass market structure of 1876, distinguished by features such as its cast-iron columns with crocket capitals, large areas of glazing, scalloped eaves, ventilated ridge roofs, and a notable central gabled bay with a tall segmental-arched entrance.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.300 The building forms a group with the former Higher Campfield market Hall to the east, which was designed by the same architects in a similar style. The two are legible as a coherent Victorian market complex and its position along Liverpool Road reinforces its original function as a major municipal trading hall.



Figure 5.18 Museum of Science and Industry, Air and Space Museum

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.301 Due to the tunnel's position underground, there is no shared intervisibility between it and the Site. Therefore, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.302 Heritage Value: **High**

MANCHESTER & SALFORD JUNCTION CANAL TUNNEL (GRADE II) (MAP REF: 56)

5.303 The Manchester and Salford Junction Canal Tunnel was listed in 2012 (list entry number: 1405199).

5.304 Constructed in 1839 to designs by engineer John Gilbert Jr, the tunnel linked the Rochdale Canal with the River Irwell beneath Manchester. Its commercial use declined from the mid-19th century due to canal and railway competition, and it was abandoned for navigation in 1936.

5.305 During the Second World War, the tunnel was converted into an air-raid shelter, divided into 16 bays by reinforced brick blast walls with five entrances. It was used during the Manchester Blitz of 1940.

5.306 The tunnel runs east–west beneath the city for approximately 0.27 miles and measures around 18 feet in width and height. It is constructed of brick with areas of red sandstone at lower levels, and includes a narrow towpath with sandstone copings; it is not visible at ground level and former entrances have been blocked or altered.

5.307 Internally, wartime adaptations include raised concrete floors and blast walls, with later additions such as stairwells, access passages, toilet blocks, warden's posts, first-aid rooms, and a widened former wharf with surviving iron fittings.

HISTORIC VALUE

5.308 The tunnel derives much of its historic interest as representing an important period in Manchester's history; the Manchester Blitz of 1940, and in illustrating the threat posed throughout the war not only to the city, but the nation's civilians as a result of aerial bombing.

ARCHITECTURAL VALUE

5.309 The tunnel is primarily listed for the intactness of its interior survival, providing clear evidence of its wartime use as an air-raid shelter, including adaptations such as the reinforcements of the structure, painted signage, lights, a gas-proof screen and a series of underground buildings and structures comprising first-air posts, chemical toilet blocks and ARP warden's posts/lookouts.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.310 As the tunnel is largely an underground structure, lying underneath Manchester's historic and industrial core, it shares no visual relationship to its surroundings. However, its concealed position reinforces its significance as an air-raid shelter, and demonstrates its effectiveness as a shelter during the Manchester Blitz.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.311 Due to the tunnel's position underground, there is no shared intervisibility between it and the Site. Therefore, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.312 Heritage Value: **High**

MANCHESTER OXFORD ROAD STATION (INCLUDING PLATFORM STRUCTURES) (GRADE II) (MAP REF: 62)

5.313 Manchester Oxford Road Station was listed at Grade II in 1995 (list entry number: 1255053).

5.314 The building was constructed in 1958-60 to the designs of Max Clendinning of British Railways' Midland Region in conjunction with the engineer, Hugh Tottenham of the Timber Development Association. The new station replaced an earlier station of 1874.

5.315 The station is a single-storey laminated-timber structure defined by three conoid shell roofs of diminishing size, supported on cruck-like frames. The main building sits between the tracks, with a glazed east elevation and timber and concrete internal facilities including the booking office and buffet.

5.316 Curved timber canopies extend over the platforms and island platforms, echoing the shell roofs in form and structure, with lozenge-shaped skylights and deep fascias. Original features include timber ceilings, integrated seating in the concourse and platforms, and an enclosed footbridge providing access to the platforms.

HISTORIC VALUE

5.317 The station is an important example of post-war development in Britain, reflecting the period of rebuilding in the late 1950s and early 1960s.

5.318 The station also embodies the collaboration between British Railways and the Timber Development Association, highlighting the role of pioneering engineering and architectural approaches in the post-war era.

ARCHITECTURAL VALUE

5.319 The station is a highly significant post-war railway building, distinguished by its elegant laminated timber design and rare timber-shell roof construction. Rebuilt using prefabricated materials, its dramatic conoid roofs exemplify exceptional innovation and design quality by Max Clendinning, in collaboration with Hugh Tottenham.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.320 The station is situated between the tracks it serves, which emphasises its functional role and relationship to rail transport. Its elevated platform canopies and prominent roof forms are visible from the surrounding tracks, enhancing appreciation of the station's distinctive conoid shells. Key views are also from the area to the front of the railway station. The immediate setting is largely defined by rail infrastructure, so it reinforces the building's purpose and legibility as a post-war railway station, though it offers limited historic townscape context beyond the railway environment due to modern redevelopment of the area.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.321 Due to intervening development resulting in lack of intervisibility between the Site and the listed building, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.322 Heritage Value: **High**

NOS 25 TO 31 AND ATTACHED FORMER CHAPEL (GRADE II) (MAP REF: 63)

5.323 Nos 25 to 31 and attached former Chapel were listed at Grade II in 1952 (list entry number: 1208243).

5.324 Nos 25 to 31 are a terraced row of four town houses constructed in the late-18th century and now used as offices.

5.325 The terrace is three-storeys, built in red brick with sandstone dressings and slate roofs, arranged in Flemish bond and set over cellars. The façades are characterised by Gothic detailing, including moulded cornices, prominent chimney stacks, arched doorways with pinnacles and finials, and sash windows, some retaining glazing bars and tracery fanlights. The rear of no. 31 incorporates an attached early 19th-century chapel, now largely blocked up.

HISTORIC VALUE

5.326 The terraces derive historic value from their age, as they represent Georgian residential architecture in the city for the middle-classes. Much of the Georgian architecture of Manchester was lost to Victorian and 20th century redevelopment, and therefore the rarity of these buildings contributes to their value.

ARCHITECTURAL VALUE

5.327 The terraces form a well-preserved Georgian terrace distinguished by their Gothic detailing. The door cases display pointed-arched doorways with clustered shafts, pinnacles, finials, and traceried fanlights are particularly notable and reflect early use of the Gothic style in domestic architecture.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.328 Surviving elements of the late-18th- and 19th-century residential streetscape within the setting of Nos 25–31, including the terraced buildings along St John Street and the nearby St John's Gardens, make a positive contribution by clearly expressing the area's historic character and development. Taller buildings are visible beyond these low-scale residential streets and provide a contrast that reflects the broader pattern of Manchester's modern urban expansion.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.329 Due to intervening development resulting in lack of intervisibility between the Site and the listed buildings, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.330 Heritage Value: **High**

FORMER ST MATTHEWS SUNDAY SCHOOL (GRADE II) (MAP REF: 64)

5.331 The Former St Matthews Sunday School was listed at Grade II in 1974 (list entry number: 1200806). The list entry was amended in 1994.

5.332 The building was constructed in 1827 as a mission church and Sunday school. It is built in red brick in Flemish bond with sandstone dressings. Designed in a simple Gothic style, it has a rectangular plan with an apsidal south end and a symmetrical gabled street frontage featuring a central arched doorway and prominent inscribed stone plaques. It displays pointed-arched windows with tracery, pilastered corners, and a former oculus in the gable.

HISTORIC VALUE

5.333 The former mission church and Sunday school derives historic value as an early-19th century religious and education building, reflecting the growth of evangelical and philanthropic activity in the expanding urban areas of Manchester.



Figure 5.19 Former St Mattews Sunday School

ARCHITECTURAL VALUE

5.334 The building has a well-composed Gothic design, expressed through pointed-arched openings, tracery and a symmetrical gabled street frontage.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.335 The building occupies an island site and is therefore visually detached from the surrounding streetscape, which enhances its landmark quality and gives it a strong sense of prominence within its setting. Key views that best appreciate its principal frontages are along Lower Byrom Street, oriented south.

5.336 Within the wider setting, surviving elements of 19th-century townscape, including the Power Hall of Museum of Science and Industry and the Museum of Science and Industry, Air and Space Museum (both Grade II listed), form positive features. Together, these buildings reinforce the historic and industrial character of the area and contribute to an understanding of the listed building within Manchester's broader industrial and educational heritage.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.337 Due to intervening development resulting in lack of intervisibility between the Site and the listed building, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.338 Heritage Value: **High**

CHORLTON OLD MILL (GRADE II) (MAP REF: 65)

5.339 Chorlton Old Mill was listed at Grade II in 1988 (list entry number: 1197775). The list description was amended in 1994.

5.340 The Chorlton Old Mill was constructed as a cotton spinning mill. It was converted to accommodation in 1993, and has origins dating to 1795, when it was developed by Robert Owen at the Chorlton Twist Company. Following this, major phases of alterations and extensions followed around 1810 and a substantial rebuild in 1866. The surviving six-storey brick range, originally part of a U-plan mill, retains characteristic flat-arched windows, panelled corner pilasters, and a fireproof interior of cast-iron columns and beams, along with an unusual set of cast-iron arch-braced roof trusses likely dating from the 1860s.

HISTORIC VALUE

5.341 Chorlton Old Mill has high historic value as one of Manchester's earliest surviving cotton spinning sites. The building's association with Robert Owen, an influential social and industrial reformer in the 19th century adds to its value.

ARCHITECTURAL VALUE

5.342 The mill represents a rare surviving example of early textile-mill development incorporating reused 19th-century structural ironwork. The various phases of construction reflect important advances in mill engineering techniques throughout the 19th century.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.343 Chorlton Old Mill forms a group with Chorlton New Mill, which together illustrate the evolution of the Chorlton Twist Company and Manchester's early textile mill complexes. The mill also abuts a listed mill to the south, and together when seen together in views along Cambridge Street they create a striking and coherent historic frontage that strongly conveys the area's industrial character.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.344 Due to separating distance and lack of intervisibility between the Site and the listed structure, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.345 Heritage Value: **High**



Figure 5.20 Chorlton Old Mill

ROCHDALE CANAL LOCK NO. 92 AND CASTLE STREET BRIDGE (GRADE II) (MAP REF: 68)

5.346 The Rochdale Canal Lock No. 92 and Castle Street Bridge were listed in 1988 (list entry number: 1270858). The list entry was amended in 1994.

5.347 The canal bridge, dating from around 1804 and later altered, is built of coursed squared millstone grit and features a single segmental arch with rusticated stonework, curved parapets, and a ramp projecting from the north-west corner. On its east side is a 14-foot-wide lock with wooden gates at both ends and an overflow tunnel leading to a circular brick-lined shaft near Castle Street.

HISTORIC VALUE

5.348 The lock is the final one in a sequence of nine locks linking the former Rochdale Canal basin at Dale Street to the Bridgewater Canal basin at Castlefield, demonstrating the strategic importance of Manchester's waterways in facilitating trade, industry and the growth of the city. It's continued operation further contributes to its value as transport infrastructure in the centre of the city.

ARCHITECTURAL VALUE

5.349 The lock is a well preserved example of canal engineering, built in coursed squared sandstone with traditional wooden gates. Its robust deign reflects its functional use and its survival is an important remnant of Manchester transport network in the early 19th century.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.350 The canal lock derives value as part of a coherent group with the nearby Castle Street Bridge and the adjoining sequence of locks and canal-side structures. This well preserved group reinforces an understanding of how the waterway operated as an integrated industrial system. The canal itself and the surrounding environment allows for an appreciation of the lock in situ and belonging to a wider network of structures.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.351 Due to separating distance and lack of intervisibility between the Site and the listed structure, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.352 Heritage Value: **High**

MERCHANTS WAREHOUSE (GRADE II) (MAP REF: 71)

5.353 The Merchants Warehouse was listed at Grade II in 1988 (list entry number: 1197778).

5.354 The former canal warehouse at the Bridgewater Canal terminus, constructed in 1823, is a large brown-brick building with sandstone dressings and a damaged slate roof, later altered and fire-damaged in the 1980s. It occupies the west end of the north quay and is distinguished by its canal-facing façade with arched shipping holes, former loading slots, hoist canopies, and regularly spaced windows. Following a long period of dereliction throughout the 20th century, the building was restored in the late-1990s, by Ian Simpson Architects and is now used as offices.

HISTORIC VALUE

5.355 The building remains a distinctive feature of the Bridgewater Canal terminus and is of considerable historic interest. Its early 19th-century construction makes it one of the oldest surviving canal warehouses in the Castlefield Basin, representing a rare and important example of early 19th century canal-based industrial architecture.

ARCHITECTURAL VALUE

5.356 Although derelict for much of the 20th century, the building retains significant historic fabric that clearly expresses its original warehouse function. Its sensitive restoration in the 1990s conserved key historic features while adapting the structure for modern use, enhancing its architectural significance and legibility as an early 19th-century industrial building.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.357 The building's position within the Bridgewater Canal terminus and Castlefield Basin allows the warehouse to be understood in its original operational context, with direct visual and physical relationships to the canal, quaysides, locks, and associated industrial structures. This historic setting enhances the building's legibility as a canal-side warehouse and strengthens its evidential value as part of a coherent industrial landscape shaped by early 19th-century transport and trade.



Figure 5.21 Merchant's Warehouse

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.358 Due to separating distance and lack of intervisibility between the Site and the listed building, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.359 Heritage Value: **High**

MILL ON NORTH EAST CORNER OF JUNCTION WITH CHESTER STREET (GRADE II) (MAP REF: 73)

5.360 The Mill on the North East Corner of Junction with Chester Street was listed at Grade II in 1988 (list entry number: 1197776).

5.361 The mill is an early-19th-century cotton spinning mill, now converted, is a five-storey brown-brick industrial building with basement and attic, built in Flemish bond with some sandstone dressings and a parapet-concealed roof. Its long Cambridge Street elevation features segmental-headed windows and a square stair-turret, while the gabled Chester Street end has a central doorway and similar fenestration.

HISTORIC VALUE

5.362 The mill derives historic value from its former use as a cotton spinning mill, representing's Manchester's historic role in the global textile industry. It is a good example of a purpose-built spinning mill from this formative period in the city's history.

ARCHITECTURAL VALUE

5.363 The building's robust masonry construction and simple classical proportions reflect the functional planning of early steam-powered mills.

CONTRIBUTION OF SETTING TO HERITAGE VALUE

5.364 The building forms a complementary pair with Chorlton Old Mill, which it directly abuts to the north. Together, the two structures represent well-preserved examples of early-19th-century warehouse typologies in Manchester, and in views along Cambridge Street they create a striking and coherent historic frontage that strongly conveys the area's industrial character.

CONTRIBUTION OF SITE TO HERITAGE VALUE

5.365 Due to separating distance and lack of intervisibility between the Site and the listed building, the Site does not make any contribution to the heritage receptor by virtue of setting.

5.366 Heritage Value: **High**

SECTION SUMMARY

5.367 **Table 5.1** below presents a summary of the built heritage baseline.

MAP REF.	NAME	GRADE (IF APPLICABLE)	HERITAGE VALUE	FULL ASSESSMENT REQUIRED?
Designated Heritage Receptors				
Conservation Areas				
A	Castlefield Conservation Area	N/A	High	Yes
D	St Peter's Square	N/A	High	Yes
E	George Street Conservation Area	N/A	High	Yes
G	Albert Square	N/A	High	Yes
H	Upper King Street	N/A	High	Yes
Listed Buildings				
1	Town Hall	Grade I	Very High	Yes
2	Albert Memorial	Grade I	Very High	Yes
4	Old Warehouse to North of former Liverpool Road Railway Station	Grade I	Very High	Yes
5	Manchester Art Gallery	Grade I	Very High	Yes
6	Former Liverpool Road Railway Station, Station Masters House	Grade I	Very High	Yes
7	G Mex	Grade II*	High	Yes
8	Deansgate Goods Station and attached Carriage Ramp	Grade II*	High	Yes
10	Midland Hotel	Grade II*	High	Yes
12	Central Public Library	Grade II*	High	Yes
17	Town Hall Extension	Grade II*	High	Yes
18	Manchester War Memorial	Grade II*	High	Yes
20	The Athenaeum	Grade II*	High	Yes
25	Church of St George	Grade II*	High	Yes
27	Rochdale Canal Lock No. 90, Approx. 30 metres West of Albion Bridge	Grade II	High	Yes
28	13–17, Albion Street	Grade II	High	Yes
29	Manchester South Junction and Altrincham Railway Viaduct	Grade II	High	Yes
30	The Britons Protection Public House	Grade II	High	Yes
31	Rochdale Canal Lock Keepers Cottage at Lock No. 91, Next to Gaythorn Tunnel	Grade II	High	Yes
31	Rochdale Canal Lock No. 91 at East End of Gaythorn Tunnel	Grade II	High	Yes
32	Deansgate Station	Grade II	High	Yes
33	Rochdale Canal Lock No. 89 (Tib Lock), on South Side of Havelock Mills	Grade II	High	Yes
34	Boundary Stone on Knott Mill Bridge	Grade II	High	Yes
34	Floodgate on East Side of Knott Mill Bridge	Grade II	High	Yes
35	Former Congregational Chapel	Grade II	High	Yes
36	Electricity Junction Box in Castlefield Canal Basin, Manchester	Grade II	High	Yes
38	Castlefield Information Centre	Grade II	High	Yes
40	Electricity Junction Box in Castlefield Canal Basin, Manchester	Grade II	High	Yes
41	Chepstow House	Grade II	High	Yes
42	Former Market Hall	Grade II	High	Yes
44	Electricity Junction Box on Castle Street, Manchester	Grade II	High	Yes
45	29–41, Liverpool Road	Grade II	High	Yes
47	Castlefield Railway Viaduct from G-Mex to Dawson Street	Grade II	High	Yes
49	The Ritz Dance Hall	Grade II	High	Yes
53	Canada House	Grade II	High	Yes
55	Museum of Science and Industry, Air and Space Museum	Grade II	High	Yes
56	Manchester & Salford Junction Canal Tunnel	Grade II	High	No – whilst the heritage asset plan and ZTV identify potential intervisibility, the receptor is entirely underground and therefore would not share intervisibility with the Proposed Development; it has therefore been scoped out of further assessment.
62	Manchester Oxford Road Station (including Platform Structures)	Grade II	High	Yes
63	Nos 25 to 31 and attached former Chapel	Grade II	High	Yes
64	Former St Matthews Sunday School	Grade II	High	Yes
65	Chorlton Old Mill	Grade II	High	Yes
68	Rochdale Canal Lock No. 92 and Castle Street Bridge	Grade II	High	Yes
71	Merchants Warehouse	Grade II	High	Yes
73	Mill on North East Corner of Junction with Chester Street	Grade II	High	Yes

Table 5.2 Summary of Built Heritage Baseline

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6.0
BASELINE: TOWNSCAPE

LAND AT 10-12 WHITWORTH STREET WEST, MANCHESTER

BASELINE: TOWNSCAPE

6.1 This section provides analysis of the townscape study area and the identified character areas. It has been informed by the existing characterisation studies applicable to the Site, including the Strategic Level City-Wide Urban Characterisation for Core Strategy (no date).

STRATEGIC LEVEL CITY-WIDE URBAN CHARACTERISATION FOR CORE STRATEGY

6.2 A Strategic Level City-Wide Urban Characterisation Study has been undertaken to support Manchester's Core Strategy, with the purpose of identifying the broad character areas that define the City. The Strategic Characterisation identifies the Site as forming part of the city centre Strategic Character Area, which notes the following:

"city centre

Underlying Natural Form

The city centre stands on a gentle spur of land extending from the east within the area of gentle transition between the higher land to the north and lower, flatter land to the south and is bounded on three sides by the valleys of the Rivers Irwell, Medlock and Irk. The ground levels of the current day city centre also gently respond to the remaining impression left by lesser, and now culverted, water courses such as the River Tib and Shooters Brook that cross the area.

Urban Form

The urban form is one of contrasts. Despite an urban history dating from Roman times, the principal remaining influence of the pre-Victorian era on the city centre urban form is the street pattern in the historic core and routes that radiate from it and that respond organically to topography and other landscape features. While some built form remains of both Medieval and Georgian Manchester, the core area is principally a mix of development from the Victorian period onwards with some localities often displaying a predominance of a particular age and style of built form and others having a more eclectic mix. A series of colliding street grids – with origins in the Georgian period but mainly dating from the Victorian period – have informed both the original and subsequent built development and the legibility and permeability of the city centre. The scale of built form also varies, sometimes dramatically, but the core area is mainly one of higher, larger scale buildings. Other than open spaces relating to transport infrastructure, the core has a relatively modest amount of open space (when compared to built floorspace) principally in the form of larger, high quality civic spaces but also with some smaller, much greener and less formal public gardens. The Conservation Area status of much of the centre and the concentration of listed buildings reflects the urban history and quality of the urban environment. The urban form around the core reflects the economic, social and physical dynamic of the city's on-going evolution and transition from the core to the outer areas. It contains a mix of building ages, types and quality but with a predominance of often lower scale built form a greater sense of space and lower density arising from areas of cleared, previously developed land. Mancunian Way forms a more distinct boundary to the southern edge of the city centre than elsewhere along the remainder of the Inner Relief Route or along the River Irwell where the city centre character extends outwards.

Use, Activity and Movement

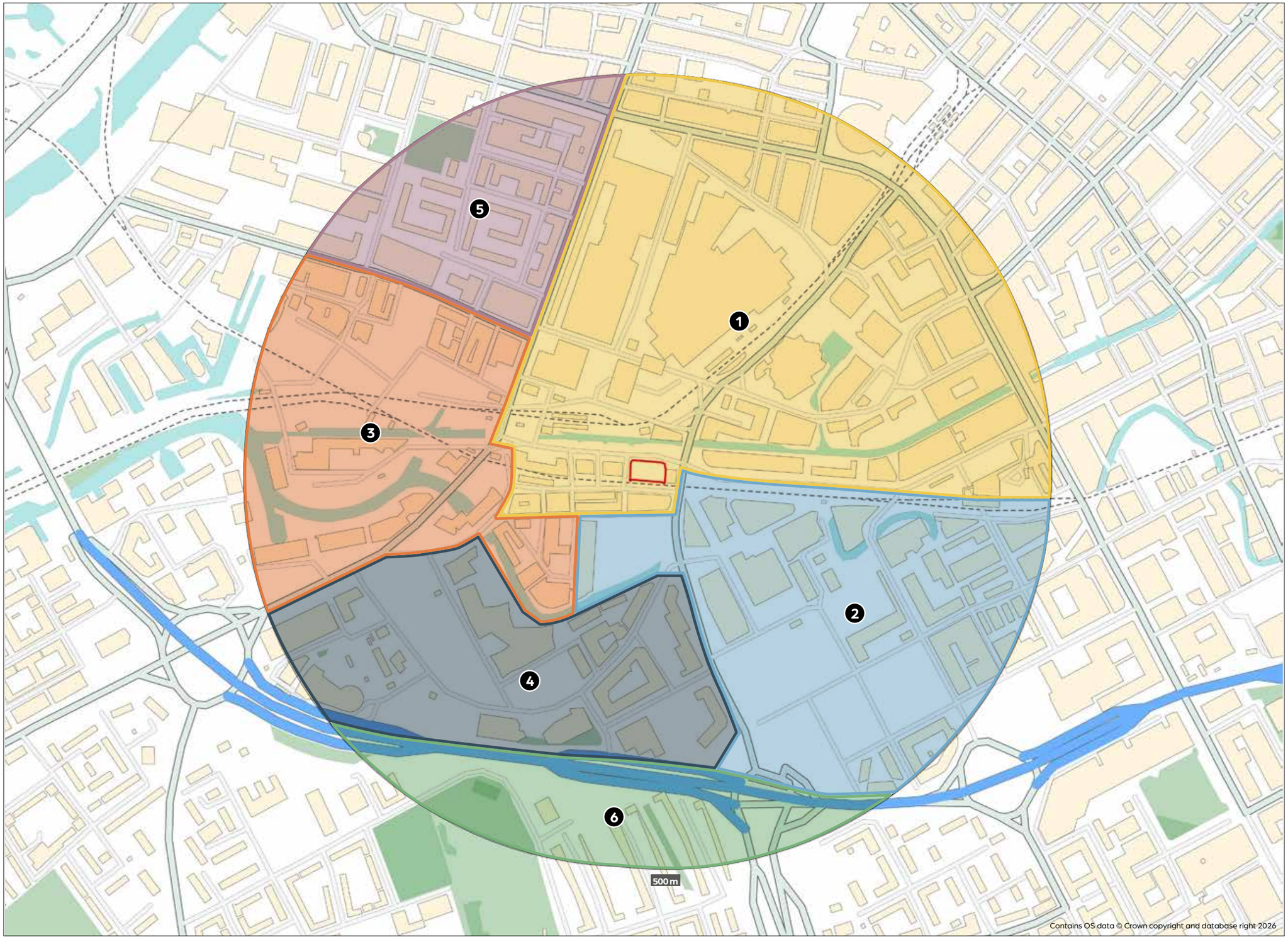
The diversity and intensity of use, including over extended periods of any 24 hour day, reflects the regional (as well as city) centre role of the area. The predominant use in any particular part of the city centre can vary in relatively short distances to give pockets with particular use and activity characteristics. However, the over-riding character of the core area is a dense mix of nonindustrial commercial uses, a predominance of regionally and locally significant uses and activities (including events) and a notable number of residential apartments. By comparison, outside the core, the intensity of activity falls and, within larger areas, uses are less mixed with fewer uses of particular regional significance but that can include uses not generally found in the core area including elements of industrial use. The non-core area includes significant areas of cleared land (often used for surface car parking) and a growing component of contemporary residential use as the core area pushes outwards. Activity in the city centre, in part, derives form the area as the focus of road, water and rail routes which often have historic origins that continue to both inform the development of the city centre and contribute to its distinctive appearance and character. Particular activity 'hot-spots' can occur where routes cross and opportunities to change travel mode are presented such as at railway stations, and tram and bus stops".

TOWNSCAPE CHARACTER AREAS

6.3 The townscape surrounding the Site may be categorised into six distinct areas. For the purposes of this assessment the character areas are referred to as:

- 6.3.1 Townscape Character Area 1: Petersfield
- 6.3.2 Townscape Character Area 2: First Street
- 6.3.3 Townscape Character Area 3: Castlefield
- 6.3.4 Townscape Character Area 4: Great Jackson Street
- 6.3.5 Townscape Character Area 5: St John's
- 6.3.6 Townscape Character Area 6: Hulme Park

6.4 The broad boundaries of the character areas are identified in **Figure 6.1**. The character and appearance of the character areas is discussed below.



TOWNSCAPE CHARACTER AREA PLAN

- Application Site
- 1 Petersfield
- 2 First Street
- 3 Castlefield
- 4 Great Jackson Street
- 5 St John's
- 6 Hulme Park

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LOCATION:
10–12 Whitworth Street West, Manchester

DATE:
April 2026

SCALE:
1:5,000 @ A3

FIGURE 6.1 Townscape Character Area Plan

▲ **NORTH**

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TOWNSCAPE CHARACTER AREA 1: PETERSFIELD

6.5 Character Area 1 is located to centre and northeast of the study area and characterised by the city centre neighbourhood of Petersfield.

6.6 The character area sits within the core of Manchester city-centre, characterised by a dense urban fabric combining historic and more modern buildings, transport infrastructure, canal/waterway corridors, and a mixture of civic, commercial and residential uses.

6.7 The area is well-served by transport infrastructure, providing both regional and local connectivity. National Rail services operate from Deansgate Station, offering key intercity and commuter links, while the Manchester Metrolink serves the area with a stop at Deansgate-Castlefield, providing tram connections across the city. Canals, including the Rochdale Canal, and their towpaths offer alternative circulation routes for pedestrians and cyclists, linking the city centre with wider areas.

6.8 To the north of the character area, the built form is closely related to the historic street pattern, buildings are typically tightly arranged along the street frontages, often occupying full plot footprints, with irregular shapes responding to historic street alignments. Materials are generally high-quality and durable, including stone, red-orange brick and terracotta with older façades often showing intricate sculptural detailing.

6.9 Moving south through the character area, the urban form changes with several large, coarse blocks such as Manchester Central (formerly GMEX), the Great Northern Railway Warehouse and The Bridgewater Hall. These building form notable buildings in the townscape and introduce variation in forms and footprints.

6.10 Situated to the north of the Great Northern Railway Warehouse, the public realm at Great Northern Square provides a relief in the built form and consists of a predominantly paved area that provides a generous, open pedestrian space. At its centre is a distinctive sunken zone, shaped as an amphitheatre, with stepped edges that create areas of informal seating. This terraced arrangement offers a place for gathering, resting, and viewing activity within the Square. The space is complemented by areas of green landscaping, including patches of lawn and a series of planters that introduce softer edges and seasonal planting.

6.11 Along Deansgate, a series of listed buildings contribute to the architectural quality of the street and are characterised by richly detailed façades in stone, brick and terracotta. These buildings reinforce a strong sense of continuity, displaying features such as arched openings, ornate cornices and pronounced vertical rhythms that define the character of the northern section of the street. Southward views are framed down Deansgate by these frontages towards the existing and emerging tall building cluster at Great Jackston Street.

6.12 In these views, the existing 47 storey Beetham Tower forms prominent visual anchor and terminating several key north to south vistas. Beyond this, views of Axis Tower and 325 – 327 Deansgate collectively introduce a distinctly contemporary architectural character, marked by extensive glazing, metal detailing, and the use of modern materials including glass curtain walls, metallic panels, and refined brick or terracotta elements. These buildings collectively reinforce the transition of this part of the townscape with more contemporary, high-density towers in the city centre.

6.13 The Site is located to the south of the study area, positioned between Whitworth Street West and the Castlefield railway corridor. It comprises a cleared plot enclosed by hoardings. In its current condition, the Site detracts from the character and appearance of the surrounding area.

6.14 As noted in **Section 3.0** the Site benefits from a previously secured planning permission (Planning Reference: 115544/NMC/2017) for a 35-storey residential building. While the permission has since lapsed, it established the principle of a tall building on the Site and demonstrated the acceptability of height and scale in this location.

6.15 The character area incorporates a number of listed buildings which reflect the transportation and infrastructure heritage of this part of Manchester, including the Grade II* G-Mex and Former Deansgate Goods Station, along with the Grade II Deansgate Station, the Manchester South Junction and Altrincham Railway Viaduct, Rochdale Canal Lock No. 90, and Rochdale Canal Lock No. 89. To the north of the character area, the townscape includes the Deansgate and Peter Street Conservation Area and the adjacent St Peter's Square Conservation Area. These areas contain the Grade II* Trade Hall and the Midland Hotel, together with a cluster of Grade II listed buildings along Great Bridgewater Street. The heritage receptors reflect the historic evolution of the area, illustrating its role as a significant transport hub and its wider contribution to the architectural, civic, and industrial development of Manchester.

6.16 Associated viewpoint: AVR View 1, 2, 3, 4, 7, 10 and 11.

6.17 Townscape value: **High**

TOWNSCAPE CHARACTER AREA 2: FIRST STREET

6.18 Character Area 2 is located to the south east of the study area and is made up of development surrounding First Street.

6.19 Historically, the area formed part of Manchester's inner industrial belt, characterised by brick and stone mill buildings arranged on a tight street grid. Several of these heritage receptors remain, particularly around Chester Street, Hulme Street and the River Tib corridor. These surviving mills, typically three to six storeys retain characteristic features such as red-brick elevations, arched window openings and vertical massing that contribute strongly to the area's historic grain.

6.20 In recent decades, the character area has undergone extensive redevelopment. Former industrial plots have been replaced with large-footprint mixed-use schemes and new residential developments ranging from mid-rise blocks to high-rise towers. More recently, the area has experienced further transformation through the introduction of the Square Gardens development. This scheme comprises multiple large-scale and high-rise buildings, most notably a 45-storey residential tower. In addition to providing residential accommodation, the development incorporates a diverse mix of commercial, leisure, and retail use.

6.21 This emerging skyline within the character area displays a pronounced verticality, particularly towards the edges near the Castlefield railway corridor. Contemporary buildings typically employ glass, metal cladding and lightweight materials, creating a sleek modern appearance that contrasts with the heavier brick-built heritage structures. Public realm improvements, new landscaping and widened pedestrian routes have also begun to reshape the urban experience, improving permeability and softening the previously hard-edged industrial environment.

6.22 Associated viewpoint: AVR View 6.

6.23 Townscape value: **Medium**

TOWNSCAPE CHARACTER AREA 3: CASTLEFIELD

6.24 Character Area 3 is located to the west of the study area and is characterised by the city centre neighbourhood of Castlefield.

6.25 Castlefield represents a historically significant area, widely acknowledged as the birthplace of industrial Manchester, and includes part of the site of the Roman fort of Mamucium. Its townscape has been shaped by successive layers of development, with the built form varying in scale, age, and architectural styles.

6.26 Much of the older fabric comprises Georgian and Victorian warehouses and canal-side wharf buildings, associated with the Bridgewater and Rochdale canal network. These are buildings are built from typically two to four storeys and constructed in red brick with simple, functional detailing that reflects their historic industrial purpose. These sit alongside more recent residential developments, including modern apartment blocks generally rising to five or six storeys, which introduce contemporary materials and architectural expressions into the area.

6.27 The Castlefield area is defined by a distinctive townscape shaped by the presence of intersecting transport corridors, most notably the elevated railway viaducts and the Bridgewater and Rochdale canal network. These multiple layers of infrastructure carve through the area and form some of its most recognisable features, reinforcing a strong inner-city character influenced by industrial heritage. The red-brick and adjacent cast iron and wrought iron viaducts create a elevated movement corridors and a sense of enclosure in places, while the canals introduce open water, towpaths, and a historic waterfront setting.

6.28 The character area also incorporates a number of open spaces, including hardstanding areas used as car parks, public forecourts, and informal gathering spaces, which open up views across the canals and towards the viaducts. In addition, parts of the Mamucium Roman Fort Wall remain visible within the area forming part of the Castlefield Urban Heritage Park and provide an important archaeological and historic focal point that add interest to the townscape.

6.29 Despite considerable change over the past century, elements of the historic fabric remain discernible and continue to contribute positively to the local character. Much of the character area lies within the Castlefield Conservation Area and contains multiple listed buildings, including the Grade II Castlefield Railway Viaduct, Merchants Warehouse, Middle Warehouse at the former Castlefield Goods Yard, and the former Congregational Chapel. These buildings reflect the area's industrial heritage and make a visual contribution to the character and appearance of the townscape.

6.30 Associated viewpoint: AVR Views 7 and 9.

6.31 Townscape value: **High**

TOWNSCAPE CHARACTER AREA 4: GREAT JACKSON STREET

6.32 Character Area 4 is located the south of the study area and is characterised by development surrounding Great Jackson Street.

6.33 Historically part of Hulme, the character area was originally laid out in a gridiron pattern of terraced streets. The 1945 City of Manchester Plan proposed substantial redevelopment, predominantly with low-rise housing. The construction of the Mancunian Way in 1965 subsequently severed the site from the wider Hulme area, cutting off key routes such as Great Jackson Street. Since the , Great Jackson Street has undergone a major transformation under a regeneration framework aiming to create a high-density, mixed-use city-centre neighbourhood. Former industrial plots and underused land have been replaced with modern residential towers, public realm improvements, and new amenities such as schools, health facilities, retail, and leisure spaces.

6.34 The skyline is now defined by a cluster of tall residential towers. Key buildings include the Deansgate Square towers; South Tower (64 storeys), East Tower (50 storeys), West Tower (44 storeys), and North Tower (37 storeys), alongside Elizabeth Tower, The Blade, Three6o, and planned towers such as Contour and Great Jackson Street Plot D (up to 71 storeys).

6.35 Associated viewpoint: N/A

6.36 Townscape value: **Medium**

TOWNSCAPE CHARACTER AREA 5: ST JOHN'S

6.37 Character Area 5 is located the north west of study area and is characterised by the city centre neighbourhood of St John's.

6.38 The area between Liverpool Road, Quay Street and Deansgate is characterised by a layered townscape, moving from predominantly 18th century development to later 19th and 20th century built forms.

6.39 Its street network is compact and walkable, framed by a mix of narrow Georgian terraces, later Victorian and early 20thcentury commercial buildings, and isolated modern interventions. The character area is bound by two key linear routes, Liverpool Road to the south and Quay Street to the north, which historically connected the district to industrial sites, warehouses, and the former river quays along the Irwell. Between them lies a quieter enclave centred on St John Street and the green space of St John's Gardens.

6.40 St John Street itself is one of Manchester's most intact Georgian streets, composed of three-storey brick terraced townhouses built between the late 18th and early 19th centuries. The architectural character is defined by vertical proportions, timber sash windows, painted stone door surrounds, and a coherent roofline, giving the street a refined and domestic scale rare within the modern city centre. Although some properties have been adapted for professional uses, such as medical and legal practices, the building exteriors remain largely unified, retaining the rhythm, detailing, and formality that underpin the street's conservation-area status.

6.41 To the east of St John Street, St John's Gardens provides the primary open space within the area and marks the former site of St John's Church and its burial ground. The gardens offer a soft, landscaped contrast to the dense built form, with lawns, mature planting, and commemorative features that reference the site's ecclesiastical and social history.

6.42 The townscape surrounding St John Street shows greater architectural variety, reflecting successive phases of industrial, commercial, and more recent mixed-use redevelopment. Buildings along Quay Street and Byrom Street are generally larger in scale, including former office blocks, and creative-industry conversion projects, which introduce a more commercial grain and a coarser massing compared with the intimate Georgian pattern to the south. Towards Liverpool Road, the character becomes more explicitly shaped by the historic railway and industrial infrastructure associated with what is now the Museum of Science and Industry. The former Liverpool Road Station complex comprises of brick warehouses, goods sheds, engine houses, and early railway buildings reinforces the area's industrial heritage through its forms, long warehouse elevations, and utilitarian architectural language.

6.43 The historical value of the character area is understood by its location within the Castlefield Conservation Area and adjacent to the St John Street Conservation Area. It contains several Grade I listed buildings associated with the former Liverpool Road Railway Station, including the Station Master's House and the Old Warehouse. The area also features a notable cluster of Grade II listed buildings along St John Street numbers 8 and 8a; 10; 12–16; 18 and 20; 22; 24, 24a and 26; and 28, as well as 11–17, 19, and 21–25. Collectively, these buildings reflect the area's industrial and residential heritage and make an important visual contribution to the character and appearance of the townscape.

6.44 Associated viewpoint: N/A

6.45 Townscape value: **Medium**

TOWNSCAPE CHARACTER AREA 6: HULME PARK

6.46 Character Area 6 is located the south of the study area and comprises of Hulme Park and the surrounding residential areas.

6.47 The northern boundary of the character area is defined by the A57 which runs east to the west across the study as a major throughfare connecting Manchester to Sheffield. It experiences high volumes of traffic, which contributes to the perception of a busy urban environment.

6.48 This character area presents a distinct contrast to the wider study area, defined by its low-rise, low-density townscape. The built form is set around Hulme Park, a broadly open greenspace characterised by a simple and legible form, framed by surrounding residential blocks and community uses. The park features active recreational functions, including play areas, sports facilities, and pedestrian routes that structure movement across the park. Views from within Hulme Park are notably defined by short to medium range towards Manchester city centre, where clusters of tall and large-scale buildings form a pronounced visual focus and a prominent background to the park's open setting.

6.49 The built form surrounding the park largely dates from the 1990s, delivered as part of the Moss Side and Hulme regeneration projects, which focused on providing new, lower-rise, mixed-income housing. The residential typologies typically comprise brick-built flats and maisonettes of two to three storeys, often arranged around shared courtyard spaces or set within areas of landscaped open space. These residential areas are interspersed with educational establishments, youth centres, and community facilities, contributing to a strong social and civic presence within the neighbourhood.

6.50 Associated viewpoint: N/A

6.51 Townscape value: **Low / Medium**

SECTION SUMMARY

6.52 **Table 6.1** presents a summary of the townscape receptor baseline information.

REF.	TOWNSCAPE CHARACTER AREA	TOWNSCAPE VALUE	FULL ASSESSMENT REQUIRED?
1	Petersfield	High	Yes
2	First Street	Medium	Yes
3	Castlefield	High	Yes
4	Great Jackson Street	Medium	Yes
5	St John's	Medium	Yes
6	Hulme Park	Low / Medium	Yes

Table 6.1 Summary of Townscape Receptor Baseline.

7.0
BASELINE: VISUAL

LAND AT 10-12 WHITWORTH STREET WEST, MANCHESTER

BASELINE: VISUAL

EXTENT OF VISIBILITY

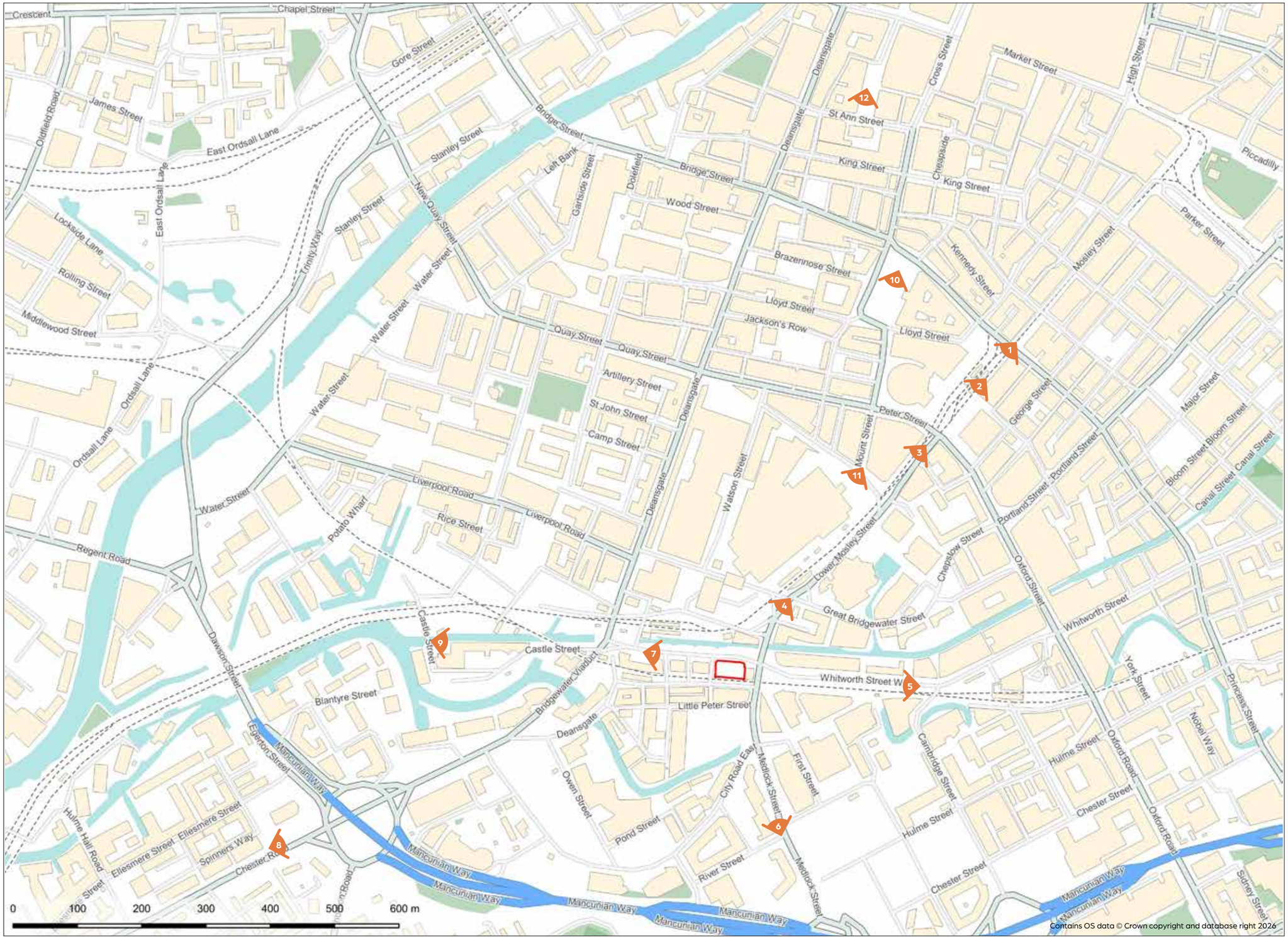
7.1 A ZTV has been produced to outline the potential areas where the Proposed Amended Development may be visible, up to a 2sqkm distance from the centre of the Site. The ZTV has been produced using topographically referenced three-dimensional models from VuCity software. It is a tool for a high-level understanding of the extent of visibility, which was further interrogated through review of individual viewpoints using field surveys and digital software.

7.2 The Zone of Theoretical Visibility (ZTV) presented at **Figure 2.1** demonstrates the intervisibility of the Proposed Development within both the immediate and wider townscape. The greatest extent of intervisibility is anticipated from the surrounding streets that directly adjoin or align with the Site, including Whitworth Street West, Lower Mosley Street, Mosley Street, First Street, and Medlock Street. Within the wider area, the visibility of the Proposed Development is generally limited and dissipates as a result of the orientation of the surrounding street network in relation to the Site, as well as the dense urban grain of the city centre, which restricts longer-distance views. Notwithstanding this, occasional longer views may be experienced from areas of open space, such as Hulme Park, and along streets that align with the Site, including Mosley Street and Chester Road.

REPRESENTATIVE VIEWS

7.3 MCC's adopted Scoping Opinion identified 12 AVRs to support the assessment. The location of the representative views is located at **Figure 7.1** and has been informed by the preparation of the ZTV and the two sets of data are overlaid at **Figure 7.2**. The baseline photography for each view is provided at Section 10 and at **Appendix 1.0**.

7.4 The views are representative of the experience of visual receptors within an area. The rationale for the selection of each view is provided at **Table 7.1**.



VIEWPOINT LOCATION PLAN

- Application Site
1. Mosley Street / Art Gallery
2. St Peter's Square
3. Lower Mosely Street
4. Albion Street / Great Bridgewater Street
5. Whitworth Street West – eastern end
6. Medlock Street
7. Whitworth Street West – west end
8. St George's Church/Chester Road
9. Castle Street, Castlefield
10. Albert Square
11. Windmill Street
12. St Ann's Square

LOCATION:
10–12 Whitworth Street West, Manchester

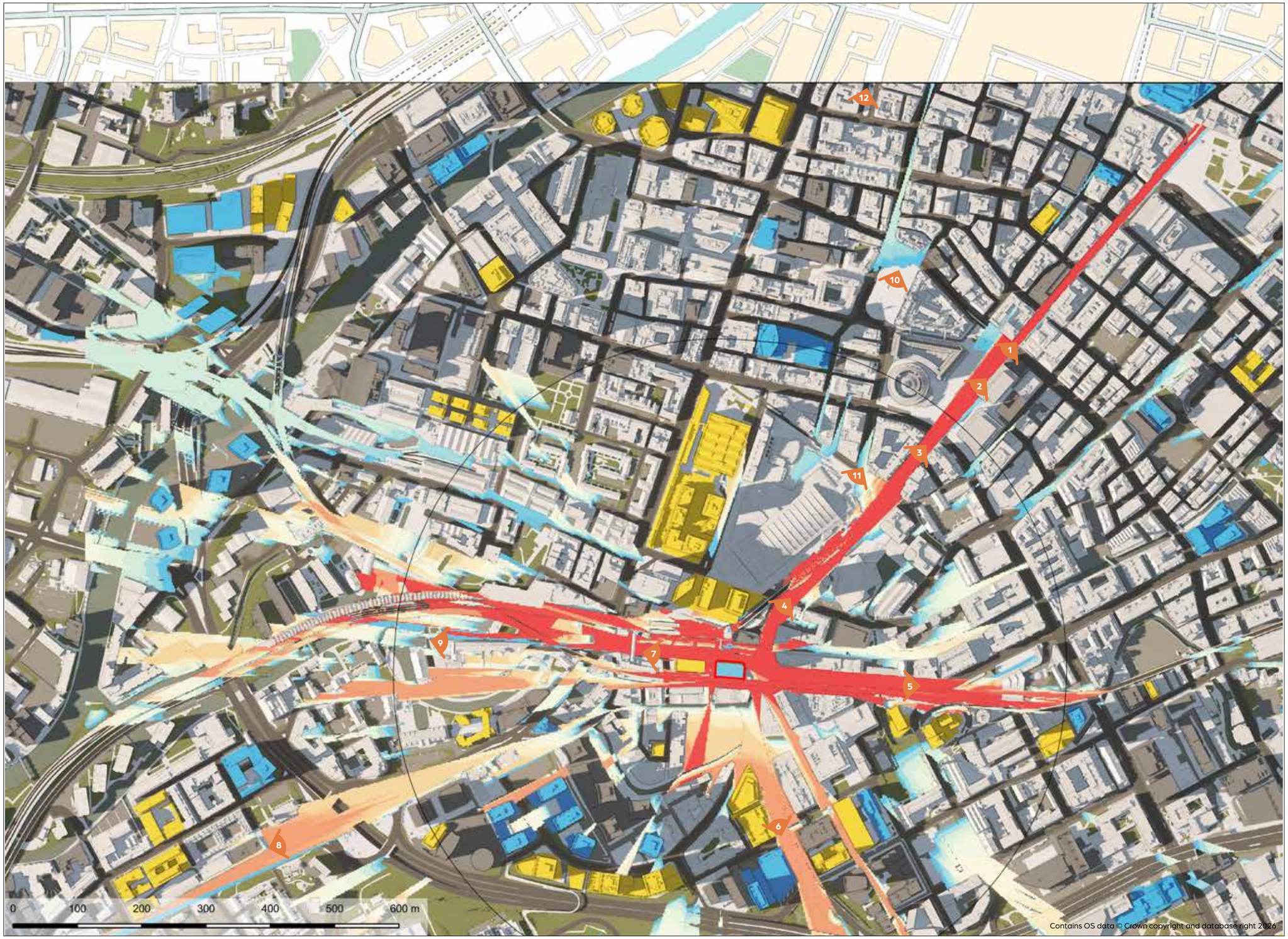
DATE:
April 2026

SCALE:
1:6,000 @ A3

FIGURE 7.1 View Location Plan

▲ **NORTH**

MONTAGU EVANS
CHARTERED SURVEYORS
70 ST MARY AXE,
LONDON, EC3A 8BE
T: +44 (0)20 7493 4002
WWW.MONTAGU-EVANS.CO.UK



VIEWPOINT LOCATION PLAN & ZTV

- Application Site
1. Mosley Street / Art Gallery
2. St Peter's Square
3. Lower Mosely Street
4. Albion Street / Great Bridgewater Street
5. Whitworth Street West – eastern end
6. Medlock Street
7. Whitworth Street West – west end
8. St George's Church/Chester Road
9. Castle Street, Castlefield
10. Albert Square
11. Windmill Street
12. St Ann's Square

LOCATION:
10–12 Whitworth Street West, Manchester

DATE:
April 2026

SCALE:
1:6,000 @ A3

FIGURE 7.2 View Location Plan with ZTV Overlay

▲ **NORTH**

MONTAGU EVANS
CHARTERED SURVEYORS
70 ST MARY AXE,
LONDON, EC3A 8BE
T: +44 (0)20 7493 4002
WWW.MONTAGU-EVANS.CO.UK

VISUAL RECEPTORS

7.5 The text below sets out the different groups of people who may experience views of the development, the places where they will be affected and the nature of the views and visual amenity at those points.

7.6 The View Location Plan is overlaid with the Townscape Area Plan at **Figure 7.1** to identify different character areas.

PEDESTRIANS OF MOSLEY STREET AND LOWER MOSLEY STREET

7.7 This receptor group comprises of pedestrians, within Manchester city centre. The receptor group is represented by the following viewpoints:

- 7.7.1 View 1: Mosley Street / Art Gallery
- 7.7.2 View 2: St Peter's Square
- 7.7.3 View 3: Lower Mosely Street
- 7.7.4 View 4: Albion Street / Great Bridgewater Street

7.8 Mosley Street and Lower Mosley Street form part of the historic core of the city centre and accommodate high levels of pedestrian activity associated with retail, commercial, cultural and civic uses. These streets also support local vehicular traffic, Manchester Metrolink services and servicing activity. The primary focus of pedestrians is typically on movement through the area and the activities they are undertaking. Pedestrians are likely to include city centre residents and visitors from surrounding suburban areas, many of whom will have a degree of familiarity with the spatial layout, enclosure and general townscape character of the area. Other users are likely to include workers travelling to and from their place of employment or undertaking work-related activities. As such, these receptors are generally accustomed to an urban environment characterised by relatively dense and, in places, taller and larger development.

7.9 As receptors move along Mosley Street and Lower Mosley Street, they experience a tightly enclosed urban townscape defined by historic civic and commercial buildings forming largely consistent street frontages, interspersed with more recent development. The city centre exhibits a diverse range and mix of buildings of varying age, scale and architectural expression. Variations in building type, materials and quality are readily perceptible to receptors.

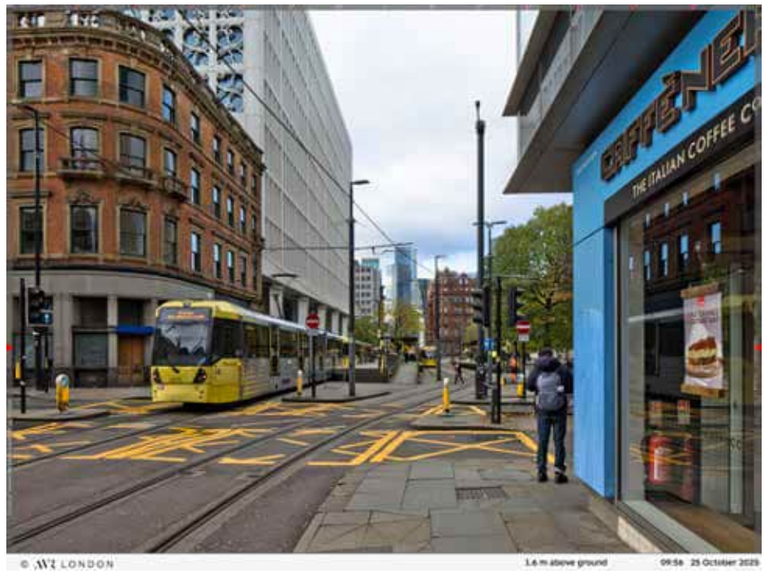


Figure 7.3 View 1 – Existing



Figure 7.4 View 2 – Existing



Figure 7.5 View 3 – Existing



Figure 7.6 View 4 – Existing

7.10 The building scale along Mosley Street and Lower Mosley Street is generally mid-rise; however, as receptors travel southwards, development parcels increase in scale and massing, forming larger commercial, residential and leisure blocks.

7.11 The architectural quality of buildings fronting the streets contributes to the experience of movement through the area, allowing appreciation of character and detailing. Notable examples include Manchester Central Library, with its Neoclassical design, distinctive circular rotunda and grand columned portico; the former Manchester Central Station, characterised by cast iron and red brick construction; and the contemporary Two St Peter's Square, featuring precast concrete tracery panels inspired by local symbols such as the cotton bud and the Lancashire Rose. Opportunities to pause and engage with the surrounding townscape occur at junctions, tram stops and areas of public realm, where the architectural quality of the surrounding buildings contributes positively to visual amenity.

7.12 Along the streets, St Peter's Square provides a relief within the otherwise enclosed urban form, functioning as a large, paved civic space and a focal point and meeting area for pedestrians and workers, with areas of seating and open public realm. From this space, receptors are able to further appreciate the range and mix of buildings of varying age, scale and architectural character that are characteristic of the city centre.

7.13 Views of existing and emerging tall and large-scale development are a characteristic feature of the experience along these streets. In particular, tall buildings in the Great Jackson Street area terminate views along sections of the route. Further south along Lower Mosley Street, these tall building and the wider towers associated with the Castlefield area form a prominent and defining element in views from this part of the city centre.

7.14 Visual amenity value: **High**

PEDESTRIANS OF WHITWORTH STREET WEST

7.15 This receptor group comprises of pedestrians using Whitworth Street West. The receptor group is represented by the following viewpoints:

7.15.1 View 5: Whitworth Street West – eastern end

7.15.2 View 7: Whitworth Street West – west end



Figure 7.7 View 5 – Existing



Figure 7.8 View 7 – Existing

7.16 Pedestrians likely to aware of the high levels of vehicular and pedestrian traffic along the street. Additionally, receptors will be aware of the urbanised character of the area, marked by the presence of Deansgate railway station, Deansgate Castlefield Metrolink stop and several bus stops along the street.

7.17 The focus of the pedestrians would be on moving through the area and the activities in which they are partaking in. The pedestrians that use this area are likely to be residents from the area with a degree of familiarity with the general townscape. Other pedestrians are likely to be workers, either going or commuting to their place of work. Again, receptors would experience the urban environment transiently as part of the movement along the street

7.18 As receptors move along the road, the range and mix of architectural quality, building ages and scales will be evident. The variation in these later building forms, materials and quality will be apparent to the receptor, though the main focus will be on either their movement to their destination or the ground floor usages of commercial and retail premises along the road.

7.19 More specifically, as receptors travel along the street, while their primary focus would remain on movement through the area, they would also be aware of the existing and emerging tall and large-scale development within this part of the city centre, which forms part of the established visual experience and character of the city centre.

7.20 Visual amenity value: **Low / Medium**

USERS OF WHITWORTH STEET WEST

7.21 This receptor group comprises of drivers and cyclists using Whitworth Street West. The receptor group is represented by the following viewpoints:

7.21.1 View 5: Whitworth Street West – eastern end

7.21.2 View 7: Whitworth Street West – west end

7.22 Whitworth Street West functions as a key east–west route linking the city centre with the Inner Ring Road and areas to the south and west. Receptors are primarily engaged with vehicular movement, junctions, traffic flows and crossing points, particularly at peak periods. Receptors would experience the urban environment transiently as part of the movement along the street.

7.23 As this group of receptors travel along the street, most be aware of the city centre character along the street, including building and structures of varying age, scales and architectural styles. Whilst specific urban forms and details may remain unnoticed, due to the receptors' attention being primarily on the road and traffic, there may be occasions views of developments fronting the street and beyond, including that of the existing tall and large development. However, attention is largely directed towards movement and navigation rather than detailed appreciation of individual buildings.

7.24 Visual amenity value: **Low / Medium**

USERS OF MEDLOCK STREET

7.25 This receptor group comprises of drivers and cyclists using Medlock Street. The receptor group is represented by the following viewpoints:
7.25.1 View 6: Medlock Street

7.26 Medlock Street functions as a local distributor road connecting Princess Road and Mancunian Way to the inner centre. Receptors are primarily engaged with vehicular movement, junctions, traffic flows and crossing points, particularly at peak periods. Receptors would experience the urban environment transiently as part of the movement along the street.

7.27 As this group of receptors travel along the street development fronting the street reflect a mix of historic commerical buildings, surface car parking, large development parcels, and more recent residential and commercial schemes. This variety illustrates the ongoing regeneration and change to this part of the city centre. Tall buildings in the Deansgate area, including Beetham Tower, Viadux Tower and Axis Tower, terminate views looking north along the street and form part of the established visual experience marking the city centre. The visual focus remains largely on movement along the road, though views of existing and emerging skyline features provide contextual orientation within the wider city.

7.28 Visual amenity value: **Low**

USERS OF CHESTER ROAD

7.29 This receptor group comprises users of Chester Road, including drivers and cyclists between Manchester city centre and areas to the south and west. The receptor group is represented by the following viewpoints:
7.29.1 View 8: St George's Church/Chester Road

7.30 Chester Road is a major radial route accommodating high traffic volumes and strategic movement, including access to Manchester Inner Ring Road and wider regional routes. The route is strongly vehicle oriented in character, and receptors are therefore primarily focused on forward movement, traffic conditions, road alignment and associated infrastructure.

7.31 The visual environment along Chester Road is varied and transitional in character. The road infrastructure forms a prominent characteristic of the experience along the road, and is defined by wide road corridors, bridges and supporting transport infrastructure. The townscape surrounding the road comprises a mix of residential development of differing age, scale and form, including pockets of surviving earlier townscape, post-war council estates incorporating point blocks, and more recent contemporary residential development, resulting in a less consistent and more fragmented street frontage.

7.32 As receptors approach the city centre, mid to long views of the city skyline become more apparent, with tall buildings forming prominent and legible markers to the city centre. As receptors approach the junction A57, the scale and massing of existing and emerging tall tower blocks forming part of the Great Jackson Street area contribute to a sense of arrival within the inner city area.

7.33 Visual amenity value: **Low**



Figure 7.9 View 6 – Existing



Figure 7.10 View 8 – Existing

STATIC VIEWS

7.34 In addition to the visual amenity experienced by people – informed by representative views – the assessment has considered the following strategic views designated in the development plan, or that were agreed with the Council:

7.34.1 View 9: Castle Street

7.34.2 View 10: Albert Square

7.34.3 View 11: Windmill Street

7.34.4 View 12: St Ann's Square

7.35 For these static views, a description of the existing scene for each identified view and the likely visual receptors are provided at **Section 7.0**. This description is set alongside a corresponding AVR of the Proposed Development and analysis of any significant effect occurring.

VIEW 9: CASTLE STREET

7.36 View 9 is located along Castle Street on the bridge over the Rochdale Canal. The view is looking east and is situated approximately 445m from the Site, at its nearest point

7.37 The view is located within the Castlefield Conservation Area and includes Grade II listed Castle Street Bridge and Rochdale Canal Lock No 93. The heritage receptors add to the amenity of the view.

7.38 The view is characterised by the Rochdale Canal, which extends from the foreground of the view towards the backdrop, forming a strong linear focus and guiding the eye through the fame. In the foreground, the canal towpath, canal edge and associated hard landscaping define the immediate setting.

7.39 The middle ground is formed by the canal corridor itself, flanked by historic brick warehouse buildings and converted structures, where pedestrian routes, bridges and active canal-side uses contribute to a sense of activity and continuity along the waterway.



Figure 7.11 View 9 – Existing

7.40 In the backdrop, the canal vista is terminated by the modern city skyline, formed by a series of tall, large-scale developments that rise above the lower historic buildings, creating a clear contrast in scale and marking the transition from the historic canal environment to the wider urban context. These towers vary in height and materiality, predominantly glass and steel, and contrast strongly with the masonry character of the foreground, including the distinctive silhouette of the Beetham Tower alongside existing and emerging development in Castlefield and Great Jackson Street, reflecting the ongoing densification and transformation of Manchester's city-centre context.

7.41 The visual receptors are most likely to be visitors to Manchester city centre, including users of commercial establishments, as well as workers, pedestrians, and local residents.

7.42 Value of visual amenity: **High**

VIEW 10: ALBERT SQUARE

7.43 View 10 is located to the north side of Princess Street. The view is looking towards the south west and is situated approximately 700m from the Site, at its nearest point.

7.44 The viewpoint lies within the Albert Square Conservation Area and includes the Grade I Manchester Town Hall and Albert Memorial along with the Grade II St Andrews Chambers, Carlton House and Albert Chambers along Albert Square. The heritage receptors add to the amenity of the view.

7.45 At the time of writing this report, Manchester Town Hall is undergoing a major heritage restoration and transformation under the "Our Town Hall" project, including repair of historic features, modernisation, improved accessibility, and a new public visitor experience. The project also expands and upgrades Albert Square for civic and cultural use and is scheduled for completion in spring 2027.

7.46 The fore and middle ground of the view is characterised by the restoration work with the town hall and surrounding Albert Square being contained with hoardings and scaffolding.

7.47 Beyond views include glimpses towards the buildings enclosing the square, together with the wider development that forms part of the broader city-centre context. The buildings surrounding Albert Square vary in age and comprise a mix of Victorian and modern structures, with corresponding variation in materials and scale.

7.48 The visual receptors are most likely to be visitors to Manchester city centre, including users of commercial establishments, as well as workers, pedestrians, and local residents.

7.49 Value of visual amenity: **High**



Figure 7.12 View 10 – Existing



Figure 7.13 View 11 – Existing



Figure 7.14 View 12 – Existing

VIEW 11: WINDMILL STREET

7.50 View 11 is located to the north side of Windmill Street at the junction with Mount Street. The view is looking towards the south west and is situated approximately 365, from the Site, at its nearest point.

7.51 The viewpoint lies within St Peter's Square Conservation Area and includes a number of heritage receptors including but not limited to the Grade II* GMEX and Midland Hotel and the Grade II Royale Club. The heritage receptors add to the amenity of the view.

7.52 The foreground of the view is defined by paved and cobbled surfaces forming part of the local pedestrian and road network. Beyond this lies a large, paved area interspersed with mature trees form part of the public realm associated with the Manchester Central Convention Complex.

7.53 In the middle ground, views are focused towards the listed Grade II* GMEX Centre, which is distinguished by its steel and glass arched roof and prominent central clock feature.

7.54 To the viewer's left, partial views are gained of Bridgewater Hall, identifiable by its steel, glass, and stone façade and its characteristic curved roof.

7.55 Beyond the GMEX Centre and Bridgewater Hall, views are gained of the existing tall and large-scale towers that form part of the Deansgate and Castlefield areas.

7.56 The visual receptors are most likely to be visitors to Manchester city centre, including users of commercial establishments, as well as workers, pedestrians, and local residents.

7.57 Value of visual amenity: **High**

VIEW 12: ST ANN'S SQUARE

7.58 View 12 is located to the centre of the St Ann's Square. The view is looking towards the south and is situated approximately 900m from the Site, at its nearest point.

7.59 The viewpoint lies within St Ann's Square Conservation Area and includes a number of heritage receptors including the Grade I Church of St Ann's, Grade II Codbens Statue, Mansfield Chamber and 16-22 St Ann's Square. The heritage receptors add to the amenity of the view.

7.60 The view is characterised by St Ann's Square, the fore and middle ground of which are dominated by a paved pedestrian area composed of large stone and brick pavers, forming a spacious plaza.

7.61 Buildings fronting the square largely date from the Victorian period, also represented by examples from the Edwardian era, alongside a limited number of more modern buildings. The older Victorian and Edwardian are characterised by ornate detailing and high-quality materials, with later development being sympathetic in scale and materials.

7.62 The layout of the square channels the receptors attention toward the middle ground, where the Grade I listed Church of St Ann's stands as the primary visual focus. The church's classical stone façade and prominent clock tower are framed centrally in views, with the restrained ashlar masonry, round-headed windows, and pedimented entrance porch expressing Classical ideals of proportion and order.

7.63 Beyond the square, glimpsed views extend to the wider development forming part of the broader city-centre context.

7.64 The visual receptors are most likely to be visitors to Manchester city centre, including users of commercial establishments, as well as workers, pedestrians, and local residents.

7.65 Value of visual amenity: **High**

SECTION SUMMARY

7.66 **Table 7.1** below provides an overview of the visual receptor considerations, including any additional considerations such as the proximity to key transport nodes.

VISUAL RECEPTOR / STATIC VIEW	REPRESENTATIVE VIEWS	VALUE
Visual Receptors		
View 1: Mosley Street / Art Gallery View 2: St Peter's Square View 3: Lower Mosely Street View 4: Albion Street / Great Bridgewater Street	Pedestrians using Mosley Street and Lower Mosley Street	High
View 5: Whitworth Street West – eastern end View 7: Whitworth Street West – west end	Pedestrians using Whitworth Street West	Low / Medium
View 5: Whitworth Street West – eastern end View 7: Whitworth Street West – west end	Users of Whitworth Steet West	Low / Medium
View 6: Medlock Street	Users of Medlock Street	Low
View 8: St George's Church/Chester Road	Users of Chester Road	Low
Static Views		
View 9	Castle Street	High
View 10	Albert Square	High
View 11	Windmill Street	High
View 12	St Ann's Square	High

Table 7.1 Summary of Visual Receptor Baseline.

8.0
CONSULTATION AND MITIGATION BY DESIGN
LAND AT 10-12 WHITWORTH STREET WEST, MANCHESTER

CONSULTATION AND MITIGATION BY DESIGN

8.1 Extensive consultation has been undertaken throughout the evolution of the proposals to ensure that the Development responds appropriately to its context and reflects the aspirations of key stakeholders. The design process has been informed by regular engagement with the Manchester City Council and the Design Review Pannel.

8.2 These discussions have played a central role in shaping the form, scale, and architectural quality of the Proposed Development, ensuring that the proposals deliver a high-quality development that complements the surrounding heritage and townscape context.

MITIGATION BY DESIGN

8.3 The design of the Proposed Development was sought to mitigate any potential adverse impacts on built heritage, townscape character and visual amenity.

8.4 The way that the Proposed Development has responded to the existing context and local character surrounding the Site is explained in the DAS which describes the design development process.

SUMMARY

8.5 The full details of the consultation process are provided in the Planning Statement by Cushman & Wakefield. The associated design evolution is described in the DAS prepared by Corstorphine & Wright Architects.

8.6 A summary of the consultation and associated design mitigation measures is provided in **Table 8.1**.

DATE	STAKEHOLDER	SUMMARY OF THE MAIN BHTVIA MATTERS
14th January 2026 pre-application meeting (verbal feedback)	Manchester City Council	MCC confirmed they had no issue in the principle of a tall building but noted that a 5/6m increase in height from the previous design iteration was not insignificant and would need to be properly assessed. In the meeting it was confirmed that MCC are unlikely to have significant comments.
22nd January 2026 (written feedback)	Manchester City Council	MCC noted that the overall design of the building appears positive due to the quality and finish of the materials, proposed junctions/jointing between materials and different elements of the building, treatment of soffits etc. MCC felt that planters should be avoided and expected street trees and other planting at ground level instead.
24th March 2025	Design Review Panel	The panel were supportive of the design of the Proposed Development, including the chamfered corners and 'weft and warp' façade treatment to create a refined pattern which set the building apart from the other mostly glazed buildings in the surrounding area. The panel were supportive of the additional height and felt the proportions were correct and the context of the existing taller neighbourhood would take the increase from the consented scheme. Comments were made about ensuring the materiality is accurately depicted in CGIs to ensure the top of the building does not dominate in long range views. The panel felt the crown needed more decorative treatment in its design. The panel thought the scale of the ground floor should be increased to reflect how it will be a place of interaction for residents and passersby /
27th October 2025	Design Review Panel	The panel continued to be supportive of the additional height in the context of existing and proposed taller neighbouring development. The panel felt the elevational approach was strong and the base had good proportions in relation to adjacent buildings. The Panel stressed that the area has a predominantly red-toned urban character, and therefore the scheme needed a warmer colour palette to sit more convincingly within its context. The shift to silver aluminium cladding from the earlier Corten / terracotta-inspired tones was criticised as a risk to quality and coherence. Although tall, the building may operate as a background building in future context and thus requires subtle, modest material choices, rather than high-contrast silver cladding proposed. While acknowledging limited space, they encouraged introduction of an entrance canopy to create a clearer threshold sequence.
13th January 2026	Design Review Panel	The panel felt that the updated proposals successfully addressed earlier review comments, supporting the overarching concept of an elegant tall building addition that maintains a restrained visual impact within the tall-building cluster. The panel supported the return to a warmer, bronze-toned material palette, which they felt better responded to the local terracotta/red brick context. They also felt increasing the façade bay pattern better articulated the original 'weft and weave' concept. The panel felt the relocation of the main entrance to the eastern end of the Whitworth Street West site worked well and improved legibility and wayfinding. The panel felt the proposed entrance canopy would benefit from clearer architectural definition. The introduction of planting at the base and biophilic cues was welcomed.
27th June 2025	Historic England	Historic England were consulted for a Scoping Opinion and agreed that Heritage should be scoped into the EIA, and that the heritage assets identified for inclusion were appropriate.
23th July 2025	MCC Scoping Opinion (Appendix 2.2), (Planning Ref: EIASCO/25/006)	MCC's Scoping Opinion Report confirmed that they noted the comments within the scoping report and considered them acceptable in terms of their consideration within the ES.

Table 8.1 Summary of Consultation

9.0
THE SITE AND THE PROPOSED DEVELOPMENT
LAND AT 10-12 WHITWORTH STREET WEST, MANCHESTER

THE SITE AND THE PROPOSED DEVELOPMENT

THE SITE

9.1 The Site is located at 10–12 Whitworth Street West within Manchester City Centre, occupying a vacant plot along Whitworth Streete West. It is bounded to the north by Whitworth Street West, a busy vehicular corridor, and to the south by the elevated railway viaduct, with Deansgate Station and the Deansgate – Castlefield Metrolink stop in close proximity.

9.2 The wider townscape is characterised by a dense urban grain forming part of the Manchester City Centre and includes that of the rapidly evolving skyline. Tall and large buildings include that of the existing 28-storey AXIS Tower, the 40-storey Viadux One development, the 47-storey Beetham Tower, and the consented 76-storey Viadux Two tower, 23-storey Viadux Three tower, and 44-storey scheme at 2 – 4 Whitworth Street.

THE PROPOSED DEVELOPMENT

9.3 The Proposed Development comprises the redevelopment of the Site to deliver a 38-storey purpose-built student accommodation building containing 818 beds, supported by internal amenity and ancillary spaces.

9.4 Entrances have been arranged to create a clear and legible relationship with the surrounding streets, with a prominent corner entrance forming the main point of arrival from the public realm. Secondary access and servicing points are positioned along the sides and rear of the building to maintain an active street frontage.

9.5 The form and massing of the Proposed Development has been carefully designed as a 360 degree building, with a clear base, body, crown hierarchy. The three-storey base is defined by exposed concrete and an elongated triangulated geometry that creates wide apertures, opening the interior to the surrounding public realm and expressing the amenity and social spaces within. The body of the tower is articulated by a bronze-toned anodised aluminium façade, woven and folded metal panels, and chamfered horizontal bands informed by the warp-and-weft concept rooted in Manchester's Cottonopolis industrial heritage. This architectural language continues through to the crown, where the triangulated geometry extends upward and integrates with the woven façade to create a coherent sculptural form.

9.6 The proposals also deliver improvements to the surrounding pedestrian environment. Along Whitworth Street West, new landscaping, paving, planting and seating establish a clear and accessible threshold to the corner entrance while contributing to street-level activity. At roof level, two landscaped terraces provide outdoor spaces for residents, incorporating flexible seating, planting and areas for informal gathering.



Figure 9.1 CGI of the Base of the Proposed Development. Source: Corstorphine & Wright.



Figure 9.2 CGI of the East Elevation of the Proposed Development. Source: Corstorphine & Wright.



Figure 9.3 CGI of the Upper Levels of the Proposed Development. Source: Corstorphine & Wright.



Figure 9.4 CGI of the South and East Elevations of the Proposed Development along with the emerging cumulative context. Source: Corstorphine & Wright.

10.0
ASSESSMENT: HERITAGE RECEPTORS

LAND AT 10-12 WHITWORTH STREET WEST, MANCHESTER

ASSESSMENT: HERITAGE RECEPTORS

10.1 This section assesses the impact of the Proposed Development on the built heritage receptors identified in **Section 5.0**. A summary of the effects arising from impacts to heritage receptors is provided at **Table 10.1**.

CONSTRUCTION

10.2 **Chapter 5: Construction Methodology** sets out the anticipated programme of works and the key activities that would be undertaken on the Site during the construction necessary to facilitate the Proposed Development. The likely effect of these activities on the value of the heritage receptors identified in the baseline is assessed below.

10.3 It is considered appropriate for the heritage assessment to consider the effects of the completed Development in greater detail than those of the construction, because completed development effects on heritage value are permanent, so having greater impacts on value than construction works, which are temporary in relative terms. Accordingly, a qualitative assessment of the latter will be undertaken based on professional judgement and experience.

10.4 The construction phase of the Proposed Development would introduce new environmental conditions to the setting (and experience) of heritage receptors in close proximity to the Site. For instance, there would be increased noise, vibration, dust and traffic in the surrounding area. This impact will be experienced within close proximity to the Site.

10.5 There will be no permanent change to the way the heritage value of the receptors identified in the baseline is appreciated or understood. For the majority of receptors that are situated some distance from the Site or have a physical buffer between the Site and the receptor, the magnitude of impact is considered to be nil with no effect, as the change to the setting will not intrinsically affect the appreciation or understanding of any surrounding heritage receptors.

10.6 It is considered that the following designated heritage receptors may experience an effect due to their proximity to the Site and intervisibility with the Proposed Development:

10.6.1 Castlefield Conservation Area

10.6.2 Rochdale Canal Lock No. 90

10.6.3 Former Congregational Chapel

10.7 All three heritage receptors have a **Low** susceptibility to the change, resulting in a Medium sensitivity. The receptors are experienced within an established urban context, which is characterised by their proximity to the city centre and the range of different building typologies that reflects different uses and phases of the city's development. As a result, their historic setting is much changed and now characterised by varied urban townscape.

10.8 It is considered that the Proposed Development does not have a bearing upon the intrinsic value of the receptors, which are derived from the character and appearance in the case of the conservation area, and the historic and architectural qualities for the church and lock, as described in **Section 5.0**. That said, when considering construction impacts on the Lock No. 90, the noise and disruption from the construction phase, particularly to the listed lock which is situated near the Site, would have a **Low** magnitude of impact and the overall effect would be Minor/Moderate. Using professional judgement, the likely effect would be **Minor,** and the nature of the effect would be **Adverse**. This is because the disruption from the construction phase would be a distracting element in the setting of the listed structure. The Geographical Significance of the effect would be at District level and the Nature would be Medium Term, Reversible and Not Significant.

10.9 For the Castlefield Conservation Area and the Former Congregational Chapel, the visual impact of cranes and other constructure structures appearing in key views of the church's tower to the west of the building would have a **Very Low** magnitude of impact and the overall effect would be **Negligible**. This is because the effect from the construction phase would be limited to visual impacts. The nature of the effect would be **Adverse**. The Geographical Significance of the effect would be at District level and the Nature would be Medium Term, Reversible and Not Significant.

COMPLETED DEVELOPMENT

10.10 This section provides a comprehensive analysis of the Development and an assessment of the likely effects on these heritage receptors and others within the study area and as defined in **Table 5.2**.

10.11 As set out in the methodology at **Section 3.0**, professional judgement is required to determine the nature of the likely effects of the Development and this is applied across the assessments of heritage, townscape and visual receptors, discussed at **Sections 9.0, 10.0** and **11.0** of this volume. The assessment of scale and nature of the effect is supported by a qualitative discussion for each receptor which will elucidate the judgement to the reader.

10.12 This qualitative assessment allows for professional adjustments to the tabular analysis format set out in **Section 3.0** which can produce a differentiation as between the qualitative analysis of the Development set out in this section and the two following and the matrices set out in that section.

DESIGNATED HERITAGE RECEPTORS

CONSERVATION AREAS

CASTLEFIELD CONSERVATION AREA (MAP REF: A)

10.13 The Castlefield Conservation Area has a high heritage value and is located approximately 186m west of the Site.

10.14 The Castlefield Conservation Area has a **Medium** susceptibility to the type of change proposed. This is due to the proximity of the conservation area to the Site and the open views afforded east towards the Site from within the conservation area. This is also due to the heritage value of the area being primarily related to the canal network and the industry that developed in the Castlefield area associated with surrounding transport networks. Existing tall buildings are a prominent feature on the skyline in views from within the conservation area looking outward, forming a key part of the wider townscape that characterises the wider expansion of Manchester. When calibrated with the value, the sensitivity is **Medium/High**.

10.15 Visibility of the Proposed Development from within the conservation area will vary considerably due to its size and the differing degrees of openness across the historic townscape. In areas with a more enclosed character, formed by clusters of historic industrial buildings, the railway viaduct and narrow streets, the Proposed Development is partially screened, as illustrated in View 9 (**Figure 10.1**). Conversely, in locations where the townscape opens out, such as within the Castlefield Basin along wider canal-side spaces, partial or more distant views become available. This variation demonstrates that the visual experience of the Proposed Development will change as the conservation area is experienced kinetically.



Figure 10.1 View 9 – Proposed

10.16 From these areas where the townscape has a more open character, the Proposed Development becomes more visible in longer-range views, particularly those looking east from the Castlefield Basin towards the Former Congregational Chapel, which allows wider views toward development beyond the conservation area boundary. From these positions, the uplift in scale and height on the Site will introduce a noticeable change to the skyline, and the tower will appear behind the chapel, creating a distracting feature in these key views from within the conservation area.

10.17 The slender profile of the building, derived from the Site's narrow footprint and the narrow proportions of its western elevation, means it will read as a vertical, elegant element on the skyline. The proposed bronze-toned anodised aluminium façade responds positively to the warm red and brown palette of the historic railway arches and industrial buildings of the surrounding historic context, while the woven warp-and-weft grid references Manchester's Cottonopolis heritage, reinforcing visual links to the area's industrial past.

10.18 As set out in **Section 5.0**, there is already an awareness of substantial later redevelopment around the conservation area, including clusters of tall buildings to the south and east at Great Jackson Street and Deansgate. Although visible in the wider setting, these developments do not materially affect the ability to appreciate the character or appearance of the conservation area. Instead, the contrast between Castlefield's 19th-century industrial townscape and the distinctly modern skyline beyond serves to emphasise the conservation area's historic character, reinforcing its identity against the evolving urban backdrop of the wider city centre.

10.19 When considering the above, the magnitude of impact is **Low**. This is due to the change that will be appreciable from within the conservation area. When calibrated against the sensitivity, the likely effect is Minor/Moderate-Moderate. Using professional judgement, the likely effect is **Minor**. This is because the Proposed Development will be visible alongside an existing tall building context that already characterises long views outside of the conservation area and provides an attractive and notable contrast to the historic character of the conservation area. Visibility of the Proposed Development would not undermine the intrinsic character and appearance of the conservation area, which is where it derives most of its heritage value. The overall effect is considered **Neutral**, balancing the adverse impact of the Proposed Development appearing as a distracting feature in key eastward views from within the basin against the beneficial contribution of its high-quality architecture, which draws on the area's historic materiality. The Geographical Significance of the effect would be at District level and the Nature would be Long Term, Irreversible and Not Significant.

ST PETER'S SQUARE (MAP REF: D)

10.20 The St Peter's Square Conservation Area has a high heritage value and is located approximately 353m north-east of the Site.

10.21 The St Peter's Square Conservation Area has a **Medium** susceptibility to the type of change proposed. This is due to separating distance, street alignment and sense of enclosure which limit the areas where the Proposed Development is visible within the area. Channelled views towards the Site are afforded along Lower Mosley Street. When calibrated with the heritage value, the sensitivity is **Medium/High**.

10.22 The conservation area primarily derives its heritage value from the distinctive qualities as described in **Section 5.0**, that contribute to its overall character and appearance. The Development will not impact these intrinsic qualities, which are the main reason for its designation as a conservation area.

10.23 Intervisibility between the conservation area and the Proposed Development is primarily along Lower Mosley Street and within St Peter's Square, due to the street's alignment with the Site. The Proposed Development will be visible in views across St Peter's Square, through the centre of the conservation area and along Lower Mosley Street, where it will form a terminating feature at the end of the street. The experience of moving south-west across St Peter's Square towards the south of the conservation area is illustrated in Views 1, 2 and 3 at **Figures 10.2**, **10.3** and **10.4**. The views demonstrate that whilst visible in the wider setting of the listed building, the Proposed Development will be backdropped by other tall buildings located in channelled views along Lower Mosley Street, such as Beetham Tower and the tall building cluster at Castlefield. As a result, the Proposed Development will contribute to the existing varied skyline of Manchester and reflects its evolving townscape.

10.24 Due to the gridded street alignment which forms strong buildings lines and channelled views along the frontages of large scale buildings, there would be no visibility to the north of Mount Street or along Peter Street. Therefore, any visual change created by the Proposed Development will be from specific areas within the conservation area and when considering the conservation area as a whole.

10.25 When considering the above, the magnitude of impact is assessed as Very Low. This reflects the fact that, due to the alignment of the street, the Proposed Development will only be visible in channelled views through the centre of the conservation area. When calibrated against the sensitivity, the likely effect is Negligible-Negligible/Minor. Using professional judgement, the likely effect is **Negligible**. This is because will be visible alongside an existing tall building context that already characterises long views outside of the conservation area and would not undermine the intrinsic character and appearance of the conservation area, which is where it derives most of its heritage value. The nature of this effect is **Neutral**. This effect is therefore Not Significant.



Figure 10.3 View 2 – Proposed



Figure 10.2 View 1 – Proposed



Figure 10.4 View 3 – Proposed

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GEORGE STREET CONSERVATION AREA (MAP REF: E)

10.26 The George Street Conservation Area has a high heritage value and is located approximately 456m north-east of the Site.

10.27 The George Street Conservation Area has a has a **Low** susceptibility to the type of change proposed. This is due to separating distance, street alignment and sense of enclosure which limit the areas where the Proposed Development is visible within the area. When calibrated with the heritage value, the sensitivity is **Medium**.

10.28 The conservation area primarily derives its heritage value from the distinctive qualities as described in **Section 5.0**, that contribute to its overall character and appearance. The Development will not impact these intrinsic qualities, which are the main reason for its designation as a conservation area.

10.29 The ZTV illustrates that visibility of the Proposed Development will be limited to the north-west boundary of the conservation area, specifically along Mosley Street.

10.30 Owing to the linear alignment of the street, views towards the Site are naturally channelled, resulting in the Proposed Development appearing as a terminating feature at the end of the vista. In those views the development would be backdropped by several existing tall buildings which already define the skyline beyond the conservation area's boundary. As a result, the Proposed Development will be perceived as part of this established cluster of taller built form and whilst visible, will be peripheral to the experience of the surrounding 19th century architecture. The strong linearity of Mosley Street results in the visibility of the Proposed Development being contained within a framed, outward looking corridor where there is an existing awareness of the city's contemporary urban edge.

10.31 Due to the gridded street alignment to the east of the conservation area, as well as the strong building lines created by consistent building lines, visibility of the Proposed Development is almost entirely limited to Mosley Street and therefore, any visual change created by the Proposed Development will be limited to specific positions within the conservation area when considering the area as a whole.

10.32 For the reasons above, the magnitude of impact is **Nil**. This is because of the limited change the Proposed Development would cause within the setting of the conservation area and when considering the conservation area as a whole. The Proposed Development would be a feature in the urban backdrop of the city centre and would diminish the ability appreciate the intrinsic character and appearance of the conservation area, which is where it derives most of its heritage value. When calibrated against the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

ALBERT SQUARE (MAP REF: G)

10.33 The Albert Square Conservation Area has a high heritage value and is located approximately 435m north-east of the Site.

10.34 The Albert Square has a **Low** susceptibility to the type of change proposed. This is due to separating distance and when considering the limited areas within the conservation area from which the Proposed Development would be visible due to street alignment and strong building lines limiting views south towards the Site. When calibrated with the heritage value, the sensitivity is **Medium**.

10.35 The conservation area primarily derives its heritage value from the distinctive qualities as described in **Section 5.0**, that contribute to its overall character and appearance. The Proposed Development will not impact these intrinsic qualities, which are the main reason for its designation as a conservation area.

10.36 The ZTV illustrates that visibility of the Proposed Development will be limited to the northern part of Albert Square and partly along Cross Street, with flashes of visibility demonstrating that the upper storeys of the Proposed Development would be visible above the roofline of the buildings to the south of the square. Where visible, the Proposed Development will be seen in the context of other modern development, including the 65 storey Deansgate Square South Tower and the 47 storey Beetham Tower. This existing development is already read and understood as the wider mixed townscape that characterises the city centre outside of the boundary of the of conservation area, and reflects the central, urban location of the conservation area. Due to the enclosed character of the square, the Proposed Development will be experienced as forming part of wider urban development and will not impact one's ability to appreciate the character and appearance of the conservation area.

10.37 When considering the above, the magnitude of impact is judged to be **Nil**. This is because any visual change caused by the Proposed Development is limited to a small area of the eastern boundary of the conservation area. When calibrated with the medium sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

UPPER KING STREET (MAP REF: H)

10.38 The Upper King Street Conservation Area has a high heritage value and is located approximately 643m north-east of the Site.

10.39 The Upper King Street Conservation Area has a **Low** susceptibility to the type of change proposed. This is due to separating distance, street alignment and sense of enclosure which limit the areas where the Proposed Development is visible within the area. When calibrated with the heritage value, the sensitivity is **Medium**.

10.40 The conservation area primarily derives its heritage value from the distinctive qualities as described in **Section 5.0**, that contribute to its overall character and appearance. The Proposed Development will not impact these intrinsic qualities, which are the main reason for its designation as a conservation area.

10.41 The ZTV illustrates that visibility of the Proposed Development will be contained to the south-east boundary of the conservation area, specifically along Mosley Street. Owing to the linear alignment of the street, views towards the Site are naturally channelled, resulting in the Proposed Development appearing as a terminating feature at the end of the vista. In these views it is visually backdropped by several existing tall buildings which already define the skyline beyond the conservation area's boundary. As a result, the Proposed Development will be perceived as part of this established cluster of taller built form that is peripheral to the experience of the surrounding 19th century architecture. As such, visibility of the Proposed Development will not impact one's ability to appreciate the character and appearance of the conservation area, as it will contribute to an already established wider context that is visible outside of the boundaries of the conservation area.

10.42 The strong linearity of Mosley Street results in the Proposed Development being contained within a framed, outward looking corridor where there is an existing awareness of the city's contemporary urban edge. The grid-aligned built form to the east of the conservation area establishes strong building lines and channelled views, meaning that the Proposed Development is visible primarily from Mosley Street. Consequently, any visual change created by the Proposed Development will be limited when considering the conservation area as a whole, with the Proposed Development screened from view from other positions within the area

10.43 For the reasons above, the magnitude of impact is **Nil**. This is because of the limited change the Proposed Development would cause within the setting of the conservation area and when considering the conservation area as a whole. The Proposed Development would not undermine the intrinsic character and appearance of the conservation area, which is where it derives most of its heritage value. When calibrated against the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

LISTED BUILDINGS

TOWN HALL (GRADE I) (MAP REF: 1)

10.44 The Town Hall has a very high heritage value and is located approximately 575m north-east of the Site.

10.45 The Town Hall has a **Low** susceptibility to the type of change proposed. This is due to the urban setting and an existing awareness of tall buildings within the immediate setting of the building, as well as the separating distance between the receptor and the Site. When calibrated with its heritage value, the sensitivity is **Medium/High**.

10.46 The Proposed Development will not directly impact the building and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.47 Due to the separating distance and the enclosed character of Albert Square, which prevents long views from within the immediate setting of the Town Hall out to wider Manchester, intervisibility of the Proposed Development is limited to the north of the square, where the top storeys of the Proposed Development will be visible above the roofline of the buildings that front the south of the square, as evidenced in View 10 at **Figure 10.5**. Where visible, the Proposed Development will be seen in the context of other modern development, including the 65 storey Deansgate Square South Tower and the 47 storey Beetham Tower. This existing development is already read and understood as the wider mixed townscape that characterises Manchester City Centre and reflects the latest phase of evolution of the city.

10.48 The immediate setting of the Town Hall is experienced kinetically and as one moves south across Albert Square, the Proposed Development recedes behind built development forming the southern edge of the square. As such, the Proposed Development is only experienced as a wider element of the urban skyline in certain positions within the setting of the listed building and because of this, it does not complete with or distract from the prominence of the Town Hall and how its experienced from within Albert Square.

10.49 The Town Hall is also experienced from St Peter's Square to the east of the building, where key views are afforded of its eastern elevation with the Manchester Cenotaph positioned in front of the building. The Proposed Development will be visible in channelled south-west along Lower Mosley Street. Due to the separating distance, the Proposed Development will be backdropped by a number of existing tall buildings that are visible at the end of channelled views along the street. As a result, the Proposed Development will be perceived as part of this established cluster of taller built form that characterises the existing experience of the Town Hall and its relationship to St Peter's Square and the Cenotaph.

10.50 As such, the magnitude of impact of the Proposed Development is **Nil**. This is because where it is visible in the setting of the Town Hall, it would be viewed as a wider element of the skyline and not impact the appreciation of the building and its relationship to Albert Square. When calibrated against the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.



Figure 10.5 View 10 – Proposed

ALBERT MEMORIAL (GRADE I) (MAP REF: 2)

10.51 The Albert Memorial has a very high heritage value and is located approximately 625m north-east of the Site.

10.52 The Albert Memorial has a low susceptibility to the type of change proposed. This is due to the urban setting and an existing awareness of tall buildings within the immediate setting of the building, as well as the separating distance between the receptor and the Site. When calibrated with its heritage value, the sensitivity is **Medium/High**.

10.53 First and foremost, the Proposed Development will not directly impact the memorial and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the monument's heritage value will remain unaffected by the Proposed Development.

10.54 Principally, the Albert Memorial's position within the Albert Square and its intrinsic relationship with the Town Hall are key elements of its setting that contribute to its significance as it reinforces its civic character. As with the Town Hall, the upper storeys of the Proposed Development will be visible when positioned to the north of the square and orientated south. Where visible in the setting of the monument, the Proposed Development will be experienced as wider modern development that already characterises the city centre beyond the boundaries of the square. Visibility of the Proposed Development will not impact one's ability to appreciate the composition formed between the listed structure positioned within the Albert Square and in front of the principal frontage of the Town Hall.

10.55 As such, the magnitude of impact of the Proposed Development is **Nil**. Where is it visible in the setting of the memorial, it would be viewed as wider urban development that already characterises the wider setting of the memorial and its relationship to Albert Square and the nearby Town Hall, and would not impact key aspects of its setting that contribute to its heritage value. When calibrated against the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

OLD WAREHOUSE TO NORTH OF FORMER LIVERPOOL ROAD RAILWAY STATION (GRADE I) (MAP REF: 4)

10.56 The Old Warehouse has a very high heritage value and is located approximately 625m north-west of the Site.

10.57 The Old Warehouse has a **Low** susceptibility to the type of change proposed. This is because it is already experienced in an urban setting and there is an existing awareness of tall buildings within the setting of the building, as well as the separating distance between the receptor and the Site. When calibrated with the heritage value, the sensitivity is **Medium/High**.

10.58 First and foremost, the Proposed Development will not directly impact the listed building and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.59 The Proposed Development will be visible above the roofline of the building's located along the south of Liverpool Road in views from Liverpool Road and orientated south. As a result, the Proposed Development will not impact key views of the warehouse that are orientated north and take in its relationship to the Grade I listed Liverpool Road Railway Station, with which it shares an intrinsic historic and functional relationship. In these views, the Proposed Development will be located behind the viewer.

10.60 Where visible when moving around the listed building, the Proposed Development will be seen alongside an existing tall building context established by buildings such as Beecham Tower, and the cluster at Great Jackson Street, which appears behind the warehouse in key views along Liverpool Road. This form of development is read and understood as the latest phase in Manchester's evolution, and does not impact how one appreciates the key aspects of its setting that contribute to its significance, which include its relationship to the railway station and its proximity to the railway lines which once served it.

10.61 When considering the above, the magnitude of impact is **Nil**. This is because it would not impact key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

MANCHESTER ART GALLERY (GRADE I) (MAP REF: 5)

10.62 The Manchester Art Gallery has very high heritage value and is located approximately 650m north-east of the Site.

10.63 The Manchester Art Gallery has a **Low** susceptibility to the type of change proposed due to the existing urban context and the separating distance from the Site. When calibrated with the heritage value, the sensitivity is **Medium/High**.

10.64 The Proposed Development will not directly impact the building and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.65 The Proposed Development will be visible in views across St Peter's Square to the south-west of the art gallery and along Lower Mosley Street, where it will form a terminating feature at the end of the street. Whilst visible in the wider setting of the listed building, the Proposed Development will be backdropped by other tall buildings located in channelled views along Lower Mosley Street, such as Beetham Tower and the tall building cluster at Castlefield. As a result, the Proposed Development will appear as forming part of the wider development that already characterises the skyline of Manchester and reflects its evolving townscape. Visibility of the Proposed Development will not interrupt key views of the art gallery which are orientated south-east towards its principal frontage and its prominence on Mosley Street.

10.66 When considering the above, the magnitude of impact is **Nil**. This is because the Proposed Development would not undermine the historic and architectural value of the listed buildings, or the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

FORMER LIVERPOOL ROAD RAILWAY STATION, STATION MASTERS HOUSE (GRADE I) (MAP REF: 6)

10.67 The former Liverpool Road Railway Station, Station Masters House has a very high heritage value and is located approximately 628m.

10.68 The former Liverpool Road Railway Station has a **Low** susceptibility to the type of change proposed. This is due to separating distance, and taking into account that the building is already experienced in an existing urban environment that includes tall buildings within its wider setting. When calibrated with its heritage value, the sensitivity is **Medium/High**.

10.69 First and foremost, the Proposed Development will not directly impact the listed building and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.70 The Proposed Development be visible above the roofline of the building's located along the south of Liverpool Road in views from Liverpool Road and orientated south. As a result, the Proposed Development will not impact key views of the station that are orientated north and take in its principal frontage and its relationship to the Grade I listed Old Warehouse, with which it shares an intrinsic historic and functional relationship. In these views, the Proposed Development will be located behind the viewer.

10.71 Where visible when moving around the listed building, the Proposed Development will be considered seen alongside an existing tall building context established by buildings such as Beecham Tower, and the cluster at Great Jackson Street, which appears behind the warehouse in key views along Liverpool Road. This form of development is read and understood as the latest phase in Manchester's evolution, and does not impact how one appreciates the key aspects of its setting that contribute to the building's significance, which include its relationship to the Old Warehouse and its proximity to the railway lines which once served it.

10.72 When considering the above, the magnitude of impact is **Nil**. The Proposed Development would not undermine the historic and architectural value of the listed building, or the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

G MEX (GRADE II*) (MAP REF: 7)

10.73 The G Mex has high heritage value and is located approximately 130m north of the Site.

10.74 The G Mex has a **Low** susceptibility to the type of change proposed. This is because the listed building is already experienced in an urban setting and is situated in close proximity to existing tall buildings. When calibrated with its heritage value, the sensitivity is **Medium**.

10.75 The Proposed Development will not directly impact the listed building and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.76 View 11 at **Figure 10.6** situated on Windmill Street illustrates how the Proposed Development will interact with the principal frontage of the G Mex, demonstrating that the upper storeys of the tower will appear above the curved roof. In these views, the Proposed Development will be seen alongside other tall buildings within the Castlefield cluster and due to its smaller scale, will appear subservient to the existing buildings. Whilst the Proposed Development will be visible behind the building in key views, it does not impact one's ability to appreciate the impressive scale and form of the building, or its landmark character within the surrounding area.

10.77 Furthermore, the building is experienced kinetically, and there are multiple streets and positions within the surrounding area that afford views of the building to allow for an appreciation of it in the round. Visibility of the Proposed Development will not impact the building's relationship to key elements of its setting that contribute to its significance, such as its central position and proximity to surviving railway infrastructure.



Figure 10.6 View 11 – Proposed

10.78 When considering the above, the magnitude of impact is **Very Low**. This is because the building appears behind the listed building in key views of its frontage to Windmill Street, but does not impact how the historic and architectural value of the listed building, or the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **Negligible**. The nature of this effect is **Neutral**. The Geographical Significance of the effect would be at District level and the Nature would be Long Term, Irreversible and Not Significant.

DEANSGATE GOODS STATION AND ATTACHED CARRIAGE RAMP (GRADE II*) (MAP REF: 8)

10.79 The Deansgate Goods Station and attached Carriage Ramp has high heritage value and is located approximately 288m north of the Site.

10.80 The Deansgate Goods Station has a **Low** susceptibility to the type of change proposed. This is due to the separating distance and when considering the existing mixed urban environment that building is already experienced in, and an awareness of tall buildings. When calibrated with its heritage value, the sensitivity is **Medium**.

10.81 The Proposed Development would be visible in views south along Watson Street to the immediate east of the building. This is a service route along one of the secondary elevations of the building, and therefore visibility of the Proposed Development does not impact key views of the building from Great Northern Square to the north. Where visible, the Proposed Development will be read against other tall building context that characterises the wider setting of the building and does not impact an appreciation of key aspects of its value as outlines in **Section 5.0**.

10.82 When considering the above, the magnitude of impact is **Nil**. This is because the Proposed Development would not undermine the historic and architectural value of the listed building, or the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

MIDLAND HOTEL (GRADE II*) (MAP REF: 10)

10.83 The Midland Hotel has a high heritage value and is located approximately 360m north–east of the Site.

10.84 The Midland Hotel has a **Low** susceptibility to the type of change proposed. This is due to the separating distance and when considering the existing mixed urban environment that building is already experienced in, and an awareness of tall buildings. When calibrated with its heritage value, the sensitivity is **Medium**.

10.85 The Proposed Development will not directly impact the listed building and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.86 View 3 at **Figure 10.4** is positioned alongside the Midland Hotel on Lower Mosley Street and orientated south towards the Proposed Development. The view illustrates that the Proposed Development would appear at the end of channelled views along the street, forming part of the tall building cluster that already characterises the Castlefield area. Whilst there will be an intensification of development in these views, the modern character of the tall building cluster contrasts the historic character of the hotel, and the two are read as separate phases of evolution of Manchester City Centre. The presence of modern development in the wider setting of the hotel does not impact one's ability to appreciate its scale and Edwardian Baroque style.

10.87 Additionally, key views of the hotel are situated within St Peter's Square, where the building is appreciated alongside the Manchester Central Library and The Town Hall to form an attractive ensemble of eclectic and monumental buildings. From within the square, the Proposed Development would be experienced as wider development that characterises the urban landscape beyond the boundaries of the St Peter's Square.

10.88 When considering the above, the magnitude of impact is **Nil**. This is because the Proposed Development would not undermine the historic and architectural value of the listed building, or the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

CENTRAL PUBLIC LIBRARY (GRADE II*) (MAP REF: 12)

10.89 The Central Public Library has high heritage value and is located approximately 470m north-east of the Site.

10.90 The Central Public Library has a **Low** susceptibility to the type of change proposed. This is due to the separating distance and when considering the mixed urban environment the building is already experienced in, which includes an awareness of existing tall buildings. When calibrated with its heritage value, the sensitivity is **Medium**.

10.91 The Proposed Development will not directly impact the listed building and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.92 View 2 at **Figure 10.3** illustrates the extent of visibility within the wider setting of the listed building, demonstrating that the Proposed Development would appear at the end of channelled views along Lower Mosley Street alongside the tall building cluster that already characterises the Castlefield area. As such, the Proposed Development would be experienced as a wider element of the urban townscape in key views orientated east toward the principal frontage of the library that forms an attractive composition with the nearby Midland Hotel and the Town Hall Extension. Where visible in the setting of the Central Library, the Proposed Development would be read and understood as the latest phase of evolution of the city centre, which is characterised by its mixed townscape.

10.93 When considering the above, the magnitude of impact is **Nil**. This is because the Proposed Development would not undermine the historic and architectural value of the listed building, or the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

TOWN HALL EXTENSION (GRADE II*) (MAP REF: 17)

10.94 The Town Hall Extension has a high heritage value and is located approximately 535m north-east of the Site.

10.95 The Town Hall Extension has a **Low** susceptibility to the type of change proposed. This is due to the separating distance and when considering the mixed urban environment the building is already experienced in, which includes an awareness of existing tall buildings. When calibrated with its heritage value, the sensitivity is **Medium**.

10.96 The Proposed Development will not directly impact the listed building and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.97 The Proposed Development would appear in views orientated south-west along Lower Mosley Street from within St Peter's Square to the immediate south-east of the Town Hall Extension. The extent of visibility in these views is illustrated in View 2 at **Figure 10.3**, demonstrating that the Proposed Development would appear at the end of channelled views alongside the tall building cluster that already characterises the Castlefield area. When moving around the Town Hall Extension, the Proposed Development would be experienced as a wider element of the urban townscape, particularly in key views orientated east toward the eastern façade of the building that fronts the square and forms an attractive composition with the nearby Town Hall, and the Central Public Library. Where visible in the setting of the listed building, the Proposed Development would be read and understood as the latest phase of evolution of the city centre, which is characterised by its mixed townscape.

10.98 When considering the above, the magnitude of impact is **Nil**. This is because the Proposed Development would not undermine the historic and architectural value of the listed building, or the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

MANCHESTER WAR MEMORIAL (GRADE II*) (MAP REF: 18)

10.99 Manchester War Memorial has high heritage value and is located approximately 613m north-east of the Site.

10.100 The Manchester War Memorial has a **Low** susceptibility to the type of change proposed. This is because it is already experienced in an urban setting and there is an existing awareness of tall buildings within the setting of the building, as well as the separating distance between the receptor and the Site. When calibrated with the heritage value, the sensitivity is **Medium**.

10.101 The Proposed Development will be experienced in the wider setting of the war memorial in views orientated south-west across St Peter's Square and along Lower Mosley Street, where the Proposed Development will be seen alongside other tall buildings at Castlefield. As a result, the Proposed Development will appear as wider development that already characterises the skyline of Manchester and reflects its evolving townscape. Visibility of the Proposed Development will not interrupt key views of the war memorial, which are orientated west and form a grand, civic composition with the Grade I listed Town Hall.

10.102 The magnitude of impact of the Proposed Development is **Nil**. This is because the Proposed Development would not undermine the historic and architectural value of the listed structure, or the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

THE ATHENAEUM (GRADE II*) (MAP REF: 20)

10.103 The Athenaeum has high heritage value and is located approximately 654m north-east of the Site.

10.104 The Athenaeum has a **Low** susceptibility to the type of change proposed. This is due to the existing urban context and the separating distance from the Site. When calibrated with the heritage value, the sensitivity is **Medium**.

10.105 The Proposed Development will not directly impact the building and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.106 As demonstrated in the Heritage receptor Plan and ZTV overlay at **Figure 5.2**, the Proposed Development would not share any visibility within the immediate setting of the Athenaeum. Within the wider setting, the Proposed Development would be visible in views south-west across St Peter's Square towards the Site, where it would be visible as part of the existing tall building cluster at Castlefield. Visibility of the Proposed Development would not impact how one experiences the listed building along Princess Street and its relationship to the adjacent Manchester Art Gallery.

10.107 As such the magnitude of impact is **Nil**. This is because the Proposed Development would not undermine the historic and architectural value of the listed buildings, or the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

CHURCH OF ST GEORGE (GRADE II*) (MAP REF: 25)

10.108 The Church of St George has high heritage value and is situated approximately 675m west of the Site.

10.109 The Church of St George has a **Low** susceptibility to the type of change proposed. This is due to it already being experienced in a heavily altered setting, its urban surroundings and an awareness of tall building development to the east of the church. When calibrated with its value, the sensitivity is **Medium**.

10.110 The Proposed Development will not directly impact the listed building and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.111 The Proposed Development will be visible in views orientated east from within the setting of the church, and will be contribute to the skyline that is largely characterised by existing tall building development at Castlefield. As outlined in **Section 5.0**, the church derives little to no value from its setting, which has been significantly eroded by successive phases of redevelopment. The construction of modern transport infrastructure such as Chester Road and Mancunian Way has removed its 19th century residential context. These changes have largely severed the building's former spatial and functional relationships with its wider setting. Consequently, visibility of the Proposed Development in eastward views from within the church's setting will not impact its significance, as that significance is derived principally from its architectural and historic qualities rather than its present-day context.

10.112 As a result, the magnitude of impact is **Nil**. The church derives its significance almost entirely from its intrinsic architectural and historic interest, and the visual change introduced by the Proposed Development will not alter or diminish these qualities. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

ROCHDALE CANAL LOCK NO. 90, APPROX. 30 METRES WEST OF ALBION BRIDGE (GRADE II) (MAP REF: 27)

10.113 The Rochdale Canal Lock No. 90 has high heritage value and is situated approximately 23m north of the Site.

10.114 The canal lock has a **Low** susceptibility to the type of change proposed. This is due to it being experienced in the wider urban setting of Manchester, which includes tall buildings and modern development, as well as its enclosed setting due to it sitting below the surrounding street level. When calibrated with its value, the sensitivity is **Medium**.

10.115 The Proposed Development will not directly impact the lock and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.116 Due to the proximity between the lock and the Site, the Proposed Development will result in a noticeable increase in scale within the lock's wider setting in views orientated south. However, this visual change will not affect the key aspects of the lock's setting that contribute to its heritage value. These include its intrinsic relationship with the Rochdale Canal and the wider network of transport infrastructure to which it is historically and functionally connected. The Proposed Development would instead be perceived as part of the ongoing evolution of Manchester's urban form, which characterises the wider setting of the lock and is an expected feature given its position within the city centre.

10.117 As a result, the magnitude of impact is **Nil**. This is because the Proposed Development would not undermine the historic and architectural value of the listed building, or the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

13-17 ALBION STREET (GRADE II) (MAP REF: 28)

10.118 13-17 Albion Street has a high heritage value and is located approximately 57m north-east of the Site.

10.119 13-17 Albion Street has a **Low** susceptibility to the type of change proposed. This is due to its urban setting and an existing awareness of tall building context within its immediate setting, such as the 28 storey AXIS building on Albion Street. When calibrated with its heritage value, the sensitivity is **Medium**.



Figure 10.7 View 4 – Proposed

10.120 The Proposed Development will not directly impact the listed building and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.121 View 4 at **Figure 10.7** illustrates the visual interaction between the listed building and the Proposed Development in views orientated south-west along Albion Street. It demonstrates that the building would be largely screened from view due to its position behind the AXIS building to the right of the view. Due to the Proposed Development being set to one side, the listed building retains its prominence within the local streetscape, and continues to form an attractive and distinguishable feature in the key views where its siting at the key junction is best appreciated.

10.122 When considering the above, the magnitude of impact is **Nil**. This is because the Proposed Development would not undermine the historic and architectural value of the listed buildings, or the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

MANCHESTER SOUTH JUNCTION AND ALTRINCHAM RAILWAY VIADUCT (GRADE II) (MAP REF: 29)

10.123 The Manchester South Junction and Altrincham Railway Viaduct has a high heritage value and are located approximately 35m north of the Site at the nearest point.

10.124 The Manchester South Junction and Altrincham Railway Viaduct has a **Low** susceptibility to the type of change proposed. This is because of its urban setting and it being experienced in a context characterised by existing tall buildings. When calibrated with its heritage value the sensitivity is **Medium**.

10.125 The Proposed Development will not directly impact the receptor and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.126 The Proposed Development sits to the south of the viaduct and will be visible in views orientated south from within its setting. However, as the viaduct extends over a distance and is experienced from various vantage points, the magnitude of the Proposed Development would vary based on factors such as intervening development reducing intervisibility and separating distance. Where visible in the setting of the viaduct, the Proposed Development would be read and understood alongside the hugely varied urban landscape of central Manchester, and in particular the tall building context already established at Castlefield near to the viaduct. This visual change would not impact the viaduct's intrinsic historic and functional relationship with other surviving 19th century railway infrastructure in the city centre and it would continue to be a focal and striking feature that cuts across the surrounding townscape.

10.127 As such, the magnitude of impact is **Nil**. This is because the Proposed Development would not undermine the historic and architectural value of the receptor, or the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

THE BRITONS PROTECTION PUBLIC HOUSE (GRADE II) (MAP REF: 30)

10.128 The Britons Protection Public House has high heritage value and is located approximately 112m north-east of the Site.

10.129 The Britons Protection Public House has a **Low** susceptibility to the type of change proposed. This is due to its urban setting and an existing awareness of tall building context within its immediate setting, such as the 28 storey AXIS building on Albion Street. When calibrated with its heritage value, the sensitivity is **Medium**.

10.130 The Proposed Development will not directly impact the listed building and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.131 As with 13-17 Albion Stret, View 4 at **Figure 10.7** illustrates the visual interaction between the listed building and the Proposed Development in views orientated south-west along Albion Street. It demonstrates that the building would be largely screened from view due to its position behind the AXIS building to the right of the view. Due to the Proposed Development being set to one side, the listed building retains its prominence within the local streetscape and continues to form an attractive pair with 13-17 Albion Street in this key view where its siting at the key junction is best appreciated.

10.132 When considering the above, the magnitude of impact is **Nil**. This is because the Proposed Development would not undermine the historic and architectural value of the listed buildings, or the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

ROCHDALE CANAL LOCK KEEPERS COTTAGE AT LOCK NO. 91, NEXT TO GAYTHORN TUNNEL (GRADE II) (MAP REF: 31) AND ROCHDALE CANAL LOCK NO. 91 AT EAST END OF GAYTHORN TUNNEL (GRADE II) (MAP REF: 31)

10.133 The Rochdale Canal Lock Keepers Cottage and the Rochdale Canal Lock No. 91 both have a high heritage value and are located approximately 93m north-west of the Site at the nearest point.

10.134 The cottage and canal lock have a **Low** susceptibility to the type of change proposed. This is due to them being experienced in the wider urban setting of Manchester, which includes tall buildings and modern development, as well as their enclosed setting due to them sitting below the surrounding street level. When calibrated with their value, the sensitivity is **Medium**.

10.135 The Proposed Development will not directly impact the cottage and lock and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.136 Due to the proximity between the heritage receptors and the Site, the Proposed Development will result in a noticeable increase in scale within the lock's wider setting in views orientated south. However, this visual change will not affect the key aspects of the heritage receptor's setting that contribute to their heritage value. These include their intrinsic relationship with the Rochdale Canal and the wider network of transport infrastructure to which it is historically and functionally connected. The Proposed Development would instead be perceived as part of the ongoing evolution of Manchester's urban form, which characterises the wider setting of the cottage and lock and is an expected feature given their position within the city centre.

10.137 As a result, the magnitude of impact is **Nil**. This is because the Proposed Development would not undermine the historic and architectural value of the heritage receptors, or the key aspects of their setting that contribute to their value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

DEANSGATE STATION (GRADE II) (MAP REF: 32)

10.138 Deansgate Station is has high heritage value and are located approximately 79m west of the Site.

10.139 Deansgate Station has a **Low** susceptibility to the type of change proposed. This is due to the existing urban context and the presence of a number of tall buildings in the wider setting of the listed building. When calibrated with the heritage value, the sensitivity is **Medium**.

10.140 The Proposed Development will not directly impact the building and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.141 View 7 at **Figure 10.8** illustrates the visual interaction between the listed building and the Proposed Development in views orientated east along Whitworth Street. It demonstrates that there would be a notable uplift in scale on the Site in key views of the station that allow for an appreciation of its landmark quality on the adjacent junction. The Proposed Development would not directly interact with the turret of the station, and would continue to be appreciated as a landmark and distinctive building within the surrounding streetscape.

10.142 Additionally, the Proposed Development would be seen alongside other tall buildings, such as the AXIS building along Whitworth Street and the tall building cluster at Castlefield, and therefore would contribute to an existing understanding of the most recent phase of evolution in this part of Manchester.

10.143 When considering the above, the magnitude of impact is **Very Low**. This is because the Proposed Development would not undermine the historic and architectural value of the heritage receptors, or the key aspects of their setting that contribute to their value but would create a notable visual change in key views of the listed building. When calibrated with the sensitivity, the likely effect is **Negligible**. The nature of this effect is **Neutral**. The Geographical Significance of the effect would be at District level and the Nature would be Long Term, Irreversible and Not Significant.



Figure 10.8 View 7 – Proposed

ROCHDALE CANAL LOCK NO. 89 (TIB LOCK), ON SOUTH SIDE OF HAVELOCK MILLS (GRADE II) (MAP REF: 33)

10.144 The Rochdale Canal Lock No. 89 has high heritage value and is located approximately 163m east of the Site.

10.145 The Rochdale Canal Lock No. 89 has a **Low** susceptibility to the type of change proposed. This is due to it being experienced in the wider urban setting of Manchester, which includes tall buildings and modern development, as well as its enclosed setting due to it sitting below the surrounding street level. When calibrated with its value, the sensitivity is **Medium**.

10.146 The Proposed Development will not directly impact the lock and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.147 Due to the high-rise built form along this part of the canal, visibility from the canal to the wider area in limited, and therefore the upper storeys of the Proposed Development would be glimpsed above the roofline of surrounding built development in views orientated west. Any visual change will not affect the key aspects of the lock's setting that contribute to its heritage value. These include its intrinsic relationship with the Rochdale Canal and the wider network of transport infrastructure to which it is historically and functionally connected. The Proposed Development would instead be perceived as part of the ongoing evolution of Manchester's urban form, which characterises the wider setting of the lock and is an expected feature given its position within the city centre.

10.148 As a result, the magnitude of impact is **Nil**. This is because the Proposed Development would not undermine the historic and architectural value of the listed building, or the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

BOUNDARY STONE ON KNOTT MILL BRIDGE, AND FLOODGATE ON EAST SIDE OF KNOTT MILL BRIDGE (GRADE II) (MAP REF: 34)

10.149 The boundary stone and floodgate have high heritage value and are located approximately 197m south-west of the Site at the nearest point.

10.150 The boundary stone and floodgate have a **Low** susceptibility to the type of change proposed. This is due to them being experienced in the wider urban setting of Manchester, which includes tall buildings and modern development. When calibrated with their value, the sensitivity is **Medium**.

10.151 The Proposed Development will not directly impact the heritage receptors and the principal reasons for their significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.152 Due to surrounding dense urban development, the upper storeys of the Proposed Development will be visible above the surrounding buildings. Where visible, the Proposed Development will contribute to the urban context that characterises the wider setting. It will not impact elements of the listed feature's setting that contribute to their setting, which include fragments of historic townscape and their position within the wider city of Manchester.

10.153 As a result, the magnitude of impact is **Nil**. This is because the visual change created by the Proposed Development in the setting of the receptor is not considered to alter the heritage value of the asset, or impact the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

FORMER CONGREGATIONAL CHAPEL (GRADE II) (MAP REF: 35)

10.154 The Former Congregational Chapel has high heritage value and is located approximately 215m west of the Site.

10.155 The Former Congregational Chapel has a **Low** susceptibility to the type of change proposed. This is because of its urban setting, which is formed of existing tall building development that is appreciable in its wider setting. When calibrated with its value, the sensitivity is **Medium**.

10.156 Firstly, the Proposed Development will not directly impact the heritage receptor and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.157 Due to the alignment of the Site and the chapel along Whitworth Street, the Proposed Development will sit behind the tower of the chapel in views eastward from Castle Street in the Castlefield Conservation Area, which are considered key views where the landmark character of the chapel is appreciated.

10.158 In these views, the slender profile of the building, derived from the Site's narrow footprint and the narrow proportions of its western elevation, means it will read as a vertical, elegant element on the skyline. The proposed bronze-toned anodised aluminium façade responds positively to the warm red and brown palette of the surrounding historic environment, to provide a neutral tone in the backdrop of the red brick chapel. The lighter materiality ensures that the tower silhouette of the listed building remains legible and the chapel continues to form a landmark feature in views from the Castlefield Conservation Area.

10.159 The architecture of the Proposed Development has been underpinned by a 'weave' concept, rooted in Manchester's Cottonopolis industrial heritage. A weave-like grid generates a woven façade language, which has the benefit of bringing interest to the Proposed Development, as well as contrasting with the solidity of the church tower.

10.160 Furthermore, due to the chapel's position at the point where a number of surrounding routes converge, the building is experienced in the round and there are several other points in its setting where it's prominence in the local streetscape can be appreciated, such as in views north-east along Bridgewater Viaduct.

10.161 The experience of the receptor is inherently kinetic, and as one moves through the area, there is an awareness of the existing tall-building context of the wider city centre, which forms a secondary skyline within the setting of the listed building. Within this established context, the Proposed Development sits comfortably in the wider townscape pattern and maintains the chapel's primacy in local views.

10.162 As a result, the magnitude of impact is **Low**. This is because the Proposed Development will appear as a background feature in key views of the chapel from the west but will not undermine historic and architectural value of the heritage receptor, or the aspects of its setting, such as its spatial and visual relationship to the Castlefield Conservation Area, that contribute to its value. When calibrated with the sensitivity, the likely effect is Minor-Moderate. Using professional judgement, the likely effect is Minor. The nature of the effect is **Neutral** on balance when considering the adverse effect of the Proposed Development appearing behind the church tower in key views from within the Castlefield Conservation Area against the positive contribution of its high-quality architecture, which draws on and complements the area's historic materiality. The Geographical Significance of the effect would be at District level and the Nature would be Long Term, Irreversible and Not Significant.

ELECTRICITY JUNCTION BOX IN CASTLEFIELD CANAL BASIN, MANCHESTER (GRADE II) (MAP REF: 36); ELECTRICITY JUNCTION BOX IN CASTLEFIELD CANAL BASIN, MANCHESTER (GRADE II) (MAP REF: 40); ELECTRICITY JUNCTION BOX ON CASTLE STREET, MANCHESTER (GRADE II) (MAP REF: 44)

10.163 The junction boxes have high heritage value and are located approximately 232m west of the Site at the nearest point.

10.164 The electricity junction boxes have a **Low** susceptibility to the type of change proposed. This is due to them being experienced in the wider urban setting of Manchester, which includes tall buildings and modern development. When calibrated with their value, the sensitivity is **Medium**.

10.165 The Proposed Development will not directly impact the heritage receptors and the principal reasons for their significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.166 Due to surrounding dense urban development, the upper storeys of the Proposed Development will be visible above the surrounding built environment. Where visible, the Proposed Development form part of the wider urban skyline and will not impact elements of the listed feature's setting that contribute to their setting, which include their relationship to one another and their visual relationship with the nearby former Congregational Chapel.

10.167 As a result, the magnitude of impact is **Nil**. This is because the visual change created by the Proposed Development in the setting of the receptor is not considered to alter the heritage value of the asset, or impact the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

CASTLEFIELD INFORMATION CENTRE (GRADE II) (MAP REF: 38)

10.168 The Castlefield Information Centre has high heritage value and is located approximately 218m north-west of the Site.

10.169 Castlefield Information Centre has a **Low** susceptibility to the type of change proposed. This is because of its urban setting, which is formed of existing tall building development that is appreciable in its wider setting. When calibrated with its value, the sensitivity is **Medium**.

10.170 The Proposed Development would be visible in viewed orientated south along Deansgate, appearing in the wider setting of the listed building. Due to the orientation of the building, key views that appreciate its curved corner feature and north-west siting on the junction between Liverpool Road and Deansgate are orientated north and away from the Proposed Development. Where visible in the wider setting of the listed building, it will appear secondary to Beetham Tower, which is located 45m east of the listed building.

10.171 As such, the magnitude of impact is **Nil**. This is because the Proposed Development would not undermine the historic and architectural value of the receptor, or the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

CHEPSTOW HOUSE (GRADE II) (MAP REF: 41)

10.172 Chepstow House has high heritage value and is located approximately 218m north-east of the Site.

10.173 Chepstow House has a **Low** susceptibility to the type of change proposed. This is because of its urban setting, which is formed of existing tall building development that is appreciable in its wider setting. When calibrated with its value, the sensitivity is **Medium**.

10.174 The Proposed Development will be visible in views orientated south-west from Chepstow Street in the wider setting of the listed building. Due to the separating distance and orientation of the building, the Proposed Development will not impact key views of the building that are orientated east towards its principal elevation, and will therefore be experienced as contributing to the wider development, continuing to allow for an appreciation of the intrinsic value of the building as outlined in **Section 5.0**.

10.175 As a result, the magnitude of impact is **Nil**. This is because the visual change created by the Proposed Development in the setting of the receptor is not considered to alter the heritage value of the asset, or impact the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

FORMER MARKET HOUSE (GRADE II) (MAP REF: 42)

10.176 The Former Market House has a high heritage value and is located approximately 237m north-west of the Site.

10.177 The Former Market House has a **Low** susceptibility to the type of change proposed. This is because it is already experienced in an urban setting and there is an existing awareness of tall buildings within the setting of the building, as well as the separating distance between the receptors and the Site. When calibrated with the heritage value, the sensitivity is **Medium.**

10.178 The Proposed Development will not directly impact the listed buildings and the principal reasons for their significance which are outlined in **Section 5.0** of this report. As such, this aspect of the buildings' heritage value will remain unaffected by the Proposed Development.

10.179 The Proposed Development be visible above the roofline of the building's located along the south of Liverpool Road in views from Liverpool Road and orientated south. As a result, the Proposed Development will not impact key views of the building that are orientated north and take in its principal frontage that is orientated south. In these views, the Proposed Development will be located behind the viewer.

10.180 The magnitude of impact is **Nil**. This is because the visual change created by the Proposed Development in the setting of the receptor is not considered to alter the heritage value of the asset, or impact the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

29-41 LIVERPOOL ROAD (GRADE II) (MAP REF: 45)

10.181 29-41 Liverpool Road has high heritage value and is located approximately 273m north-west of the Site.

10.182 29-41 Liverpool Road have a **Low** susceptibility to the type of change proposed. This is because they are already experienced in an urban setting and there is an existing awareness of tall buildings within the setting of the buildings, as well as the separating distance between the receptors and the Site. When calibrated with the heritage value, the sensitivity is **Medium.**

10.183 First and foremost, the Proposed Development will not directly impact the listed buildings and the principal reasons for their significance which are outlined in **Section 5.0** of this report. As such, this aspect of the buildings' heritage value will remain unaffected by the Proposed Development.

10.184 Due to separating distance and the strong built frontage to the street formed of the terraced buildings, The upper storeys of the Proposed Development will be glimpsed above the roofline of the building's located along the south of Liverpool Road in views from Liverpool Road and orientated south.

10.185 Where visible, the Proposed Development will be considered seen alongside an existing tall building context established by buildings such as Beecham Tower, which appear behind the roofline of the terraces and in views east along Liverpool Road. This form of development is read and understood as the latest phase in Manchester's evolution and does not impact how one appreciates the terraces as a group and their relationship to Liverpool Road.

10.186 When considering the above, the magnitude of impact is **Nil**. This is because the visual change created by the Proposed Development in the setting of the receptor is not considered to alter the heritage value of the asset, or impact the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

CASTLEFIELD RAILWAY VIADUCT FROM G-MEX TO DAWSON STREET (GRADE II) (MAP REF: 47)

10.187 The Castlefield Railway Viaduct has a high heritage value and are located approximately 41m west of the Site at the nearest point.

10.188 The Castlefield Railway Viaduct has a **Low** susceptibility to the type of change proposed. This is because of its urban setting and it being experienced in a context characterised by existing tall buildings. When calibrated with its heritage value the sensitivity is **Medium**.

10.189 The Proposed Development will not directly impact the receptor and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.190 The Proposed Development sits to the east of the viaduct and will be visible in views orientated east from within its setting. However, as the viaduct extends over a distance and is experienced from various vantage points, the magnitude of the Proposed Development would vary based on factors such as intervening development reducing intervisibility and separating distance. Where visible in the setting of the viaduct, the Proposed Development would be read and understood alongside the hugely varied urban landscape of central Manchester, and in particular the tall building context already established at Castlefield near to the viaduct. This visual change would not impact the viaduct's intrinsic historic and functional relationship with other surviving 19th century railway infrastructure in the city centre and it would continue to be a focal and striking feature that cuts across the surrounding townscape.

10.191 As such, the magnitude of impact is **Nil**. This is because the visual change created by the Proposed Development in the setting of the receptor is not considered to alter the heritage value of the asset, or impact the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

THE RITZ DANCE HALL (GRADE II) (MAP REF: 49)

10.192 The Ritz Dance Hall has high heritage value and is located approximately 361m east of the Site.

10.193 The Ritz Dance Hall has a **Low** susceptibility to the type of change proposed. This is due to the existing urban context and the presence of a number of tall buildings in the wider setting of the listed building. When calibrated with the heritage value, the sensitivity is **Medium**.

10.194 The Proposed Development will not directly impact the building and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.195 As demonstrated in the Heritage receptor Plan and ZTV overlay at **Figure 5.2**, the Proposed Development would not share any visibility within the immediate setting of the Ritz Dance Hall. The Proposed Development would be visible in the wider setting of the listed building in views west along Whitworth Street and orientated away from the listed building, and would therefore not impact key views of the principal frontage along Whitworth Street.

10.196 As such, magnitude of impact is **Nil**. This is because there would be no shared intervisibility between the listed building and the Proposed Development, as evidenced by the ZTV. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

CANADA HOUSE (GRADE II) (MAP REF: 53)

10.197 Canada House has high heritage value and is located approximately 366m north-east of the Site.

10.198 Canada House has **Low** susceptibility to the type of change proposed. This is due to separating distance, the existing urban context and the presence of a number of tall buildings in the wider setting of the listed building. When calibrated with the heritage value, the sensitivity is **Medium**.

10.199 The Proposed Development will be visible in the open space to the west of the listed building in views orientated south-west, where it will appear above the building line of surrounding buildings. In these views, the Proposed Development will be backdropped by the tall building cluster at Great Jackson Street, contributing to the varied skyline that characterises the wider city centre of Manchester. The Proposed Development will not appear in key views of Canada house, which take in its principal west elevation and are orientated away from the Site.

10.200 As such, the magnitude of impact is **Nil**. This is because the Proposed Development would not undermine the historic and architectural value of the receptor, or the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

MUSEUM OF SCIENCE AND INDUSTRY, AIR AND SPACE MUSEUM (GRADE II) (MAP REF: 55)

10.201 The Museum of Science and Industry, Air and Space Museum has a high heritage value and is located approximately 341m north-west of the Site.

10.202 The Museum of Science and Industry, Air and Space Museum has a **Low** susceptibility to the type of change proposed. This is because it is already experienced in an urban setting and there is an existing awareness of tall buildings within the setting of the building, as well as the separating distance between the receptors and the Site. When calibrated with the heritage value, the sensitivity is **Medium.**

10.203 The Proposed Development will not directly impact the listed buildings and the principal reasons for their significance which are outlined in **Section 5.0** of this report. As such, this aspect of the buildings' heritage value will remain unaffected by the Proposed Development.

10.204 The Proposed Development be visible above the roofline of the building's located along the south of Liverpool Road in views from Liverpool Road and orientated south. As a result, the Proposed Development will not impact key views of the building that are orientated north and take in its principal frontage that is orientated south. In these views, the Proposed Development will be located behind the viewer.

10.205 The magnitude of impact is **Nil**. This is because the visual change created by the Proposed Development in the setting of the receptor is not considered to alter the heritage value of the asset, or impact the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

MANCHESTER OXFORD ROAD STATION (INCLUDING PLATFORM STRUCTURES) (GRADE II) (MAP REF: 62)

10.206 Manchester Oxford Road Station has high heritage value and is located approximately 400m east of the Site.

10.207 Manchester Oxford Road Station has a **Low** susceptibility to the type of change proposed. This is due to separating distance, the existing urban context and the presence of a number of tall buildings in the wider setting of the listed building. When calibrated with the heritage value, the sensitivity is **Medium**.

10.208 First and foremost, the Proposed Development will not directly impact the listed buildings and the principal reasons for their significance which are outlined in **Section 5.0** of this report. As such, this aspect of the buildings' heritage value will remain unaffected by the Proposed Development.

10.209 The Proposed Development will be visible in conjunction with the station only from limited positions on the southern railway platforms, where it appears in channelled views looking west along the railway lines. These are not sensitive viewpoints, as they do not allow any meaningful appreciation of the station's architectural or historic qualities. The ZTV illustrated at **Figure 5.2** confirms that the Proposed Development will not be perceptible in the key and most sensitive views of the station, which are experienced from positions east of the entrance looking west, where its principal elevations and significance are most clearly understood.

10.210 As such, the magnitude of impact is **Nil**. This is because the visual change from the Proposed Development in the setting of the receptor is not considered to alter the heritage value of the asset, or impact the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

NOS 25 TO 31 AND ATTACHED FORMER CHAPEL (GRADE II) (MAP REF: 63)

10.211 Nos 25 to 31 and attached former Chapel have high heritage value and are located approximately 409m north-west of the Site.

10.212 Nos 25 to 31 and attached former Chapel have a **Low** susceptibility to the type of change proposed. This is due to separating distance, the existing urban context and the presence of a number of tall buildings in the wider setting of the listed building. When calibrated with the heritage value, the sensitivity is **Medium**.

10.213 The ZTV overlay at **Figure 5.2** demonstrates that the due to intervening development and street orientation, the Proposed Development will not be visible from within the immediate setting of the listed terrace and will create no visual change that would impact the value of the heritage receptor. As such, the magnitude of impact is **Nil** and the likely effect is **None**. This effect is therefore Not Significant.

FORMER ST MATTHEWS SUNDAY SCHOOL (GRADE II) (MAP REF: 64)

10.214 The Former St Matthews Sunday School has high heritage value and is located approximately 408m north-west from the Site.

10.215 The Former St Matthews Sunday School has a **Low** susceptibility to the type of change proposed. This is due to separating distance, the existing urban context and the presence of a number of tall buildings in the wider setting of the listed building. When calibrated with the heritage value, the sensitivity is **Medium**.

10.216 The Proposed Development will not directly impact the receptor and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.217 The upper storeys of the Proposed Development would appear as wider urban development in views of the listed building when positioned on Lower Byron Street orientated south toward the principal elevation of the former school. Due to separating distance and the presence of other, larger-scale tall building development in this view, the Proposed Development would appear as secondary to the experience of the listed building within its immediate context and its siting as a terminating feature in views along Lower Bryon Street. It would not impact an appreciation of the prominence of the building in these views.

10.218 As such, the magnitude of impact is **Nil**. This is because the visual change from the Proposed Development in the setting of the receptor is not considered to alter the heritage value of the asset, or impact the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

CHORLTON OLD MILL (GRADE II) (MAP REF: 65)

10.219 Chorlton Old Mill has high heritage value and is located approximately 439m south-east of the Site.

10.220 Chorlton Old Mill has a **Low** susceptibility to the type of change proposed. This is due to separating distance, it being experienced in the wider urban setting of Manchester, which includes tall buildings and modern development, as well as its enclosed setting due to it sitting below the surrounding street level. When calibrated with its value, the sensitivity is **Medium**.

10.221 The Proposed Development will be visible above the roofline of surrounding development in views orientated north along Cambridge street. In these views, the Proposed Development will appear as secondary to other tall building development along Wilmott Street. When seen together, the buildings will be read and understood as the urban evolution of the wider city centre. Visibility of the Proposed Development in the wider setting of the listed building will not impact the intrinsic qualities of the building as outlined in **Section 5.0** or its relationship to the adjacent listed mill to the south, the two of which form an attractive pair that reflect Manchester's industrial character.

10.222 As a result, the magnitude of impact is **Nil**. This is because the visual change from the Proposed Development in the setting of the receptor is not considered to alter the heritage value of the asset, or impact the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

ROCHDALE CANAL LOCK NO. 92 AND CASTLE STREET BRIDGE (GRADE II) (MAP REF: 68)

10.223 The Rochdale Canal Lock No. 92 has high heritage value and is located approximately 443m west of the Site.

10.224 Lock No. 92 has a **Low** susceptibility to the type of change proposed. This is due to separating distance, it being experienced in the wider urban setting of Manchester, which includes tall buildings and modern development, as well as its enclosed setting due to it sitting below the surrounding street level. When calibrated with its value, the sensitivity is **Medium**.

10.225 The Proposed Development will not directly impact the lock and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.226 The Proposed Development would be visible from the lock in views oriented east towards the Site. In these views, it would form part of the established and varied skyline, which already comprises numerous tall buildings within the wider setting of the lock. As such, the Proposed Development would be understood as a continuation of Manchester's ongoing urban expansion and would read as a characteristic feature of the evolving cityscape.

10.227 Furthermore, the visual change will not affect the key aspects of the lock's setting that contribute to its heritage value. These include its intrinsic relationship with the Rochdale Canal and the wider network of transport infrastructure to which it is historically and functionally connected. The Proposed Development would instead be perceived as part of the ongoing evolution of Manchester's urban form, which characterises the wider setting of the lock and is an expected feature given its position within the city centre.

10.228 As a result, the magnitude of impact is **Nil**. This is because the visual change from the Proposed Development in the setting of the receptor is not considered to alter the heritage value of the asset, or impact the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

MERCHANTS' WAREHOUSE (GRADE II) (MAP REF: 71)

10.229 The Merchants' Warehouse has high heritage value and is located approximately 443m west of the Site.

10.230 The Merchants' Warehouse has a **Low** susceptibility to the type of change proposed. This is due to separating distance, it being experienced in the wider urban setting of Manchester, which includes tall buildings and modern development, as well as its enclosed setting due to it sitting below the surrounding street level. When calibrated with its value, the sensitivity is **Medium**.



Figure 10.9 View 9 – Proposed

10.231 The Proposed Development will not directly impact the lock and the principal reasons for its significance which are outlined in **Section 5.0** of this report. As such, this aspect of the building's heritage value will remain unaffected by the Proposed Development.

10.232 The Proposed Development would be visible in views orientated east from within the immediate setting of the listed building, with the listed building positioned behind the viewer. As outlined in **Section 5.0**, the principal views of the warehouse, those that reveal its distinctive industrial massing and functional architectural expression, are orientated west, meaning the Proposed Development sits outside these key view corridors. View 9 (**Figure 10.9**) demonstrates that while the Proposed Development introduces a notable uplift in height within the wider setting of the receptor, it remains read against an already varied and dynamic skyline. This skyline is characterised by the coexistence of 19th–century industrial buildings associated with the Castlefield Conservation Area and a series of established tall buildings to the south and east, resulting in a context where height variation is an accepted and legible part of the wider townscape.

10.233 As a result, the magnitude of impact is **Nil**. This is because the Proposed Development would not undermine the historic and architectural value of the listed building, or the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

MILL ON NORTH EAST CORNER OF JUNCTION WITH CHESTER STREET (GRADE II) (MAP REF: 73)

10.234 The Mill on North East Corner of Junction with Chester Street has high heritage value and is located approximately 437m south–west of the Site.

10.235 The Mill has a **Low** susceptibility to the type of change proposed. This is due to separating distance, it being experienced in the wider urban setting of Manchester, which includes tall buildings and modern development, as well as its enclosed setting due to it sitting below the surrounding street level. When calibrated with its value, the sensitivity is **Medium**.

10.236 The Proposed Development will be visible above the roofline of surrounding development in views orientated north along Cambridge street. In these views, the Proposed Development will appear alongside other tall building development along Wilmott Street. When seen together, the buildings will be read and understood as the urban evolution of the wider city centre. Visibility of the Proposed Development in the wider setting of the listed building will not impact the intrinsic qualities of the building as outlined in **Section 5.0** or its relationship to the Chorlton Old Mill, which It abuts. The two of which form an attractive pair that are important survival representing Manchester's industrial past and importance in the Industrial Revolution.

10.237 As a result, the magnitude of impact is **Nil**. This is because the Proposed Development would not undermine the historic and architectural value of the listed building, or the key aspects of its setting that contribute to its value. When calibrated with the sensitivity, the likely effect is **None**. This effect is therefore Not Significant.

CUMULATIVE ASSESSMENT

DEMOLITION AND CONSTRUCTION

10.238 The cumulative schemes which are set out in **Table 4.1** in Chapter 4 of the ES and have been considered in terms of the potential effects on the heritage receptors.

10.239 The demolition and construction activity associated with cumulative schemes, in combination with the construction phase of the Proposed Development, has the potential to intensify environmental conditions within the settings of a number of heritage assets. Owing to its scale and its proximity to the Site, the demolition and construction works for the Viadux Phase 2 scheme (Planning Ref: 139715/FO/2024) are expected to generate levels of noise, vibration, dust and construction traffic. These effects would be experienced in the settings of those heritage receptors located closest to the Site and sharing intervisibility with the Proposed Development, which include:

10.239.1 Castlefield Conservation Area

10.239.2 Rochdale Canal Lock No. 90

10.239.3 Former Congregational Chapel

10.240 The cumulative demolition and construction effects for these three heritage receptors remain as assessed in the construction scenario due to their temporary nature and an existing awareness of construction activity in the wider area. As a result, cumulative demolition and construction likely effect would be **Negligible Adverse** for the Castlefield Conservation Area and the Former Congregational Chapel and **Minor Adverse** for Rochdale Lock No. 90. These effects are indirect, medium term and temporary. They are therefore Not Significant.

10.241 For many heritage assets within the wider city centre, such as most of the conservation areas and the listed buildings within them, cumulative demolition and construction effects are anticipated to be limited primarily to visual change. This would typically include the visibility of hoardings, scaffolding, cranes and construction compounds within urban views. The construction phase of the Proposed Development will also be visible in combination with demolition and construction activity within the Great Jackson Street area. For example, views from St Peter's Square along Lower Mosley Street will be directed towards construction activity in the middle and far distance. This will be experienced within the setting of a number of heritage assets in and around St Peter's Square, including the Midland Hotel, the Central Public Library, the Town Hall Extension and the Town Hall.

10.242 Whilst there would be some visual change in the setting of heritage receptors, it is important to note that temporary construction-related features, such as scaffolding, hoardings and increased construction traffic, are common characteristics of the contemporary Manchester city centre environment, reflecting the ongoing intensification of regeneration. As such, the visibility of demolition and construction activity typically forms a transient and familiar component of the wider setting of many heritage assets considered within the assessment, and is generally perceived as part of a wider pattern of urban development.

10.243 There will be no permanent change to the way the heritage value of the receptors identified in the baseline is appreciated or understood. For the majority of receptors that are situated some distance from the Site or have a physical buffer between the Site and the receptor. The change to the setting will not intrinsically affect the appreciation or understanding of any surrounding heritage receptors.

10.244 As such, the visual impact of the cumulative demolition and construction scenario would not combine with the impact of the Proposed Development so that it would alter its setting to the point that the cumulative scenario would impact the assessment of the Proposed Development in isolation.

OPERATIONAL

10.245 The cumulative schemes are set out at **Table 4.1 in Chapter 4 of the ES** have been considered in terms of the potential effects on built heritage receptors.

10.246 The cumulative condition demonstrates a continued intensification of the well-established secondary skyline that surrounds, but remains visually separate from, the historic core of Manchester. This is particularly evident in south-west-facing views toward the Great Jackson Street cluster, where the existing cluster of tall buildings will be intensified in the cumulative condition. In this context, the Proposed Development, which is already backdropped by existing tall buildings, would continue to appear recessive or read in silhouette alongside new cumulative schemes such as Plot D, Great Jackson Street (Planning Ref: 137273/FO/2021) and Plots C and E, Great Jackson Street (Planning Ref: 137226/FO/2023). This effect will be especially noticeable from conservation areas within the city centre and from heritage receptors in St Peter's Square, where channelled views south-west along Lower Mosley Street frame the emerging tall-building cluster as a key element in its setting that characterises the wider urban landscape but that is secondary to the historic townscape of the city core.

10.247 In a number of key views from heritage receptors within the city centre, such as Views 3, 10 and 11, Viadux Phase 2 (Planning Ref: 139715/FO/2024) will be highly visible due to its height and its relative proximity to the historic core. In views where Viadux Phase 2 is seen together with the Proposed Development, the Proposed Development is perceived as a recessive background element, visually subordinate to Viadux Phase 2 and situated behind or alongside it rather than competing for prominence. At the time of writing, the Viadux Phase 2 scheme is awaiting decision from Manchester City Council.

10.248 When seen together, the wider cumulative visual impact would lead to an intensification of development that would create a visual change within the setting of several receptors. However, the visual impact of the cumulative scenario would not combine with the impact of the Proposed Development so that it would alter its setting to the point that the cumulative scenario would impact the assessment of the Proposed Development in isolation. For most of the heritage receptors located some distance from the Site, the Proposed Development in the cumulative condition would be viewed as contributing to an existing context that forms a key feature in the setting of the listed buildings. This would not result in additional effects arising over and above those already identified in the assessment of the Proposed Development in isolation.

10.249 Within the broader cityscape, the Proposed Development and surrounding cumulative schemes together reinforce Manchester's identity as a contemporary metropolitan centre, where the contrast between historic industrial townscape and modern high-rise forms are already an established and characteristic feature of the skyline. Visibility of tall buildings in the wider setting of the receptors will read as the continued evolution of the city and does not erode the key attributes of their value, nor does it diminish their legibility, landmark qualities or spatial relationships within the historic core.

10.250 As such, it is considered that the assessment set out above in relation to the Proposed Development's potential cumulative effect on heritage impacts, remains the same as the likely effects arising from the Proposed Development in isolation.



Figure 10.10 View 3 – Cumulative



Figure 10.11 View 10 – Cumulative

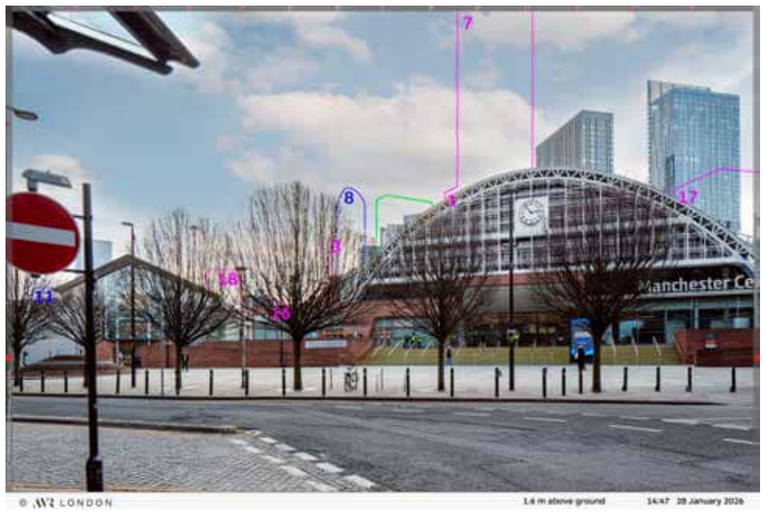


Figure 10.12 View 11 – Cumulative

SECTION SUMMARY

10.251 The findings of the assessment of likely effects on heritage receptors is summarised at **Table 10.1** below.

10.252 Summary of likely effects on heritage receptors. Significant likely effects are shaded in blue.

MAP REF	NAME	HERITAGE VALUE	SUSCEPTIBILITY TO CHANGE	SENSITIVITY	MAGNITUDE OF IMPACT (CONSTRUCTION)	LIKELY EFFECT / NATURE OF EFFECT (CONSTRUCTION)	MAGNITUDE OF IMPACT (COMPLETED DEVELOPMENT)	LIKELY EFFECT / NATURE OF EFFECT (COMPLETED DEVELOPMENT)	LIKELY EFFECT (CUMULATIVE: DEMOLITION AND CONSTRUCTION)	LIKELY EFFECT / NATURE OF EFFECT (CUMULATIVE: OPERATIONAL)
A	Castlefield Conservation Area	High	Medium	Medium/High	Very Low	Negligible Adverse (Not Significant)	Low	Minor Neutral (Not Significant)	Negligible Adverse (Not Significant)	Minor Neutral (Not Significant)
D	St Peter's Square	High	Low	Medium/High	Nil None	None (Not Significant)	Very Low	Negligible Neutral (Not Significant)	None (Not Significant)	Negligible Neutral (Not Significant)
E	George Street Conservation Area	High	Low	Medium	Nil None	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
G	Albert Square	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
H	Upper King Street	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
1	Town Hall	Very High	Low	Medium/High	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
2	Albert Memorial	Very High	Low	Medium/High	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
4	Old Warehouse to North of former Liverpool Road Railway Station	Very High	Low	Medium/High	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
5	Manchester Art Gallery	Very High	Low	Medium/High	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
6	Former Liverpool Road Railway Station, Station Masters House	Very High	Low	Medium/High	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
7	G Mex	High	Low	Medium	Nil	None (Not Significant)	Very Low	Negligible Neutral (Not Significant)	None (Not Significant)	Negligible Neutral (Not Significant)
8	Deansgate Goods Station and attached Carriage Ramp	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
10	Midland Hotel	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
12	Central Public Library	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
17	Town Hall Extension	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
18	Manchester War Memorial	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
20	The Athenaeum	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
25	Church of St George	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
27	Rochdale Canal Lock No. 90, Approx. 30 metres West of Albion Bridge	High	Low	Medium	Low	Minor Adverse (Not Significant)	Nil	None (Not Significant)	Minor Adverse (Not Significant)	None (Not Significant)
28	13-17, Albion Street	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
29	Manchester South Junction and Altrincham Railway Viaduct	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
30	The Britons Protection Public House	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)

MAP REF	NAME	HERITAGE VALUE	SUSCEPTIBILITY TO CHANGE	SENSITIVITY	MAGNITUDE OF IMPACT (CONSTRUCTION)	LIKELY EFFECT / NATURE OF EFFECT (CONSTRUCTION)	MAGNITUDE OF IMPACT (COMPLETED DEVELOPMENT)	LIKELY EFFECT / NATURE OF EFFECT (COMPLETED DEVELOPMENT)	LIKELY EFFECT (CUMULATIVE: DEMOLITION AND CONSTRUCTION)	LIKELY EFFECT / NATURE OF EFFECT (CUMULATIVE: OPERATIONAL)
31	Rochdale Canal Lock Keepers Cottage at Lock No. 91, Next to Gaythorn Tunnel	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
31	Rochdale Canal Lock No. 91 at East End of Gaythorn Tunnel	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
32	Deansgate Station	High	Low	Medium	Nil	None (Not Significant)	Very Low	Negligible Neutral (Not Significant)	None (Not Significant)	Negligible Neutral (Not Significant)
33	Rochdale Canal Lock No. 89 (Tib Lock), on South Side of Havelock Mills	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
34	Boundary Stone on Knott Mill Bridge, and Floodgate on East Side of Knott Mill Bridge	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
35	Former Congregational Chapel	High	Low	Medium	Very Low	Negligible Adverse (Not Significant)	Low	Minor Neutral (Not Significant)	Negligible Adverse (Not Significant)	Minor Neutral (Not Significant)
36	Electricity Junction Box in Castlefield Canal Basin, Manchester	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
38	Castlefield Information Centre	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
40	Electricity Junction Box in Castlefield Canal Basin, Manchester	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
41	Chepstow House	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
42	Former Market Hall	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
44	Electricity Junction Box on Castle Street, Manchester	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
45	29–41, Liverpool Road	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
47	Castlefield Railway Viaduct from G-Mex to Dawson Street	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
49	The Ritz Dance Hall	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
53	Canda House	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
55	Museum of Science and Industry, Air and Space Museum	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
62	Manchester Oxford Road Station (including Platform Structures)	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
63	Nos 25 to 31 and attached former Chapel	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
64	Former St Matthews Sunday School	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)

MAP REF	NAME	HERITAGE VALUE	SUSCEPTIBILITY TO CHANGE	SENSITIVITY	MAGNITUDE OF IMPACT (CONSTRUCTION)	LIKELY EFFECT / NATURE OF EFFECT (CONSTRUCTION)	MAGNITUDE OF IMPACT (COMPLETED DEVELOPMENT)	LIKELY EFFECT / NATURE OF EFFECT (COMPLETED DEVELOPMENT)	LIKELY EFFECT (CUMULATIVE: DEMOLITION AND CONSTRUCTION)	LIKELY EFFECT / NATURE OF EFFECT (CUMULATIVE: OPERATIONAL)
65	Chorlton Old Mill	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
68	Rochdale Canal Lock No. 92 and Castle Street Bridge	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
71	Merchants Warehouse	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)
73	Mill on North East Corner of Junction with Chester Street	High	Low	Medium	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)

Table 10.1 Summary of likely effects on heritage receptors.

11.0
ASSESSMENT: TOWNSCAPE

LAND AT 10-12 WHITWORTH STREET WEST, MANCHESTER

ASSESSMENT: TOWNSCAPE

11.1 This section assesses the effect of the Proposed Development on the townscape character areas identified in **Section 6.0**.

11.2 A qualitative assessment is provided below. A summary of the effects arising from impacts to townscape receptors is provided at **Table 11.1**.

CONSTRUCTION

11.3 Chapter 5: Construction Methodology sets out the anticipated programme of works and the key activities that would be undertaken on the Site during construction necessary to facilitate the Proposed Development.

11.4 Environmental management controls and mitigation and monitoring measures will form the basis of a Construction Management Plan (CMP) (or equivalent) that will be implemented over the duration of construction works. It is anticipated that the implementation of the CMP and any other required management plans will be secured through appropriately worded planning conditions. Such plans provide a framework for mitigation measures which would be adopted during construction to ensure that environmental effects are controlled and minimised.

11.5 This activity is considered to be an expected feature within this area of Manchester which is subject to regeneration in line with development plan policy, which includes numerous ongoing infrastructure maintenance and construction activities. The effects are the necessary first steps to enable the Proposed Development and would be removed following completion.

11.6 The Site would be enclosed with hoardings during the construction phase, which will provide a visual buffer to the immediate environment. The Proposed Development will, however, result in increased noise, vibration, dust and traffic in the surrounding area.

11.7 The construction stage would have a direct impact on Character Area 1: Petersfield in which the Site is located within. The townscape reflected within this character area is considered to have a **Low** susceptibility to the construction stage. This is due to the existing townscape of the character area, along with the expected change for the area in accordance with the aspirations of the local plan. The construction stage activities would therefore have a limited impact on the function or appearance of the character area. As a result, Character Area 1 therefore has a **Medium** sensitivity to the construction stage. The magnitude of impact is considered to be Low and this results in a Minor / Moderate Adverse effect. The Geographical Significance of the effect would be at District level and the Nature would be Medium Term, Reversible and Not Significant.

11.8 For the remainder of the Character Areas 2, 3, 4, 5 and 6 a **Very Low** magnitude of impact in respect of the construction activities would appear in the wider views which are provided from these character areas. The appearance of cranes which would introduce new features as part of the skyline. It's noted that cranes are not inconsistent features in this part of London which is subject to redevelopment and regeneration. Nevertheless, these are not features of any particular design merit or attractive appearance. This magnitude of impact would result in a **Negligible Adverse** effect. The Geographical Significance of these effect would be at District level and the Nature would be Medium Term, Reversible and Not Significant.

OPERATIONAL

TOWNSCAPE CHARACTER AREA 1: PETERSFIELD

11.9 Character Area 1 is located to centre and north-east of the study area and characterised by the city centre neighbourhood of Petersfield. The townscape value of the area is identified at **Section 6.0** to be **High**.

11.10 The character area is notably mixed, comprising development of varying scales, quality, and architectural styles, including tall and large buildings. The Site lies within the Whitworth Street West Strategic Regeneration Area, with the wider character area encompassing other Strategic Regeneration Frameworks within Manchester City Centre. It is also situated within the Petersfield Regeneration Area, forming part of the broader City Centre Regeneration Area, each of which anticipates significant transformational change to the area's character. The Proposed Development aligns with the established development typology and the wider aspirations for the area, contributing to and continuing the ongoing regeneration and redevelopment of this part of Manchester. It is for these reasons that the character area is judged to have a **Low** susceptibility to the Proposed Development. This results in a **Medium** sensitivity.

11.11 The proposals responds to the Site's established regeneration context within the Petersfield Regeneration Area and the Whitworth Street West Strategic Regeneration Area. Moreover, the provision of PBSA will add further variety to the prevailing residential accommodation found in close proximity to Deansgate Station and the Deansgate–Castlefield Metrolink stop, encouraging a greater variety of people to live within the area and directly influencing the way the area functions, while bringing a vacant plot into productive use.

11.12 Entrances to the Proposed Development have been designed to be accessible and legible, with a prominent corner entrance that acts as a clear arrival point and establishes an intuitive route from the public realm into the building. Additional access and servicing arrangements are accommodated through secondary entrances positioned along the sides and rear of the building.

11.13 At ground and lower levels, the proposals provide resident amenities and social and study spaces arranged to animate the street edge and support day-to-day activity for students. Above, the vertical stacking of accommodation and amenity ensures natural surveillance of the street and contributes to a safer, more animated environment.

11.14 The form and massing of the Proposed Development has been carefully designed with a clear base, body, crown hierarchy. The expressed base is scaled to the pedestrian environment with larger openings for transparency and activity, while the body and crown adopt a refined, slender profile that reads coherently in near and distant views within the tall-building cluster.

11.15 The 39-storey height and overall scale respond to the established skyline, sitting comfortably between nearby tall buildings, including the existing 28-storey AXIS Tower, the 40-storey Viadux One development, the 47-storey Beetham Tower. The proposal also takes precedent from the Extant 2016 Consent for a 35-storey scheme on the Site, while updating the design to reflect current fire-safety regulations and a PBSA-led building typology.

11.16 The Character Area Plan and ZTV Overlay presented in **Figure 6.2** demonstrate that visibility of the Proposed Development from within the character area is notably varied. The principal areas of intervisibility are along Whitworth Street West and the Lower Mosley Street and Mosley Street. Elsewhere, glimpsed views of the middle and upper sections of the building would be available from areas of public realm and from secondary streets that align with the Site.

11.17 AVR Views 1, 2, 3, 4, 5, 7 and 11 at **Appendix 1.0** demonstrate how the scale of the Proposed Development would manifest in or within close proximity to Character Area 1. In these views, the Proposed Development would introduce a new built form to the Site and would be experienced in the context of the existing assorted townscape which is characterised by buildings of varied forms, quality, and architectural styles. The Proposed Development would introduce further tall and large development into view and would be experienced in the context of existing tall buildings within Manchester City Centre. The overall composition is balanced, and the scale, form and massing of the Proposed Development is understood in the context of the Site's planning designations, the Extant 2016 Consent and the emerging surrounding developments.

11.18 The design and architecture of the Proposed Development has been underpinned by a 'weave' concept rooted in Manchester's Cottonopolis industrial heritage. A weave-like grid generates the woven façade language and triangulated geometry, producing a sculptural form with depth, light and shadow perception and a legible order that is carried consistently from the base through to the crown.

11.19 The proposed base of the building adopts a three-storey form, with the triangulated geometric arrangement elongated to create wide apertures that open the building to its surroundings and emphasise the amenity and social spaces located at the ground and lower floors. Above this, the façade is defined by a combination of glazing and folded and woven metal panels, providing texture and depth to the building envelope. At the uppermost level, the crown reflects the architectural language established at the base, with the elongated triangulated geometry continuing upward and integrating with the folded and woven metal panels to create a cohesive architectural expression.

11.20 The base of the building is defined by the use of concrete, helping to animate the ground and lower floors and establishing a robust architectural plinth. Above this, the elevations of the Proposed Development predominantly utilise a bronze-toned anodised aluminium façade, articulated with vertical fins and chamfered horizontal bands to provide depth and refinement

11.21 The chosen material palette has been informed by material testing, with the selected bronze tone carefully chosen to sit comfortably within the surrounding context, offering a complementary tonal relationship with the existing and emerging neighbouring developments.

11.22 The proposals seek to create new accessible public realm and enhance the existing pedestrian environment surrounding the Site. At ground floor, the public realm will be improved with new landscaping and paving along Whitworth Street West, integrated seating , and planting that creates a clear, accessible transition from the street to the corner entrance.

11.23 Above, the top floor of the building will provide a series of amenity spaces, including two landscaped roof terraces positioned on either side of the building. These terraces are designed as communal outdoor environments that combine flexible seating, integrated planting, and informal gathering spaces for students. One terrace incorporates an amphitheatre-style seating arrangement with a small stage area to support informal events, presentations, and social activities, while the wider terraces provide a mix of adaptable seating areas that can accommodate both small group interaction and quieter use. Raised planters with integrated seating are positioned along the perimeter to help define different areas while introducing tree and shrub planting that provides shade, visual softening, and biodiversity benefits.

11.24 The proposed public realm and landscaping improvements will contribute to an integrated townscape, activate the street scene, and add environmental value to the Site.

11.25 Overall, the Proposed Development would have a **Low / Medium** magnitude of impact to the receptor. The Proposed Development would form a congruent and attractive addition to the townscape, delivering a clear enhancement to the streetscape through active frontages, improved legibility, and high-quality architectural detailing. It would therefore give rise to a **Moderate Beneficial** effect. The Geographical Significance of the effect would be at District level and the Nature would be Long Term, Irreversible and Significant.

TOWNSCAPE CHARACTER AREA 2: FIRST STREET

11.26 Character Area 2 is located to the south-east of the study area and is made up of development surrounding First Street. The townscape value of the area is identified at **Section 6.0** to be **Medium**.

11.27 The Proposed Development would be consistent with the development type and aspirations for the area which has been achieved within this character area in line with the First Street Development Framework. The proposals would continue the regeneration and redevelopment of this part of Manchester City Centre. It is for these reasons that Character Area 2 is judged to have a **Low** susceptibility to the proposed development. This results in a **Low / Medium** sensitivity.

11.28 The Proposed Development would introduce a new tall building to the Site, which lies to the north-west boundary of the character area. The proposals are considered complementary to the character area and would enhance the character, appearance and vibrancy of the townscape.

11.29 The Character Area Plan and ZTV Overlay at **Figure 6.2** demonstrates that there would be limited inter-visibility of the Proposed Development throughout the character area, with the main areas of visibility being from streets that align with the Site such as Matlock Street and First Street, along with cleared development plots forming areas of redevelopment or car parks.

11.30 As illustrated from Matlock Street, AVR View 6 at **Appendix 1.0** demonstrates that the Proposed Development would form a new discernible element from streets than align with the Site. In these views, the design and architecture of the Proposed Development would be perceptible, including the bronze-toned anodised aluminium frame that forms a weave-like grid and builds upon the City's Cottonopolis industrial heritage. The top of the building is marked by its sculpted, articulated crown, with its elongated triangulated geometry that accentuates the building's verticality and provides an attractive architectural feature.

11.31 The Proposed Development would be perceived within a context that already includes a number of tall and large-scale buildings both within the character area itself and the wider city centre. Whist the Proposed Development would introduce a change in views out of the character area, the Proposed Development would not impact the ability to appreciate the townscape character and quality across the area.

11.32 Given the above, the Proposed Development would be considered to have a **Low** magnitude of impact on the Character Area 2. This results in a **Minor Beneficial** effect as a result of the complementary character and appearance of the Proposed Development with the townscape in character area. The Geographical Significance of the effect would be at District level and the Nature would be Long Term, Irreversible and Not Significant.

TOWNSCAPE CHARACTER AREA 3: CASTLEFIELD

11.33 Character Area 3 is located to the west of the study area and is characterised by the city centre neighbourhood of Castlefield. The townscape value of the area is identified at **Section 6.0** to be **High**.

11.34 The setting of the character area already incorporates development of varying scales, ages and architectural styles, including tall and large contemporary buildings. The character area lies within the Castlefield Regeneration Area, and its wider city-centre context forms part of the broader Strategic Regeneration Frameworks and City Centre Regeneration Areas, which collectively reflect and facilitate ongoing change across the city centre, including the introduction of taller and larger-scale development. It is for these reasons that Character Area 4 is judged to have a **Low** susceptibility to the proposed development. This results in a **Medium** sensitivity.

11.35 The Proposed Development would introduce a new tall building to the Site, which lies to the wider east of the character area. The proposals are considered complementary to the character area and would enhance the character, appearance and vibrancy of the townscape.

11.36 The Proposed Development would have a limited impact on the way the Character Area functions, with the impact of the proposals being limited to visual considerations e.g. intervisibility.

11.37 The Character Area Plan and ZTV Overlay at **Figure 6.2** demonstrates that there would be varied inter-visibility of the Proposed Development throughout the character area, with the main areas of visibility being from parts of the elevated railway and Metrolink lines along from areas of open space such as Castlefield Urban Heritage Park, Rochdale Canal and streets than align with the Site.

11.38 As illustrated from these locations, AVR Views 7 and 9 at **Appendix 1.0** and VU.CITY Model Shot A at **Appendix 3.0** shows the varied intervisibility of the Proposed Development from within the character area.

11.39 In views towards the eastern edge of the character area, in close proximity to the Site, View 7 illustrates that the Proposed Development would replace the existing cleared plot with a new distinct vertical form on the skyline. At this distance, the design and architectural expression of the scheme would be clearly perceptible, including the bronze-toned anodised aluminium frame that forms a warp-and-weft grid, drawing inspiration from the City's Cottonopolis industrial heritage. The proposed materiality would provide a complementary addition to the character area, responding positively to the warmer red and brown tones evident in the older industrial buildings, the railway arches, and modern residential developments.

11.40 From more distant views to the west within the character area, including AVR 9 and the VU.CITY Model Shot A, the Proposed Development would be visible over some distance and would present a slender profile due to the Site's rectangular footprint and the building's narrower western elevation. In these views, the Proposed Development is perceived as a subservient element within the skyline composition, sitting below the existing Beetham Tower and the Deansgate Square Towers.

11.41 The Proposed Development would be perceived within a context that already includes a number of tall and large-scale buildings as part of the wider city centre. Whist the Proposed Development would introduce a change in views out of the character area, the Proposed Development would not impact the ability to appreciate the townscape character and quality across the area.

11.42 Given the above, the Proposed Development would be considered to have a **Low** magnitude of impact on the Character Area 3. This results in a **Minor / Moderate Beneficial** effect as a result of the complementary character and appearance of the Proposed Development with the townscape in character area. The Geographical Significance of the effect would be at District level and the Nature would be Long Term, Irreversible and Not Significant.

TOWNSCAPE CHARACTER AREA 4: GREAT JACKSON STREET

11.43 Character Area 4 is located the south of the study area and is characterised by development surrounding Great Jackson Street. The townscape value of the area is identified at **Section 6.0** to be **Medium**.

11.44 The Proposed Development would be consistent with the development type and aspirations for the area which has been achieved within this character area in line with the Great Jackson Street Strategic Regeneration Framework. The proposals would continue the regeneration and redevelopment of this part of Manchester City Centre. It is for these reasons that Character Area 4 is judged to have a **Low** susceptibility to the proposed development. This results in a **Low / Medium** sensitivity.

11.45 The Proposed Development would introduce a new tall building to the Site, which lies to the wider north of the character area. The proposals are considered complementary to the character area and would enhance the character, appearance and vibrancy of the townscape.

11.46 The Proposed Development would have a limited impact on the appearance of the townscape or the way it functions, with the impact of the proposals being limited to visual considerations e.g. intervisibility. Across the character area, the Proposed Development would come in and out of view as people move through the streets and public spaces, forming part of the broader townscape experience. Its presence would be perceived within a context that already includes a number of tall and large-scale buildings both within the character area itself and the wider city centre. Whist the Proposed Development would introduce a change in views out of the character area, the Proposed Development would not impact the ability to appreciate the townscape character and quality across the area.

11.47 Given the above, the Proposed Development would be considered to have a **Very Low** magnitude of impact on the Character Area 4. This results in a **Negligible Beneficial** effect as a result of the complementary character and appearance of the Proposed Development with the townscape in character area. The Geographical Significance of the effect would be at District level and the Nature would be Long Term, Irreversible and Not Significant.

TOWNSCAPE CHARACTER AREA 5: ST JOHN'S

11.48 Character Area 5 is located the north west of study area and is characterised by the city centre neighbourhood of St John's. The townscape value of the area is identified at **Section 6.0** to be **Medium**.

11.49 The setting of the character area already incorporates development of varying scales, ages and architectural styles, including tall and large contemporary buildings. The character area lies within the St John's Regeneration Area, and its wider city-centre context forms part of the broader Strategic Regeneration Frameworks and City Centre Regeneration Areas, which collectively reflect and facilitate ongoing change across the city centre, including the introduction of taller and larger-scale development. It is for these reasons that Character Area 4 is judged to have a **Low** susceptibility to the proposed development. This results in a **Low / Medium** sensitivity.

11.50 The Proposed Development would have a limited impact on the appearance of the townscape or the way it functions, with the impact of the proposals being limited to visual considerations e.g. intervisibility.

11.51 The Character Area Plan and ZTV Overlay at **Figure 6.2** demonstrates that there would be limited inter-visibility of the Proposed Development throughout the character area, with the main areas of visibility being from Liverpool Road and part of St John's Garden.

11.52 As illustrated from these locations, VU.CITY Model Shots B and C at **Appendix 3.0** shows that the Proposed Development would be perceived over some distance and would be understood within a context that already includes a number of tall and large-scale buildings such as the Beetham Tower and 325-327 Deansgate. The scale of the proposals would sit comfortable from this locations, appearing subservient to Beetham Tower which remains to the focal building in views out. Whist the Proposed Development would introduce a change in views out of the character area, the Proposed Development would not impact the ability to appreciate the townscape character and quality across the area.

11.53 Given the above, the Proposed Development would be considered to have a **Very Low** magnitude of impact on the Character Area 5. This results in a **Negligible Beneficial** effect as a result of the complementary character and appearance of the Proposed Development with the townscape in character area. . The Geographical Significance of the effect would be at District level and the Nature would be Long Term, Irreversible and Not Significant.

TOWNSCAPE CHARACTER AREA 6: HULME PARK

11.54 Character Area 6 is located the south of the study area and comprises of Hulme Park and the surrounding residential areas. The townscape value of the area is identified at **Section 6.0** to be **Low / Medium**.

11.55 The character area is separated by some distance from the Site and the existing context of imposing tall and large development in the wider study area means that Character Area 6 is judged to have a **Low** susceptibility to the Proposed Development, and this results in a **Low** sensitivity.

11.56 The Proposed Development would have no effect on the appearance of this part of the townscape or the way it functions. The Site at its closest point is located over 350, from the Character Area, and the impact of the proposals will be limited to visual impact.

11.57 The Character Area Plan and ZTV Overlay at **Figure 6.2** demonstrates that there would be limited inter-visibility of the Proposed Development throughout the character area, with the main areas of visibility being gained from within parts of Hulme Park. From areas of invisibility within the park, Model Shot D at **Appendix 3.0** illustrates that the Proposed Development would appear as a new feature in the background, however, it would remain congruent with the existing and emerging context of tall and large-scale development along Great Jackson Street. Its scale would form a secondary element to the established cluster, where South Tower rises to 64 storeys, East Tower to 50 storeys, West Tower to 44 storeys and North Tower to 37 storeys, all of which would appear prominently in front of the Proposed Development when viewed from the park.

11.58 Due to separating distance and existing context of interposing tall and large development within the wider townscape, the Proposed Development would have a **Very Low** magnitude of impact to the receptor. It would therefore give rise to a **Negligible Neutral** effect. The Geographical Significance of the effect would be at District level and the Nature would be Long Term, Irreversible and Not Significant.

CUMULATIVE ASSESSMENT

DEMOLITION AND CONSTRUCTION

11.59 The cumulative schemes which are set out at **Table 4.1 in Chapter 4 of the ES** and have been considered in terms of the potential effects on the townscape receptors.

11.60 During demolition and construction, the cumulative effects on townscape character areas would be limited and broadly consistent with those identified for the Proposed Development scenario. Within Townscape Character Area 1: Petersfield, the Site would be visible alongside other consented and emerging schemes within the Manchester City Centre, including those that are consented or emerging for tall buildings, such as 2–4 Whitworth Street, Viadux Phase 2, 325–327 Deansgate, and the Great Northern Warehouse redevelopment. Consequently, temporary construction features, such as cranes, scaffolding, hoardings, and increased construction traffic, would be characteristic of an area undergoing planned city centre intensification. The cumulative demolition and construction effects for Townscape Character Area 1: Petersfield is not considered to change from construction scenario and would remain **Minor / Moderate Adverse**. The Geographical Significance of the effect would be at District level and the Nature would be Medium Term, Reversible and Not Significant.

11.61 For the wider Townscape Character Areas, the cumulative demolition and construction effects would remain as previously assessed due to distance, separation by existing built form, and the transient nature of visibility. Temporary construction elements associated with other consented and emerging developments within the city centre, may be perceptible in views, however would be read within an evolving city centre environment. The magnitude of impact to Character Areas 2, 3, 4, 5 and 6 would continue to result in a **Negligible Adverse** effect. The Geographical Significance of these effect would be at District level and the Nature would be Medium Term, Reversible and Not Significant.

OPERATIONAL

11.62 In the cumulative operational context, the Proposed Development would continue to be an attractive addition to the townscape and would demonstrably improve the character, appearance and function of the area. Within Character Area 1: Petersfield the Proposed Development would be understood alongside the consented schemes at 2 – 4 Whitworth Street (Planning Ref: 141773/FO/2024), Viadux Phase 2 (Planning Ref: 139715/FO/2024), and the Great Northern Warehouse redevelopment (Planning Ref: 135565/FO/2022) which would see heights up to 76 storeys. The effects of additional tall and large-scale development in the character area would there lessen the effect of the Proposed Development on the character area. As a result of the magnitude of impact would be reduced slightly to **Low** and this would to give rise to **Minor / Moderate Beneficial** effect. The Geographical Significance of the effect would be at District level and the Nature would be Long Term, Irreversible and Not Significant.

11.63 Across the wider character areas, there would be numerous schemes that would be visible in conjunction with the Proposed Development. These cumulative schemes in the surrounding area in conjunction with the Proposed Development would be seen as part of the emerging context of taller and larger development in Manchester City Centre. The susceptibility to change for the townscape character areas would remain the same as stated in the Proposed Development Scenario above. The effects concluded from the Operational Stage would remain as identified at the completed development stage.

SECTION SUMMARY

11.64 The assessment on townscape receptors is summarised in **Table 11.1** below.

MAP REF	TOWNSCAPE RECEPTOR	TOWNSCAPE VALUE	SUSCEPTIBILITY	SENSITIVITY	MAGNITUDE OF IMPACT (CONSTRUCTION)	LIKELY EFFECT / NATURE OF EFFECT (CONSTRUCTION)	MAGNITUDE OF IMPACT (COMPLETED DEVELOPMENT)	LIKELY EFFECT / NATURE OF EFFECT (COMPLETED DEVELOPMENT)	LIKELY EFFECT / NATURE OF EFFECT (CUMULATIVE: DEMOLITION AND CONSTRUCTION)	LIKELY EFFECT / NATURE OF EFFECT (CUMULATIVE: OPERATIONAL)
1	Character Area 1: Petersfield	High	Low	Medium	Low	Minor / Moderate Adverse (Not Significant)	Low / Medium	Moderate Beneficial (Significant)	Minor / Moderate Adverse (Not Significant)	Minor / Moderate Beneficial (Not Significant)
2	Character Area 2: First Street	Medium	Low	Low / Medium	Very Low	Negligible Adverse (Not Significant)	Low	Minor Beneficial (Not Significant)	Negligible Adverse (Not Significant)	Minor Beneficial (Not Significant)
3	Character Area 3: Castlefield	High	Low	Medium	Very Low	Negligible Adverse (Not Significant)	Low	Minor / Moderate Beneficial (Not Significant)	Negligible Adverse (Not Significant)	Minor / Moderate Beneficial (Not Significant)
4	Character Area 4: Great Jackson Street	Medium	Low	Low / Medium	Very Low	Negligible Adverse (Not Significant)	Very Low	Negligible Beneficial (Not Significant)	Negligible Adverse (Not Significant)	Negligible Beneficial (Not Significant)
5	Character Area 5: St John's	Medium	Low	Low / Medium	Very Low	Negligible Adverse (Not Significant)	Very Low	Negligible Beneficial (Not Significant)	Negligible Adverse (Not Significant)	Negligible Beneficial (Not Significant)
6	Character Area 6: Hulme Park	Low / Medium	Low	Low	Very Low	Negligible Adverse (Not Significant)	Very Low	Negligible Neutral (Not Significant)	Negligible Adverse (Not Significant)	Negligible Neutral (Not Significant)

Table 11.1 Summary of likely effects on townscape receptors.

12.0
ASSESSMENT: VISUAL

LAND AT 10-12 WHITWORTH STREET WEST, MANCHESTER

ASSESSMENT: VISUAL

12.1 This section assesses the likely effect arising from the impact of the Development on the visual receptors identified in **Table 7.1**. The assessment has been informed by the ZTV, which has been overlaid onto the View Location Plan at **Figure 7.2**. The assessment has also been informed by the verified views provided at **Appendix 1.0**.

CONSTRUCTION

VISUAL RECEPTORS

12.2 Chapter 5: Construction Methodology sets out the anticipated programme of works and the key activities that would be undertaken during the construction necessary to facilitate the Development.

12.3 In terms of the likely effects on visual receptors, the activities at this stage of the Proposed Development would include the visibility of construction activities at street level in local views, such as construction traffic, as well as taller equipment and temporary structures. It would also include visibility of the semi-completed building.

12.4 The nature of the effect often reverts to Adverse owing to the changes to the ability to appreciate the visual amenity where close in proximity to the Site. Impacts from a distance are more likely to be neutral in nature due to the relatively limited visual impact, often experienced in transit and as part of a wider panorama.

12.5 The Site would be enclosed with hoardings during the phase, which will provide a visual buffer to the immediate environment. The impact of the hoarding will be experienced by visual receptors within a proximity to the Site, i.e. those people moving around the immediate area where it is possible to appreciate the street level context, principally that of Pedestrians using Whitworth Street West and Users of Whitworth Street West.

12.6 For these visual receptor groups, the construction activity such as cranes and equipment will introduce a new feature in their experience. The works would form an apparent feature within the immediate area that would detract from visual amenity. The magnitude of impact on these visual receptors experiencing these views would be **Low** and the likely effect would **Minor Adverse**. The Geographical Significance of this effect would be at a Local level, and the Nature would be Medium Term, Reversible and Not Significant.

12.7 For the remainder visual receptor groups formed of Pedestrians using Mosley Street and Lower Mosley Street, Users of Medlock Street and Users of Chester Road, the construction activities would appear as part of the wider townscape in views. The appearance of such activities would detract from visual amenity. However, the Proposed Development will appear unobtrusive, due to separation distance. The magnitude of impact on these visual receptors experiencing these views would be **Very Low** and the likely effect would **Negligible Adverse**. The Geographical Significance of this effect would be at a Local level and the Nature would be Medium Term, Reversible and Not Significant.

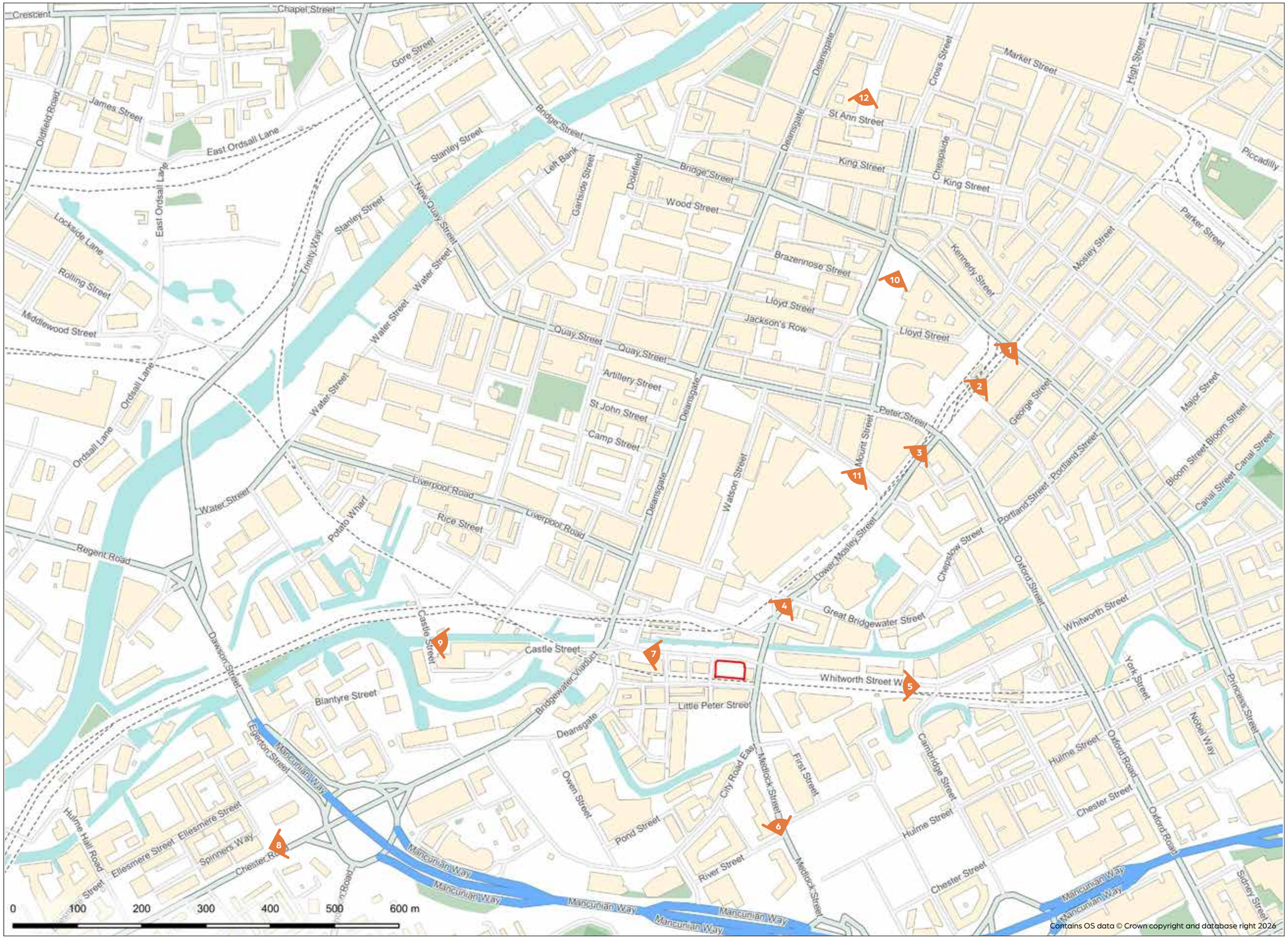
STATIC VIEWS

12.8 For AVR Views 9, 10 and 11 which form part of the static assessed views, the construction activities would be more apparent as part of the wider townscape in the views. Whilst the appearance of such activities would detract from the visual amenity, the, visual impact of these works is, however, far more limited geographically than the full study area and is tempered by their temporary nature.

12.9 Although it would be possible to discern construction equipment during this phase of the development from these locations, for example cranes, this would not alter the composition or focus of the views, with such structures being a common feature in this part of Manchester.

12.10 Therefore, the magnitude of impact on visual receptors experiencing these views would be **Very Low** and the likely effect would **Negligible Adverse**. The Geographical Significance of these effects would be at District level, and the Nature would be Medium Term, Reversible and Not Significant.

12.11 For AVR View 10, the construction activities would be occluded from view by interposing development and would not be discernible. Therefore, the magnitude of impact on visual receptors experiencing these views would be **Nil** and the likely effect would **None**. The Geographical Significance of this effect would be at a Local level, and the Nature would be Medium Term, Reversible and Not Significant.



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VIEWPOINT LOCATION PLAN

- Application Site
1. Mosley Street / Art Gallery
2. St Peter's Square
3. Lower Mosely Street
4. Albion Street / Great Bridgewater Street
5. Whitworth Street West – eastern end
6. Medlock Street
7. Whitworth Street West – west end
8. St George's Church/Chester Road
9. Castle Street, Castlefield
10. Albert Square
11. Windmill Street
12. St Ann's Square

LOCATION:
10–12 Whitworth Street West, Manchester

DATE:
April 2026

SCALE:
1:6,000 @ A3

FIGURE 12.1 View Location Plan

▲ **NORTH**

MONTAGU EVANS
CHARTERED SURVEYORS
70 ST MARY AXE,
LONDON, EC3A 8BE
T: +44 (0)20 7493 4002
WWW.MONTAGU-EVANS.CO.UK

OPERATIONAL

REPRESENTATIVE VIEWS

PEDESTRIANS USING MOSLEY STREET AND LOWER MOSLEY STREET

12.12 This receptor group comprises of pedestrians, within Manchester City Centre using Mosley Street and Lower Mosley Street. The receptor group is represented by the following viewpoints:

12.12.1 View 1: Mosley Street / Art Gallery

12.12.2 View 2: St Peter's Square

12.12.3 View 3: Lower Mosely Street

12.12.4 View 4: Albion Street / Great Bridgewater Street

12.13 The visual amenity of Pedestrians using Mosley Street and Lower Mosley Street is identified as **Section 7.0** as **High**.

12.14 The focus of pedestrians is typically on movement through the area and the activities they are undertaking. Pedestrians are likely to include city centre residents and visitors from surrounding suburban areas, many of whom will have a degree of familiarity with the spatial layout, enclosure and general townscape character of the area. Other users are likely to include workers travelling to and from their place of employment or undertaking work-related activities. As such, these receptors are generally accustomed to an urban environment characterised by relatively dense and, in places, taller and larger development. As a result, receptors are judged to have a **Low** susceptibility to change, resulting in a **Medium** sensitivity.

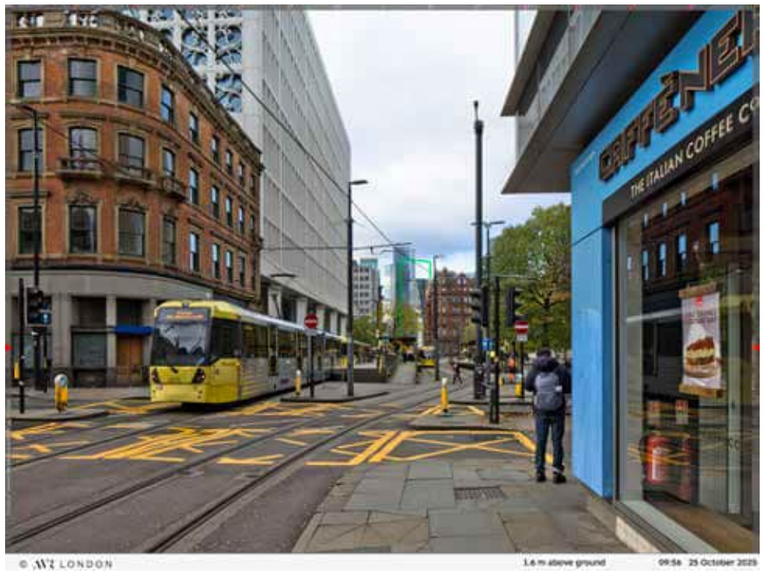


Figure 12.1 View 1 – Proposed



Figure 12.2 View 2 – Proposed



Figure 12.3 View 3 – Proposed



Figure 12.4 View 4 – Proposed

12.15 The clearest effect of the Proposed Development on this group of receptors will be in short to medium distance views from the Site, in which the proposals would be discernible.

12.16 From these immediate views from along Lower Mosley Street, AVR View 4 at **Appendix 1.0**, illustrates that the Proposed Development would introduce a new tall and contemporary building into the view. However, from this location, views of the Proposed Development are limited to the eastern elevation, with the remainder of the building obscured by the existing 18-storey AXIS building. Where visible, pedestrians would be able to discern the elevational treatment of the building's main body, articulated through a combination of glazing and bronze-toned folded and woven metal panels, although this would likely remain a secondary visual element when set against the broad northern elevation of the AXIS building.

12.17 Further south along Mosley Street and St Peter's Square, AVR Views 1, 2 and 3 illustrate medium distance views towards to the Proposed Development. In these views, whilst the proposals are more discernible, they would be seen over some distance and receptors would perceive the Proposed Development as a peripheral yet cohesive element within the urban fabric. The proposals would be understood in the wider context of existing development within the city centre, which includes buildings of varied scales, forms and architectural styles, including that of tall and large contemporary development.

12.18 Overall, the magnitude of impact would be **Low**, resulting in a **Minor / Moderate** effect. As a result of the high quality of the architecture and its appearance in the view, the Nature of this effect is **Beneficial**. The Geographical Significance of the effect would be at a Local level and the Nature would be Long Term, Irreversible and Not Significant.

PEDESTRIANS USING WHITWORTH STREET WEST

12.19 This receptor group comprises of pedestrians using Whitworth Street West. The receptor group is represented by the following viewpoints:

12.19.1 View 5: Whitworth Street West – eastern end

12.19.2 View 7: Whitworth Street West – west end

12.20 The visual amenity of Pedestrians using Whitworth Steet West is identified as **Section 7.0** as **Low / Medium**.



Figure 12.5 View 5 – Proposed



Figure 12.6 View 7 – Proposed

12.21 The focus of the pedestrians would be on moving through the area and the activities in which they are partaking in. The pedestrians that use this area are likely to be residents from the area with a degree of familiarity with the general townscape. Other pedestrians are likely to be workers, either going or commuting to their place of work. As receptors move along the road, the range and mix of architectural quality, building ages and scales will be evident, though the main focus will be on either their movement to their destination or the ground floor usages of commercial and retail premises along the road. More specifically, receptors would have an awareness aware of the existing and emerging tall and large-scale development within this part of the city centre. As a result, receptors are judged to have a **Low** susceptibility to change, resulting in a **Low** sensitivity.

12.22 The clearest effect of the Proposed Development on this group of receptors will be in close proximity to the Site. As illustrated in AVR View 5 at **Appendix 1.0**, receptors would notice the new building fronting on to the south side of Whitworth Street West. Receptors would be able to appreciate active ground floor frontages and the enhanced public realm, including the proposed paving, integrated seating, and planting which will contribute to enlivening the street scheme and provide further animation to the area.

12.23 In these views, receptors would be able to appreciate the clear base, body, crown hierarchy. The base of the building adopts a three-storey form, with the triangulated geometric arrangement elongated to create wide apertures that open the building to its surroundings. Above, receptors would appreciate the elevational treatment to the main body of the building, which is articulated through a combination of glazing and bronze-toned folded and woven metal panels. The design draws upon a 'weave' concept, referencing Manchester's Cottonopolis industrial heritage. The top of the building is marked by its sculpted, articulated crown, with its elongated triangulated geometry that accentuates the building's verticality and forms an attractive architectural feature.

12.24 In medium lengths views, AVR 7 illustrates that the Proposed Development would appear as a slender vertical element on the skyline, as a result of the Site's rectangular footprint and the narrower proportions of its western elevation.

12.25 Pedestrians would experience the Proposed Development as one component within the wider context of the city centre which already includes that of tall and large contemporary development.

12.26 Overall, the magnitude of impact would be **Low / Medium**, resulting in a **Minor** effect. As a result of the high quality of the architecture and its appearance in the view, the Nature of this effect is **Beneficial**. The Geographical Significance of the effect would be at Local level and the Nature would be Long Term, Irreversible and Not Significant.

USERS OF WHITWORTH STEET WEST

12.27 This receptor group comprises of drivers and cyclists using Whitworth Street West. The receptor group is represented by the following viewpoints:
12.27.1 View 5: Whitworth Street West – eastern end
12.27.2 View 7: Whitworth Street West – west end

12.28 The visual amenity of Users of Whitworth Steet West is identified as **Section 7.0** as **Low / Medium**.

12.29 The focus of the receptors would be on the vehicular, or cycle movement and activity associated with the road, including movement, noise, traffic levels and pedestrian crossings. As this group of receptors travel along the street there will have an awareness of the of surrounding city centre character which includes building of varied age, scales and architectural styles, including that of tall and large development. As a result, receptors are judged to have a **Low** susceptibility to change, resulting in a **Low** sensitivity.

12.30 Receptors travelling along the Whitworth Steet West would have a transient experience of the Proposed Development, with views experienced as part of a kinetic sequence travelling east to west. The visibility of the Proposed Development from either direction is limited to the Site's location.

12.31 The clearest effect of the Proposed Development on this group of receptors will be in close proximity to the Site, where receptors would notice the new building fronting on to the south side of Whitworth Street West, in passing, briefly appreciating the buildings active frontages and their articulation and design. The Proposed Development would be understood as part of this exiting city centre context along Whitworth Steet West which includes development of varying ages, scales and architectural styles.

12.32 In short to medium distance views from along the street, AVR Views 5 and 7 at **Appendix 1.0** illustrate that visual receptors would have opportunities to perceive the scheme in its entirety, this perception would be limited to glimpsed views or waiting periods at junctions, where the receptors would have the opportunity to appreciate the broader context.

12.33 In these views, receptors would be able to perceive the form and quality of the Proposed Development, including the bronze-toned anodised aluminium façade, woven and folded metal panels, and chamfered horizontal bands informed by the warp-and-weft concept rooted in Manchester's Cottonopolis industrial heritage. The top of the building is marked by its sculpted, articulated crown, with its elongated triangulated geometry that accentuates the building's verticality and forms an attractive architectural feature.

12.34 As a result, users would experience the Proposed Development as one component within the broader tall and large contemporary buildings along the corridor and the wider city centre, rather than an intrusive feature. The proposals would form an attractive skyline feature to this part of Manchester City Centre and improve the visual amenity of the views.

12.35 Overall, the magnitude of impact would be **Low**, resulting in a **Minor Beneficial** effect. The Geographical Significance of the effect would be at a Local level and the Nature would be Long Term, Irreversible and Not Significant.

USERS OF MEDLOCK STREET

12.36 This receptor group comprises of drivers and cyclists using Medlock Street. The receptor group is represented by the following viewpoints:
12.36.1 View 6: Medlock Street

12.37 The visual amenity of Users of Medlock Road is identified as **Section 7.0** as **Low**.

12.38 The focus of the receptors would be on the vehicular, or cycle movement and activity associated with the Medlock Street, including movement, noise, traffic levels and pedestrian crossings. As this group of receptors travels along the road, they will be aware of the varied character of the surrounding environment, which includes a mix of historic commercial buildings, surface car parking, large development parcels and more recent residential and commercial schemes, reflecting ongoing regeneration and change in this part of the city centre. As receptors approach the city centre, views are gained of tall and large buildings within the Deansgate area, including Beetham Tower, Viadux Tower and Axis Tower, which form part of the established context of contemporary tall and large-scale development within the city centre. As a result, receptors are judged to have a **Low** susceptibility to change, resulting in a **Low** sensitivity.

12.39 The clearest effect of the Proposed Development on this group of receptors will be in short to medium distance views from Chester Road towards the Site, in which the proposals would be discernible.

12.40 In these views, AVR View 6 at **Appendix 1.0** illustrates that the Proposed Development would be readily visible terminating views in the middle ground of the view. From this location, the proposals would be understood as part of the tall and large buildings in the city centre, although the Proposed Development would appear as the tallest as part of the tall building development in Deansgate.

12.41 As receptors travel north along the street the Proposed Development would continue to form discernible feature. Whilst, their focus would remain on the road and the activity along the street, there would be intermittent opportunities, such as at junctions or traffic lights, where receptors may briefly perceive their wider surroundings, including the Proposed Development. In the views, receptors would appreciate the elevational treatment to the main body of the building, which is articulated through a combination of glazing and bronze-toned folded and woven metal panels. The top of the building is marked by its sculpted, articulated crown, with its elongated triangulated geometry that accentuates the building's verticality and forms an discernible architectural feature.

12.42 It is worth noting that the visibility of the Proposed Development is limited to receptors travelling north, with those travelling southbound the proposals would appear behind the receptors and not subject to views.

12.43 Overall, the magnitude of impact would be **Medium**, resulting in a **Minor / Moderate** effect. As a result of the high quality of the architecture and its appearance in the view, the Nature of this effect is **Beneficial**. The Geographical Significance of the effect would be at a Local level and the Nature would be Long Term, Irreversible and Not Significant.



Figure 12.7 View 6 – Proposed

USERS OF CHESTER ROAD

12.44 This receptor group comprises users of Chester Road, including drivers and cyclists between Manchester city centre and areas to the south and west. The receptor group is represented by the following viewpoints:

12.44.1 View 8: St George's Church/Chester Road

12.45 The visual amenity of Users of Chester Road is identified as **Section 7.0** as Low.

12.46 The focus of the receptors would be on the vehicular, or cycle movement and activity associated with the road, including movement, noise, traffic levels and pedestrian crossings. As this group of receptors travels along the road, they will be aware of the varied character of the surrounding environment, which transitions from suburban residential areas to inner-city contexts, culminating in Manchester City Centre. As receptors approach the city centre, mid to long distance views of the skyline become increasingly apparent, with existing tall and large-scale buildings forming prominent and legible feature within these views. As a result, receptors are judged to have a **Low** susceptibility to change, resulting in a **Low** sensitivity.

12.47 The clearest effect of the Proposed Development on this group of receptors will be in short to medium distance views from Chester Road towards the Site, in which the proposals would be discernible.

12.48 In medium distance views, AVR View 8 at **Appendix 1.0** illustrates that the Proposed Development will appear in the backdrop of the views and seen alongside other tall and large development within the Manchester City Centre. From this location, many of the existing tall buildings would form more prominent features in the skyline due to their height and scale. Whilst the proposals would introduce a further tall building onto the skyline, the building would form a congruent feature to the existing townscape and would be understand as part of existing development within the city centre.

12.49 Receptors using Chester Road would have a transient experience of the Proposed Development, with views experienced as part of a kinetic sequence travelling north to south. That being said, the focus of the receptors would be on the traffic and views towards the city centre would be peripheral.

12.50 As receptors travel further north towards the city centre, views of the Proposed Development would become increasingly apparent. However, due to the alignment of the road, the Proposed Development would begin to appear toward one side of the view. Notwithstanding this, there would be intermittent opportunities, such as at junctions or traffic lights, where receptors may briefly perceive their wider surroundings, including the Proposed Development. In these views, receptors would be able to appreciate the architecture quality of the proposals including the bronze-toned anodised aluminium façade, woven and folded metal panels, and chamfered horizontal bands informed by the warp-and-weft concept rooted in Manchester's Cottonopolis industrial heritage. In these views, the Proposed Development would be understood as part of the existing context of development where there are building of varied age, scales and architectural styles, including that of tall and large development.

12.51 Overall, the magnitude of impact would be **Low**, resulting in a **Minor** effect. As a result of the architectural quality and its appearance in the view, the Nature of this effect is **Beneficial**. The Geographical Significance of the effect would be at a Local level and the Nature would be Long Term, Irreversible and Not Significant.



Figure 12.8 View 8 – Proposed

CUMULATIVE ASSESSMENT

DEMOLITION AND CONSTRUCTION

12.52 The cumulative demolition and construction effects would be temporary and generally comparable to those identified for the Proposed Development scenario. For visual receptors moving towards and through Manchester City Centre activity from other consented and emerging schemes, such as cranes, scaffolding, hoardings and increased construction traffic, would be consistent with the city centre character, where ongoing redevelopment and large-scale construction activity are already anticipated. The cumulative demolition and construction effects remain as assessed in the construction scenario. The Geographical Significance of these effect would be at District level and the Nature would be Medium Term, Reversible and Not Significant.

12.53 For receptors considered as part of Static Views 9, 10, 11 and 12, the cumulative effects would primarily involve intermittent visibility of cranes or partially completed structures in the skyline. These elements would largely be screened by intervening built form or vegetation and would be perceived within a wider context where multiple tall building projects around Manchester City Centre would be already visible and part of an evolving city centre townscape. While cumulative construction activity may marginally increase the presence of temporary vertical elements in these views, it would not undermine townscape legibility or significantly change the viewer's amenity. The cumulative demolition and construction effects remain as assessed in the construction scenario. The Geographical Significance of these effect would be at District level and the Nature would be Medium Term, Reversible and Not Significant.

OPERATIONAL

12.54 The cumulative schemes which are set out at **Table 4.1 in Chapter 4 of the ES** and have been considered in terms of the potential effects on the visual receptors.

12.55 The combination of the Proposed Development with the cumulative schemes will not alter any of the final effects found in the assessment for visual amenity. However, it is recognised that the scale of development within Manchester City Centre will intensify as a result of other tall and large schemes being developed. The cumulative effects remain as assessed in the Completed Development scenario. The Geographical Significance of these effect would be at District level and the Nature would be Medium Term, Reversible and Not Significant.

STATIC VIEWS

12.56 In addition to the visual amenity experienced by people – informed by representative views – the assessment has considered strategic views designated in the development plan, or that were agreed with the competent authority.

12.57 For these static views, a description of the existing scene for each identified view and the likely visual receptors is provided below. This description is set alongside a corresponding AVR of the Proposed Development and analysis of any significant effect occurring.

VIEW 9: CASTLE STREET

EXISTING

12.58 View 9 is located along Castle Street on the bridge over the Rochdale Canal. The view is looking east and is situated approximately 445m from the Site, at its nearest point.

12.59 The view is located within the Castlefield Conservation Area and includes Grade II listed Castle Street Bridge and Rochdale Canal Lock No 93. The heritage receptors add to the amenity of the view.

12.60 The view is characterised by the Rochdale Canal, which extends from the foreground of the view towards the backdrop, forming a strong linear focus and guiding the eye through the fame. In the foreground, the canal towpath, canal edge and associated hard landscaping define the immediate setting.

12.61 The middle ground is formed by the canal corridor itself, flanked by historic brick warehouse buildings and converted structures, where pedestrian routes, bridges and active canal-side uses contribute to a sense of activity and continuity along the waterway.

12.62 In the backdrop, the canal vista is terminated by the modern city skyline, formed by a series of tall, large-scale developments that rise above the lower historic buildings, creating a clear contrast in scale and marking the transition from the historic canal environment to the wider urban context. These towers vary in height and materiality, predominantly glass and steel, and contrast strongly with the masonry character of the foreground, including the distinctive silhouette of the Beetham Tower alongside existing and emerging development in Castlefield and Great Jackson Street, reflecting the ongoing densification and transformation of Manchester's city-centre context.

12.63 The visual receptors are most likely to be visitors to Manchester city centre, including users of commercial establishments, as well as workers, pedestrians, and local residents.

12.64 Value of visual amenity: **High**

PROPOSED

12.65 The susceptibility of visual receptors is informed by the sensitive heritage location within the Castlefield Conservation Area and includes views of the Grade II listed Castle Street Bridge and Rochdale Canal Lock No 93. However, the view is experienced within Manchester City Centre, an intensely urban context characterised by development of varied age, form and architectural styles, including wider views of tall and large-scale buildings. On this basis, the susceptibility to change would be **Low / Medium**, and receptors would have an overall **Medium** sensitivity.

12.66 From this location the Proposed Development would be partially visible within the backdrop of the view, seen above interposing development and partially occluded behind mature trees along Castle Street.

12.67 The Proposed Development would be positioned off to one side of the canal alignment, which extends from the foreground into the backdrop of the view. Where perceptible, the building would appear as a slender vertical element on the skyline, as a result of the Site's rectangular footprint and the narrower proportions of its western elevation.
The proposed architectural expression, including the bronze-toned anodised aluminium façade, would form a complementary addition to the surrounding townscape, responding positively to the warmer red and brown material tones characteristic of the older industrial buildings, the railway arches and nearby modern residential development. The woven warp-and-weft grid of the façade further reflects Manchester's Cottonopolis industrial heritage.

12.68 The separating distance between the viewpoint and the Site would reduce the magnitude of the visual impact and the Proposed Development would be understood as part of the existing backdrop which already includes that of tall and large development. The magnitude of impact to receptors would be **Very Low**. The Proposed Development would give rise to a **Negligible Neutral** effect. The Geographical Significance of the effect would be at a Local level and the Nature would be Long Term, Irreversible and Not Significant.

CUMULTIVE

12.69 With the cumulative context, the blue and purple wirelines demonstrates further tall and large development within the middle ground and backdrop of the view. Collectively the schemes will emphasise the redevelopment of the wider Manchester City Centre to include that of further tall and large contemporary development.

12.70 From this location the consented scheme at 2 -4 Whitworth Street (Planning Ref: 141773/FO/2024) appears in front of the Proposed Development, occluding the proposals from view. As a result of this change, the magnitude of impact is considered to reduce to **Nil** and the likely effect to that of **None**. The Geographical Significance of the effect would be at a Local level and the Nature would be Long Term, Irreversible and Not Significant.





Figure 12.9 View 9 – Cumulative

VIEW 10: ALBERT SQUARE

EXISTING

12.71 View 10 is located to the north side of Princess Street. The view is looking towards the south west and is situated approximately 700m from the Site, at its nearest point.

12.72 The viewpoint lies within the Albert Square Conservation Area and includes the Grade I Manchester Town Hall and Albert Memorial along with the Grade II St Andrews Chambers, Carlton House and Albert Chambers along Albert Square. The heritage receptors add to the amenity of the view.

12.73 At the time of writing this report, Manchester Town Hall is undergoing a major heritage restoration and transformation under the "Our Town Hall" project, including repair of historic features, modernisation, improved accessibility, and a new public visitor experience. The project also expands and upgrades Albert Square for civic and cultural use and is scheduled for completion in spring 2027.

12.74 The fore and middle ground of the view is characterised by the restoration work with the town hall and surrounding Albert Square being contained with hoardings and scaffolding.

12.75 Beyond views include glimpses towards the buildings enclosing the square, together with the wider development that forms part of the broader city-centre context. The buildings surrounding Albert Square vary in age and comprise a mix of Victorian and modern structures, with corresponding variation in materials and scale.

12.76 The visual receptors are most likely to be visitors to Manchester city centre, including users of commercial establishments, as well as workers, pedestrians, and local residents.

12.77 Value of visual amenity: **High**

PROPOSED

12.78 The susceptibility of visual receptors is informed by the sensitive heritage location within the Albert Square Conservation Area and the presence of views towards the Grade I listed Manchester Town Hall. However, the view is experienced within Manchester City Centre, an intensely urban context characterised by development of varied age, form and architectural styles, including wider views of tall and large-scale buildings. On this basis, the susceptibility to change would be **Low / Medium**, and receptors would have an overall **Medium** sensitivity.

12.79 From this location, views of the Proposed Development would be limited to the crown of the building, with the remainder of the revised proposals being occluded from view by interposing development.

12.80 The separating distance between the viewpoint and the Site would reduce the magnitude of the visual impact and the Proposed Development would be perceived as a peripheral feature as part of the existing roofscape within the backdrop of views. The magnitude of impact to receptors would be **Very Low**. The Proposed Development would give rise to a **Negligible Neutral** effect. The Geographical Significance of the effect would be at a Local level and the Nature would be Long Term, Irreversible and Not Significant.

CUMULTIVE

12.81 With the cumulative context, the purple wirelines demonstrates further tall and large development within the middle ground and backdrop of the view. Collectively the schemes will emphasise the redevelopment of the wider Manchester City Centre to include that of further tall and large contemporary development.

12.82 The magnitude of impact is not considered to change from **Very Low** because the Proposed Development would remain as barely discernible element as would be perceived as a peripheral feature as part of the existing roofscape within the backdrop of views. The likely effect would remain at **Negligible Neutral**. The Geographical Significance of the effect would be at Local level and the Nature would be Long Term, Irreversible and Not Significant.



Figure 12.10 View 10 – Proposed



Figure 12.11 View 10 – Cumulative

VIEW 11: WINDMILL STREET

EXISTING

12.83 View 11 is located to the north side of Windmill Street at the junction with Mount Street. The view is looking towards the south west and is situated approximately 365, from the Site, at its nearest point.

12.84 The viewpoint lies within St Peter's Square Conservation Area and includes a number of heritage receptors including but not limited to the Grade II* GMEX and Midland Hotel and the Grade II Royale Club. The heritage receptors add to the amenity of the view.

12.85 The foreground of the view is defined by paved and cobbled surfaces forming part of the local pedestrian and road network. Beyond this lies a large, paved area interspersed with mature trees form part of the public realm associated with the Manchester Central Convention Complex.

12.86 In the middle ground, views are focused towards the listed Grade II* GMEX Centre, which is distinguished by its steel and glass arched roof and prominent central clock feature.

12.87 To the viewer's left, partial views are gained of Bridgewater Hall, identifiable by its steel, glass, and stone façade and its characteristic arched roof.

12.88 Beyond the GMEX Centre and Bridgewater Hall, views are gained of the existing tall and large-scale towers that form part of the Deansgate and Castlefield areas.

12.89 The visual receptors are most likely to be visitors to Manchester city centre, including users of commercial establishments, as well as workers, pedestrians, and local residents.

12.90 Value of visual amenity: **High**

PROPOSED

12.91 The susceptibility of visual receptors is informed by the sensitive heritage location within the St Peter's Square Conservation Area and the presence of views towards the Grade II* GMEX Centre. However, the view is experienced within Manchester City Centre, an intensely urban context characterised by development of varied age, form and architectural styles, including wider views of tall and large-scale buildings. On this basis, the susceptibility to change would be **Low / Medium**, and receptors would have an overall **Medium** sensitivity.

12.92 From this location, the Proposed Development would be partially visible in the backdrop of views, appearing above the arched roof of the GMEX Centre. The proposals would be perceived over some distance and would be understood within the context of existing tall and large Beetham Tower and 325-327 Deansgate that appear above the former railway station. From this location, the scale of the Proposed Development would sit comfortably within the view, appearing subservient to Beetham Tower which remains the tallest building in the middle ground.

12.93 The separating distance between the viewpoint and the Site would reduce the magnitude of the visual impact and the Proposed Development would be perceived as a peripheral feature as part of the existing cluster of tall and large development within the middle ground and backdrop of views. The Proposed Development would give rise to a **Negligible Neutral** effect. The Geographical Significance of the effect would be at a Local level and the Nature would be Long Term, Irreversible and Not Significant.

CUMULTIVE

12.94 With the cumulative context, the blue and purple wirelines demonstrates further tall and large development within the middle ground and backdrop of the view. Collectively the schemes will emphasise the redevelopment of the wider Manchester City Centre to include that of further tall and large contemporary development.

12.95 The magnitude of impact is not considered to change from **Very Low** because the Proposed Development would continue to be perceived as a peripheral feature as part of the existing cluster of tall and large development within the middle ground and backdrop of views. The likely effect would remain at **Negligible Neutral**. The Geographical Significance of the effect would be at a Local level, and the Nature would be Long Term, Irreversible and Not Significant.



Figure 12.12 View 11 – Proposed

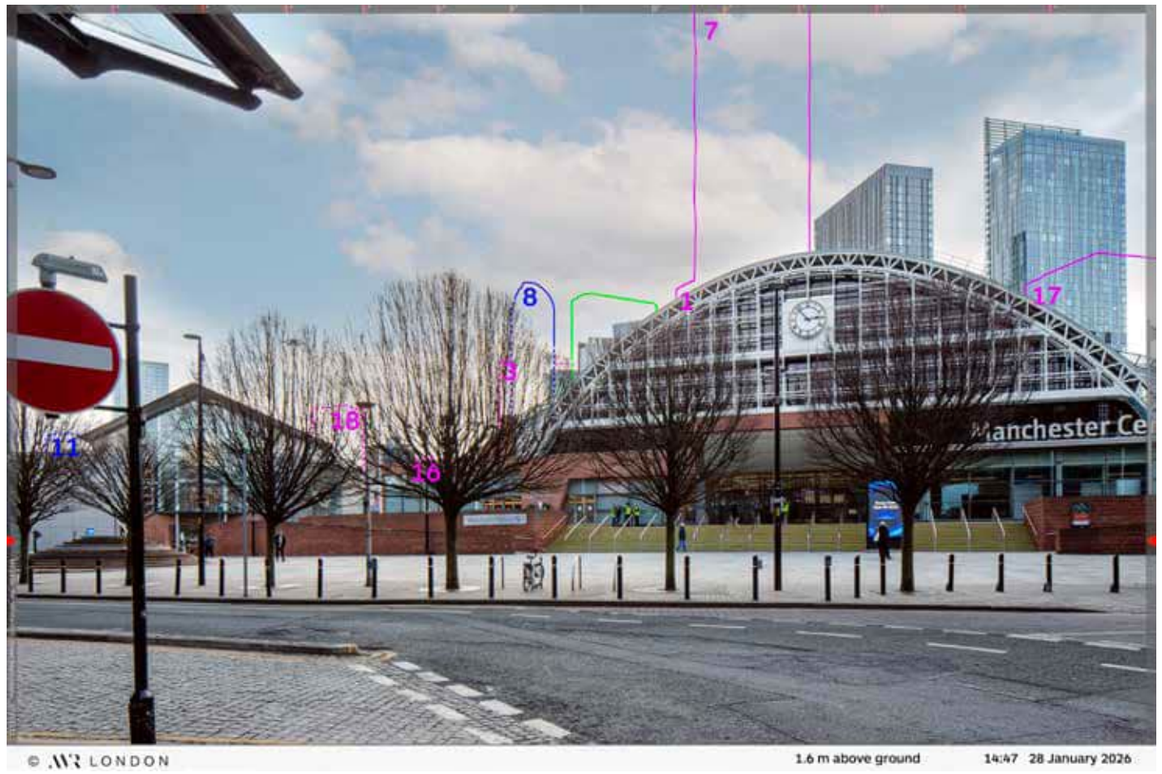


Figure 12.13 View 11 – Cumulative

VIEW 12: ST ANN'S SQUARE

EXISTING

12.96 View 12 is located to the centre of the St Ann's Square. The view is looking towards the south and is situated approximately 900m from the Site, at its nearest point.

12.97 The viewpoint lies within St Ann's Square Conservation Area and includes a number of heritage receptors including the Grade I Church of St Ann's, Grade II Codbens Statue, Mansfield Chamber and 16–22 St Ann's Square. The heritage receptors add to the amenity of the view.

12.98 The view is characterised by St Ann's Square, the fore and middle ground of which are dominated by a paved pedestrian area composed of large stone and brick pavers, forming a spacious plaza.

12.99 Buildings fronting the square largely date from the Victorian period, also represented by examples from the Edwardian era, alongside a limited number of more modern buildings. The older Victorian and Edwardian are characterised by ornate detailing and high-quality materials, with later development being sympathetic in scale and materials.

12.100 The layout of the square channels the receptors attention toward the middle ground, where the Grade I listed Church of St Ann's stands as the primary visual focus. The church's classical stone façade and prominent clock tower are framed centrally in views, with the restrained ashlar masonry, round-headed windows, and pedimented entrance porch expressing Classical ideals of proportion and order.

12.101 Beyond the square, glimpsed views extend to the wider development forming part of the broader city-centre context.

12.102 The visual receptors are most likely to be visitors to Manchester city centre, including users of commercial establishments, as well as workers, pedestrians, and local residents.

12.103 Value of visual amenity: **High**

PROPOSED

12.104 The susceptibility of visual receptors is informed by the sensitive heritage location within the St Ann's Square Conservation Area and the presence of views towards the Grade I Church of St Ann's, Grade II Codbens Statue, Mansfield Chamber and 16–22 St Ann's Square. However, the view is experienced within Manchester City Centre, an intensely urban context characterised by development of varied age, form and architectural styles. On this basis, the susceptibility to change would be **Medium / High**, and receptors would have an overall **High** sensitivity.

12.105 From this location, the dashed wireline demonstrate that the Proposed Development would be completely occluded from view due to interposing development. The magnitude of impact to receptors would be **Nil**, resulting in a **None** effect. The Geographical Significance of the effect would be at a Local level and the Nature would be Long Term, Irreversible and Not Significant.

CUMULTIVE

12.106 In the cumulative context, the pink wirelines demonstrate further tall and large development within the backdrop of the view appearing above the Church of St Ann's and mark the location of redevelopment within the wider City Centre.

12.107 Within the cumulative condition, there will be no change to assessment of effects arising from the Proposed Development as it will remain occluded from view by interposing development. The likely effect would remain at **None**. The Geographical Significance of the effect would be at a Local level and the Nature would be Long Term, Irreversible and Not Significant.



Figure 12.14 View 12 – Proposed



Figure 12.15 View 12 – Cumulative

SECTION SUMMARY

12.108 The assessment on visual receptors is summarised in **Table 12.1** below.

VISUAL RECEPTOR / STATIC VIEW	REPRESENTATIVE VIEWS	VALUE	SUSCEPTIBILITY TO CHANGE	SENSITIVITY	MAGNITUDE OF IMPACT (CONSTRUCTION)	LIKELY EFFECT / NATURE OF EFFECT (CONSTRUCTION)	MAGNITUDE OF IMPACT (COMPLETED DEVELOPMENT)	LIKELY EFFECT / NATURE OF EFFECT (COMPLETED DEVELOPMENT)	LIKELY EFFECT / NATURE OF EFFECT (CUMULATIVE: DEMOLITION AND CONSTRUCTION)	LIKELY EFFECT / NATURE OF EFFECT (CUMULATIVE: OPERATIONAL)
Visual Receptors										
View 1: Mosley Street / Art Gallery View 2: St Peter's Square View 3: Lower Mosely Street View 4: Albion Street / Great Bridgewater Street	Pedestrians using Mosley Street and Lower Mosley Street	High	Low	Medium	Very Low	Negligible Adverse (Not Significant)	Low	Minor / Moderate Beneficial (Not Significant)	Negligible Adverse (Not Significant)	Minor / Moderate Beneficial (Not Significant)
View 5: Whitworth Street West – eastern end View 7: Whitworth Street West – west end	Pedestrians using Whitworth Street West	Low / Medium	Low	Low	Low	Minor Adverse (Not Significant)	Low / Medium	Minor Beneficial (Not Significant)	Minor Adverse (Not Significant)	Minor Beneficial (Not Significant)
View 5: Whitworth Street West – eastern end View 7: Whitworth Street West – west end	Users of Whitworth Steet West	Low / Medium	Low	Low	Low	Minor Adverse (Not Significant)	Low	Minor Beneficial (Not Significant)	Minor Adverse (Not Significant)	Minor Beneficial (Not Significant)
View 6: Medlock Street	Users of Medlock Street	Low	Low	Low	Very Low	Negligible Adverse (Not Significant)	Medium	Minor / Moderate Beneficial (Not Significant)	Negligible Adverse (Not Significant)	Minor / Moderate Beneficial (Not Significant)
View 8: St George's Church/Chester Road	Users of Chester Road	Low	Low	Low	Very Low	Negligible Adverse (Not Significant)	Low	Minor Beneficial (Not Significant)	Negligible Adverse (Not Significant)	Minor Beneficial (Not Significant)
Static Views										
View 9	Castle Street	High	Low / Medium	Medium	Very Low	Negligible Adverse (Not Significant)	Very Low	Negligible Neutral (Not Significant)	Negligible Adverse (Not Significant)	None (Not Significant)
View 10	Albert Square	High	Low / Medium	Medium	Very Low	Negligible Adverse (Not Significant)	Very Low	Negligible Neutral (Not Significant)	Negligible Adverse (Not Significant)	Negligible Neutral (Not Significant)
View 11	Windmill Street	High	Low / Medium	Medium	Very Low	Negligible Adverse (Not Significant)	Very Low	Negligible Neutral (Not Significant)	Negligible Adverse (Not Significant)	Negligible Neutral (Not Significant)
View 12	St Ann's Square	High	Medium / High	High	Nil	None (Not Significant)	Nil	None (Not Significant)	None (Not Significant)	None (Not Significant)

Table 12.1 Summary of likely effects on visual receptors.

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13.0
CONCLUSION

LAND AT 10-12 WHITWORTH STREET WEST, MANCHESTER

CONCLUSION

13.1 Montagu Evans has prepared this report on behalf of the Applicant to assess the impact of the Proposed Development on heritage, townscape and visual receptors. The BHTVIA forms Chapter 8 of the Environmental Statement (ES) which is submitted with the application. The assessment is undertaken in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) ('the EIA Regulations').

13.2 'Built Heritage' and 'Townscape and Visual' are treated as separate disciplines and separate assessments are provided in accordance with legislation, planning policy and best practice guidance. A complete summary of the findings of the BHTVIA of the Proposed Development are provided in the Executive Summary at the start of this report.

BUILT HERITAGE

13.3 The Site is not located within a conservation area and neither contains any designated or non-designated heritage receptors.

13.4 The Site is within the setting of several designated heritage receptors, including but not limited to Castlefield Conservation Area and St John Street Conservation Area, along with the Grade II Rochdale Canal Lock No. 90, Deansgate Station, 13–17, Albion Street, Manchester South Junction and Altrincham Railway Viaduct and The Britons Protection Public House.

13.5 The assessment identified 46 heritage receptors of up to a 750m radius that may experience effects to their value as a result of change to their setting introduced by the Proposed Development.

TOWNSCAPE

13.6 Six Townscape Character Areas were identified within a 500m radius of the Site to understand the effects on the local townscape character. The character areas comprise the townscape receptors for the purposes of the BHTVIA.

13.7 The Site lies within Townscape Character Area 1: Petersfield and sits within the core of Manchester city-centre, characterised by a dense urban fabric combining historic and more modern buildings, transport infrastructure, canal/waterway corridors, and a mixture of civic, commercial and residential uses. The character area is mixed, comprising development of varying scales, quality, and architectural styles, including tall and large buildings. The Site lies within the Whitworth Street West Strategic Regeneration Area, with the wider character area encompassing other Strategic Regeneration Frameworks within Manchester City Centre. It is also situated within the Petersfield Regeneration Area, forming part of the broader City Centre Regeneration Area, each of which anticipates significant transformational change to the area's character.

VISUAL

13.8 Analysis of the Site and the surrounding area resulted in the identification of 12 viewpoint locations from which verified views were produced. The verified views have informed the assessment of impacts to built heritage, townscape and visual receptors.

13.9 Visual receptors who may experience views of the Proposed Development, the places where they will be affected, the nature of the views and visual amenity have been identified and include that of Pedestrians using Mosley Street and Lower Mosley Street, Pedestrians using Whitworth Street West, Users of Whitworth Steet West, Users of Medlock Street and Users of Chester Road.

13.10 In addition to the visual amenity experienced by receptors, the assessment has considered four static views from Castle Street, Albert Square, Windmill Street and St Ann's Square.

ASSESSMENT SUMMARY

BUILT HERITAGE

13.11 The built heritage assessment has considered the heritage significance of heritage receptors within the surrounding area, the contribution of setting towards that significance and the impact of the Proposed Development upon that setting and significance. The heritage assets that are considered most pertinent are the Castlefield Conservation Area, the Former Congregational Chapel and the Rochdale Canal Lock No. 90.

13.12 The construction residual effects are considered to have a likely effect of None (Not Significant) to Minor Adverse (Not Significant) on heritage receptors outside the Site. The greatest impact would arise from the construction phase would be on the Castlefield Conservation Area and the Rochdale Canal Lock No. 90 as a result of the noise and disruption from the construction phase, plus the visual impact of cranes, hoardings and other construction structures appearing in the setting of these receptors.

13.13 During the Operational Phase, the assessment of impact to heritage receptors identified would give rise to likely effects ranging from None (Not Significant) to Minor Neutral (Not Significant).

13.14 In the case of all other heritage receptors identified within this report, it is considered that effects arising from the Proposed Development range from None (Not Significant). to Negligible Neutral (Not Significant), with the value (significance) of all unaffected (and therefore their heritage value (or "significance" as used in the National Planning Policy Framework) is preserved).

13.15 None of the effects identified equate to harm to the heritage receptors.

13.16 There are no changes to the findings of effects on the heritage receptors in the cumulative and emerging scenario.

TOWNSCAPE

13.17 The townscape assessment has considered the Proposed Development within its urban context, including the buildings, the relationships between these, the different types of urban open spaces, including green spaces and the relationship between buildings and open spaces.

13.18 The construction residual effects are considered to have a likely effect of Negligible Adverse (Not Significant) to Minor / Moderate Adverse (Not Significant).

13.19 During the completed development stage, the Proposed Development would give rise to effects ranging from Negligible Neutral (Not Significant) to Moderate Beneficial (Significant).

13.20 The resultant effect arising from the impact to Townscape Character Area 1: Petersfield would be Moderate Beneficial. In relation to this character area which the Site is located within, the Proposed Development would establish a new development within Manchester City Centre, delivering a PBSA scheme supported by a high architectural quality building that marks a demonstrable improvement to the character, appearance, and function of the area.

13.21 In the cumulative context for Townscape Character Area 1: Petersfield, the Proposed Development would remain an attractive addition to the townscape, continuing to enhance the character, appearance and function of the area while being read alongside other consented schemes, including 2–4 Whitworth Street, Viadux Phase 2 and the Great Northern Warehouse redevelopment. The introduction of additional tall and large-scale development within the character area would lessen the relative visual influence of the Proposed Development, thereby reducing the magnitude of impact to Low and resulting in a Minor / Moderate Beneficial effect (Not Significant).

13.22 There are no changes to the findings of effects on the remaining townscape receptors as a result of cumulative and emerging scenario in the surrounding area.

VISUAL

13.23 The visual assessment has considered the impact of the Proposed Development upon visual receptors e.g. people experiencing a change in views and visual amenity at different places, including publicly accessible locations. Visual receptors are always people (although usually visual receptors are defined according to use e.g. residential, business, road, footpath etc.), rather than landscape features.

13.24 The construction residual effects are considered to have a likely effect of None (Not Significant) to Minor Adverse (Not Significant) on the visual receptors identified.

13.25 During the completed development stage, the assessment of impact to visual receptors identified would give rise to likely effects ranging from None (Not Significant) to Minor/Moderate Beneficial (Not Significant).

13.26 In the cumulative context, View 9 forms a static view. From this location, the consented scheme at 2–4 Whitworth Street (Planning Ref: 141773/FO/2024) appears in front of the Proposed Development, fully occluding the Proposed Development. As a consequence, the magnitude of impact is Nil, resulting in a likely effect of None (Not Significant).

13.27 There are no changes to the findings of effects on the remaining visual receptors as a result of the cumulative scenario in the surrounding area.

POLICY COMPLIANCE

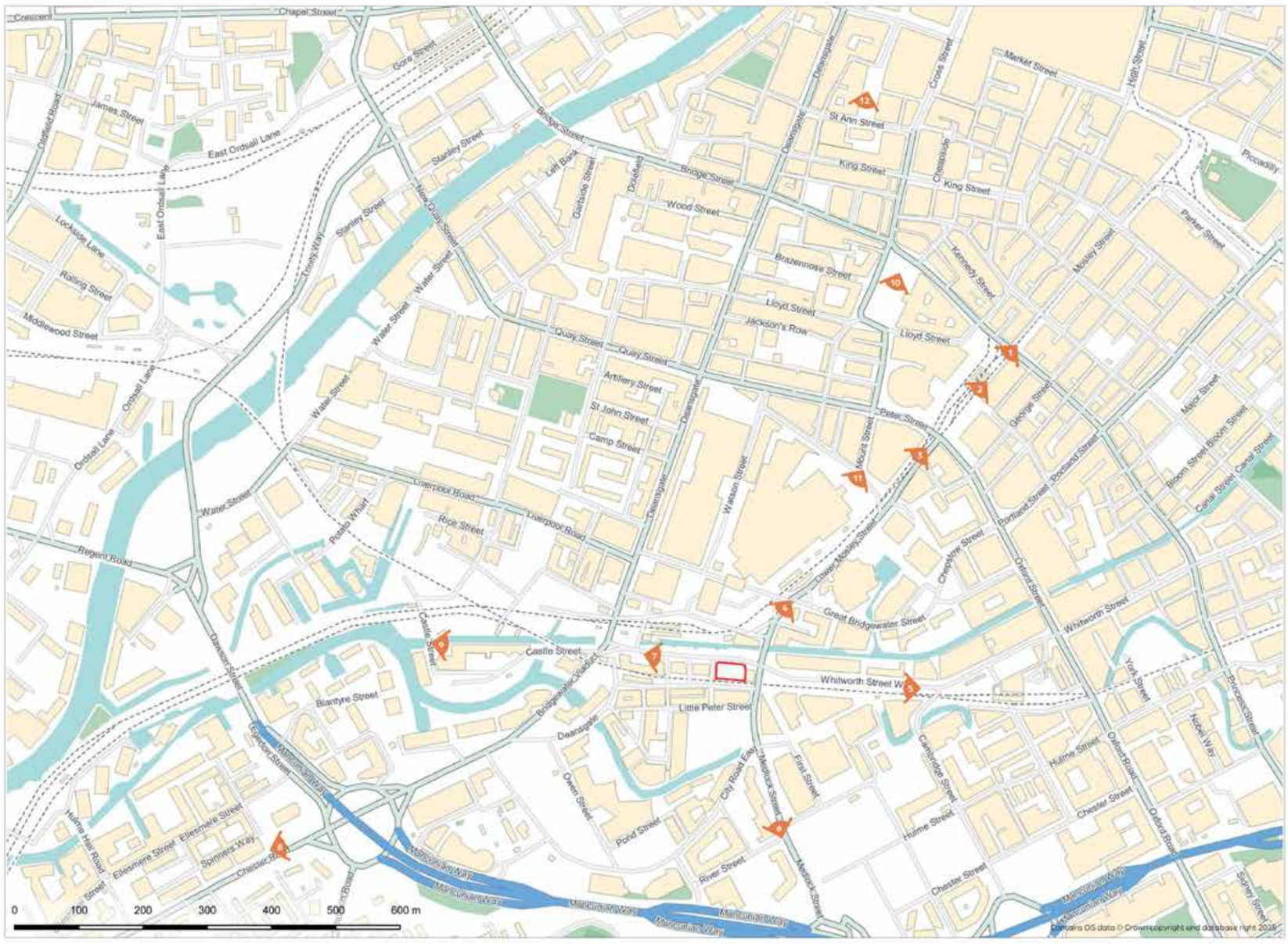
13.28 Overall, the development would comply with Policies EN3 and CC9 of the Manchester City Council Core Strategy (2012) and Addendum (2024), Policies DC18.1 and DC19.1 of the Saved Unitary Development Plan (1995), and Policy JP-P2 of the Places for Everyone Joint Development Plan Document (2024), together with Paragraph 215 of the National Planning Policy Framework. On that basis, the decision maker would be able to discharge their legal duties under section 66(1) of the Planning (Listed Buildings and Conservation Areas) Act 1990. The assessment concludes that the Proposed Development would accord with the relevant townscape and design policies of the Development Plan, including Policies CC6, CC8, CC9, EN1 and EN2 of the Manchester City Council Core Strategy (2012) and Addendum (2024), together with the relevant policies of the Places for Everyone Joint Development Plan Document (2024), including Policies JP-Strat1 and JP-Strat2. The assessment concludes that the Proposed Development would accord with the relevant Manchester Development Plan policies relating to design and visual amenity, including Policies CC9 and EN1 of the Manchester City Council Core Strategy (2012) and Addendum (2024) and would also be consistent with Chapter 12 of the National Planning Policy Framework and the principles of the National Design Guide, in that it would result in a visually attractive and well-composed development that would preserve and enhance visual amenity within the surrounding area.

APPENDIX 1: AVRS PRODUCED BY AVR LONDON

LAND AT 10-12 WHITWORTH STREET WEST, MANCHESTER

AVR

LONDON



VIEWPOINT LOCATION PLAN

- Application Site
1. Mosley Street / Art Gallery
2. St Peter's Square
3. Lower Mosely Street
4. Albion Street / Great Bridgewater Street
5. Whitworth Street West – eastern end
6. Medlock Street
7. Whitworth Street West – west end
8. St George's Church/Chester Road
9. Castle Street, Castlefield
10. Albert Square
11. Windmill Street
12. St Ann's Square

LOCATION:
10–12 Whitworth Street West, Manchester

DATE:
April 2025

SCALE:
1:6,000 @ A3

FIGURE:

▲ **NORTH**

MONTAGU EVANS
CHARTERED SURVEYORS
70 ST MARY AXE,
LONDON, EC3A 8BE
T: +44 (0)20 7493 4002
WWW.MONTAGU-EVANS.CO.UK

Cumulative Key

1. 2-4 Whitworth Street West, Manchester, M1 5WY
141773/FO/2024

2. Manchester Oxford Road Station, Remodelling Manchester M1 5FU [NOT PICTURED]
EIASCO/25/001

3. 34 Great Jackson Street, Manchester, M15 4NG
129273/FO/2021

4. Plot D, Great Jackson Street, Manchester, M15 4NP
137227/FO/2023

5. Part Of Plot C And Plot E, Great Jackson Street, Manchester, M15 4NP
137226/FO/2023

6. Plot F, Great Jackson Street, Manchester, M15 4AX
132199/FO/2021

7. Viaduc Phase 2 Land Bounded By Albion Street, Great Bridgewater Street, And Trafford Street, Manchester, M60 2AT
139715/FO/2024

8. Land Bounded By Trumpet Street, Albion Street &Great Bridgewater Street, Manchester, M1 5LE
133172/FO/2022

9. 50-56 Great Bridgewater Street, Manchester, M1 5LE
133176/FO/2022

10. Plot 9B, First Street, Manchester
141786/FO/2024

11. Plot 11, Block C. First Street, South Manchester, M15 6JE
136831/FO/2023

12. Land Bounded By Jacksons Row, Bootle Street, Southmill Street &201, Deansgate, Manchester, M2 5GU
114664/FO/2016

13. 325 - 327 Deansgate, Manchester, M3 4LQ
125804/FO/2019

14. Land At Deansgate South Manchester
129406/FO/2021

15. Bridgewater House, Great Jackson Street, Manchester, M15 4WG
134694/FO/2022

16. One City Road, East Manchester,M15 4PN
128002/FO/2020

17. Land Bounded By Deansgate, Great Bridgewater Street, Watson Street &Potor Street Manchester M3 4EN
135565/FO/2022

18. One Medlock Street, Manchester, M15 5FJ
135419/FO/2022

19. Land Bounded By River Street To The North, Plot 10B To The East, Hulme Street To The South And The Development Plot 9A To The West Manchester
136043/FO/2023

20. 2 Gloucester Street, Manchester, M1 5QR
136805/FO/2023

21. All Saints Campus Oxford Road Manchester M15 6BH
144697/FO/2025

22. Cambridge Halls Of Residence Cavendish Street Manchester M15 6TT
142888/FO/2025

23. Weston Student Halls And Pendulum Hotel 78 Sackville Street Manchester M1 3B
144791/FO/2025

24. Albert Bridge House Bridge Street Manchester M3 5AH
143164/FO/2025

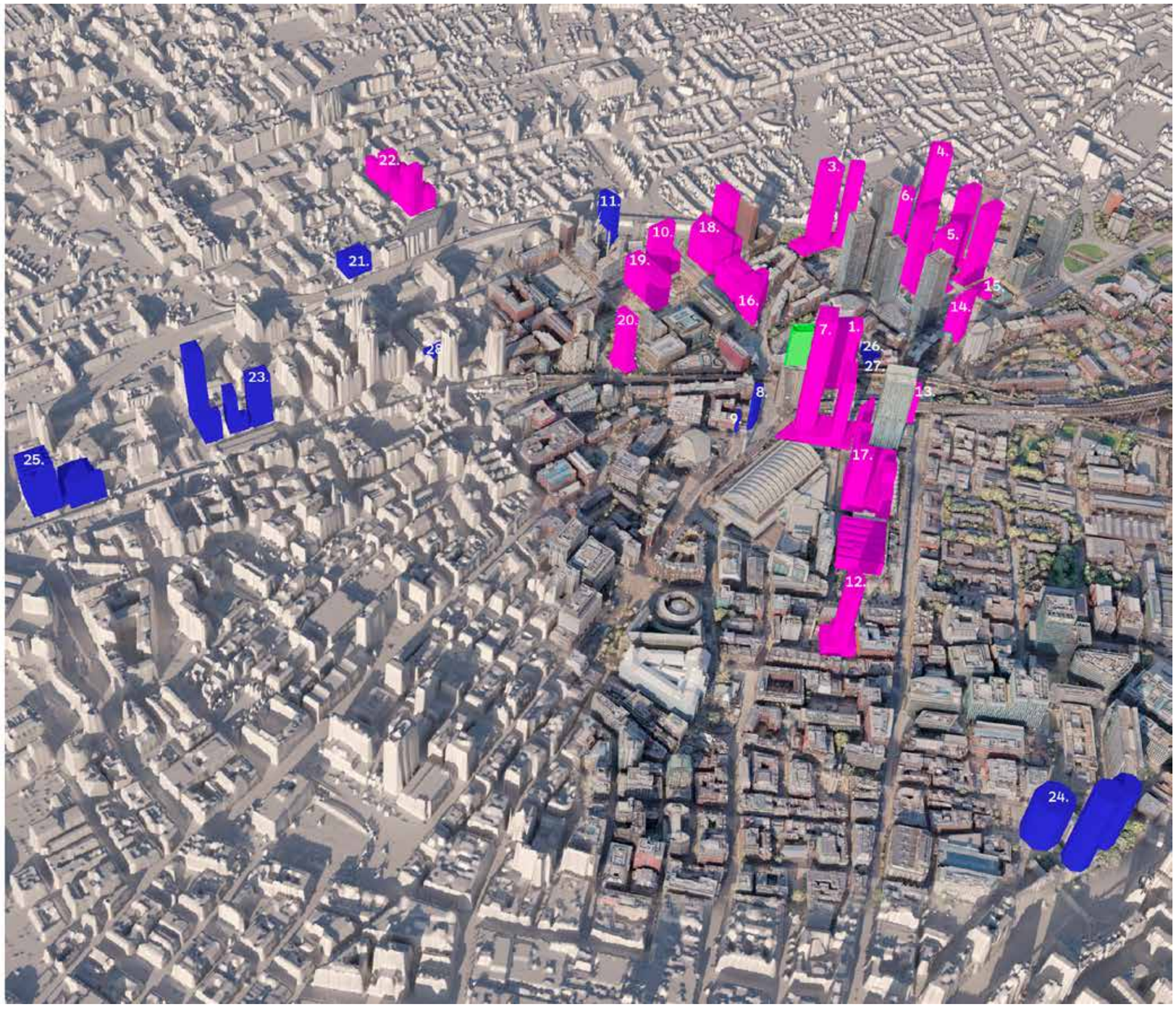
25. Sister Plot C Former UMIST Campus Altrincham Street Manchester M1 7JA
143024/FO/2025

26. Ground Surface Temporary Car Park Bounded By Commercial Street, Constance Street And The Back Line Of The Building And Land Fronting Little Peter Street Manchester
144334/FO/2025

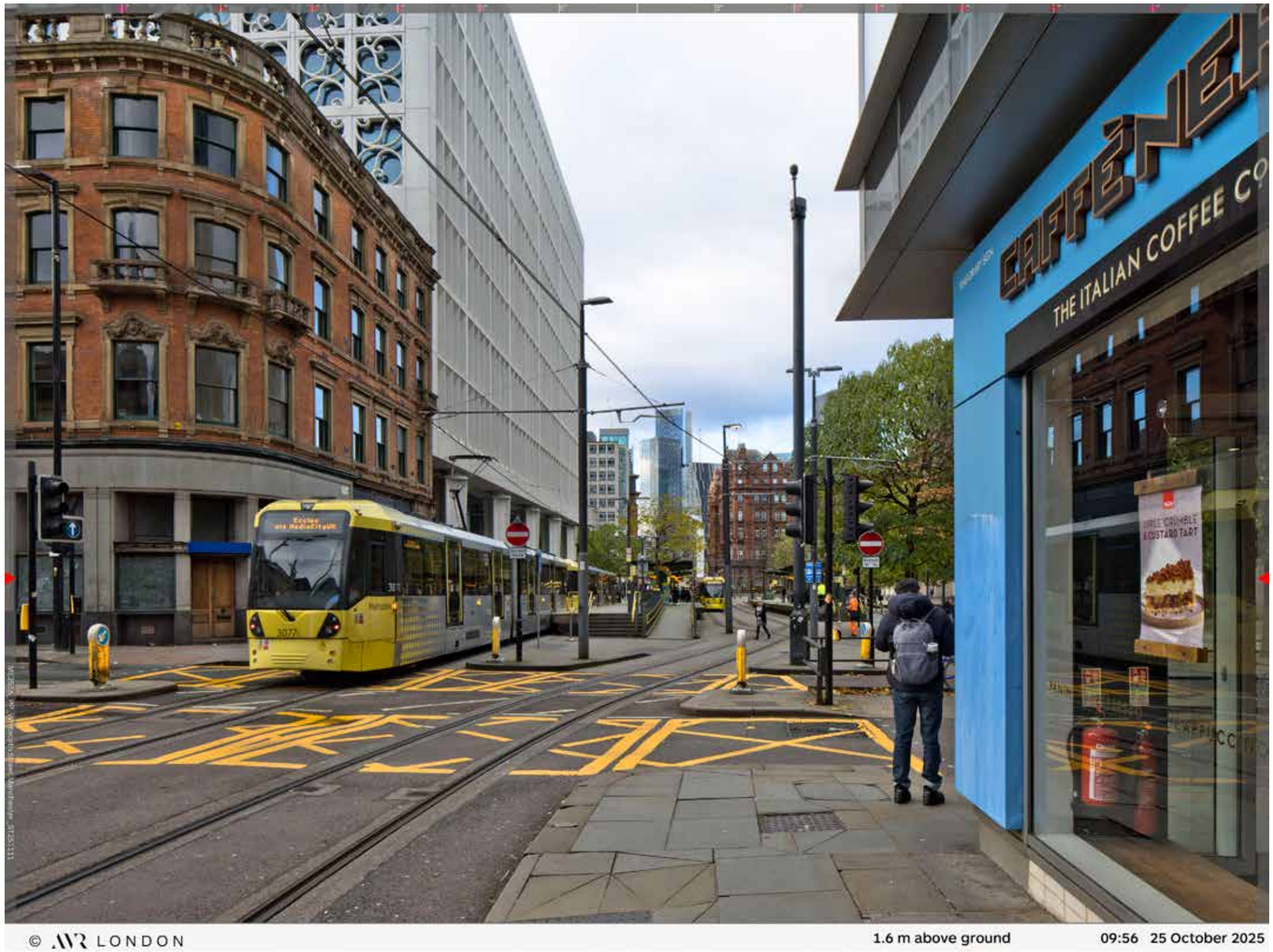
27. 6 Little Peter Street Manchester
143678/FO/2025

28. Holiday Inn Express 2 - 4 Oxford Road Manchester M1 5QA
143061/FO/2025

Proposed Approved Awaiting Decision



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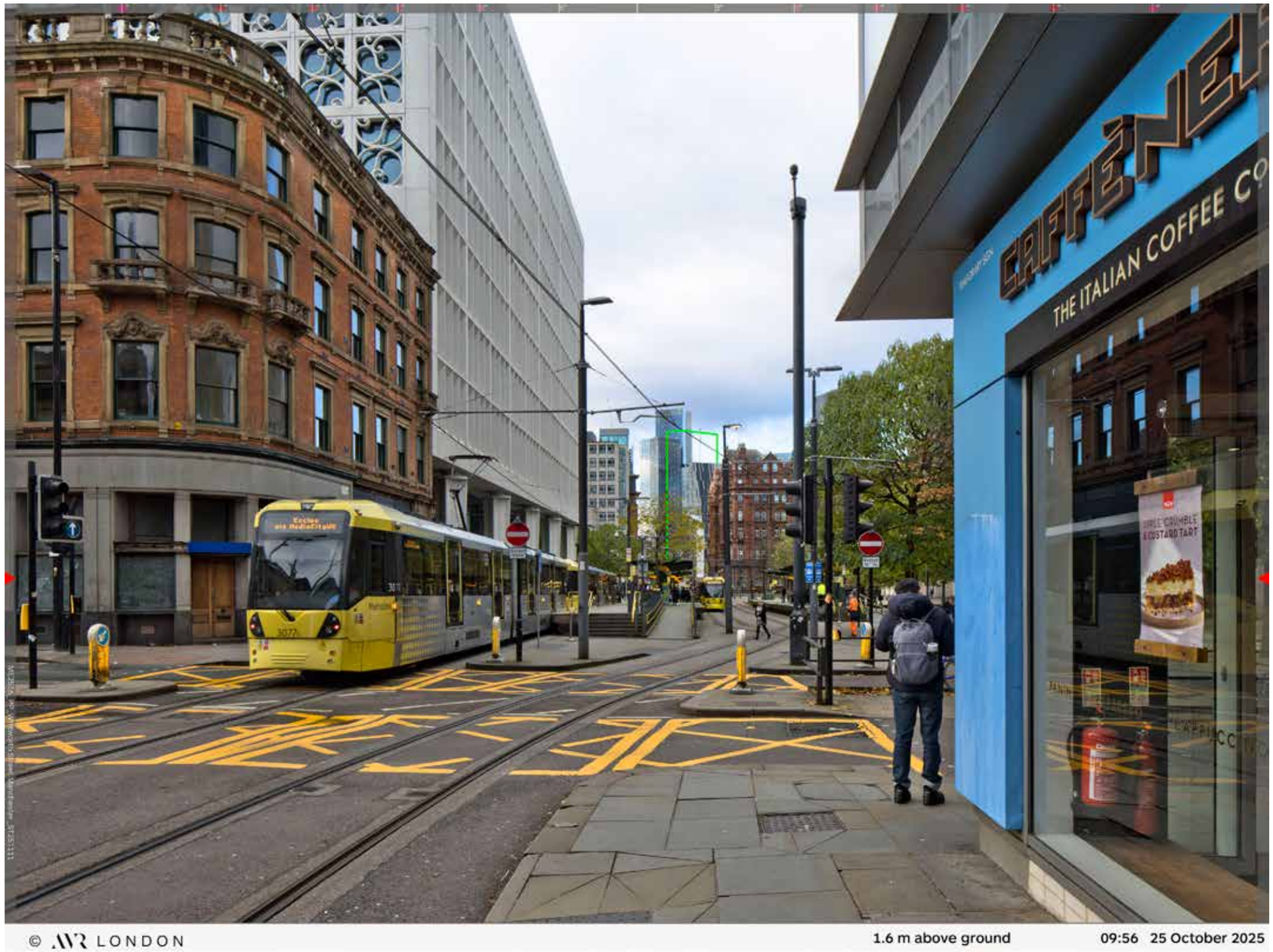


Whitworth Street
Manchester
January 2026



AVR01

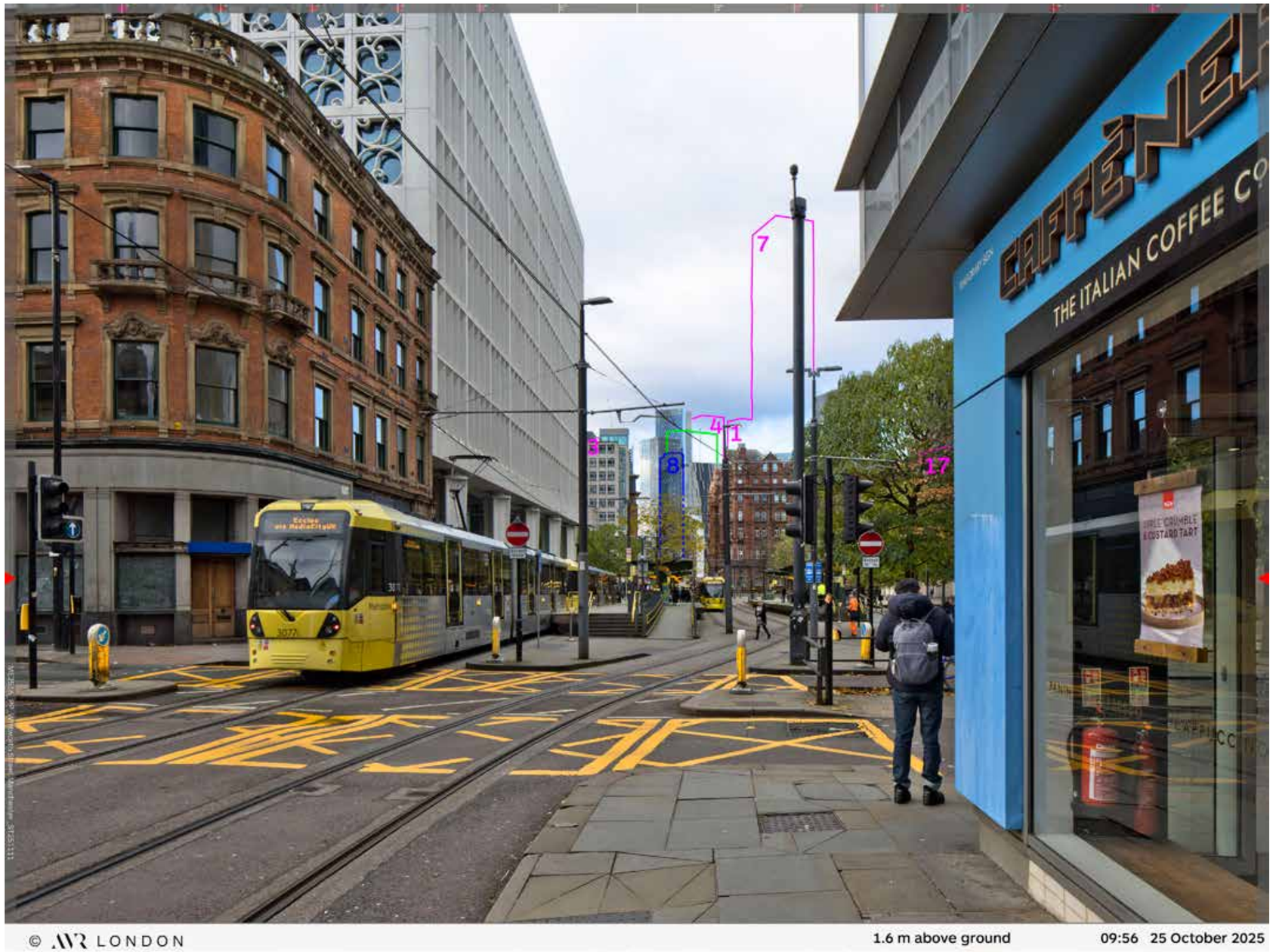
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Whitworth Street
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AVR01



Whitworth Street
Manchester
January 2026



AVR01

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Whitworth Street
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January 2026



AVR02

PROPOSED



Whitworth Street
Manchester
January 2026



AVR02

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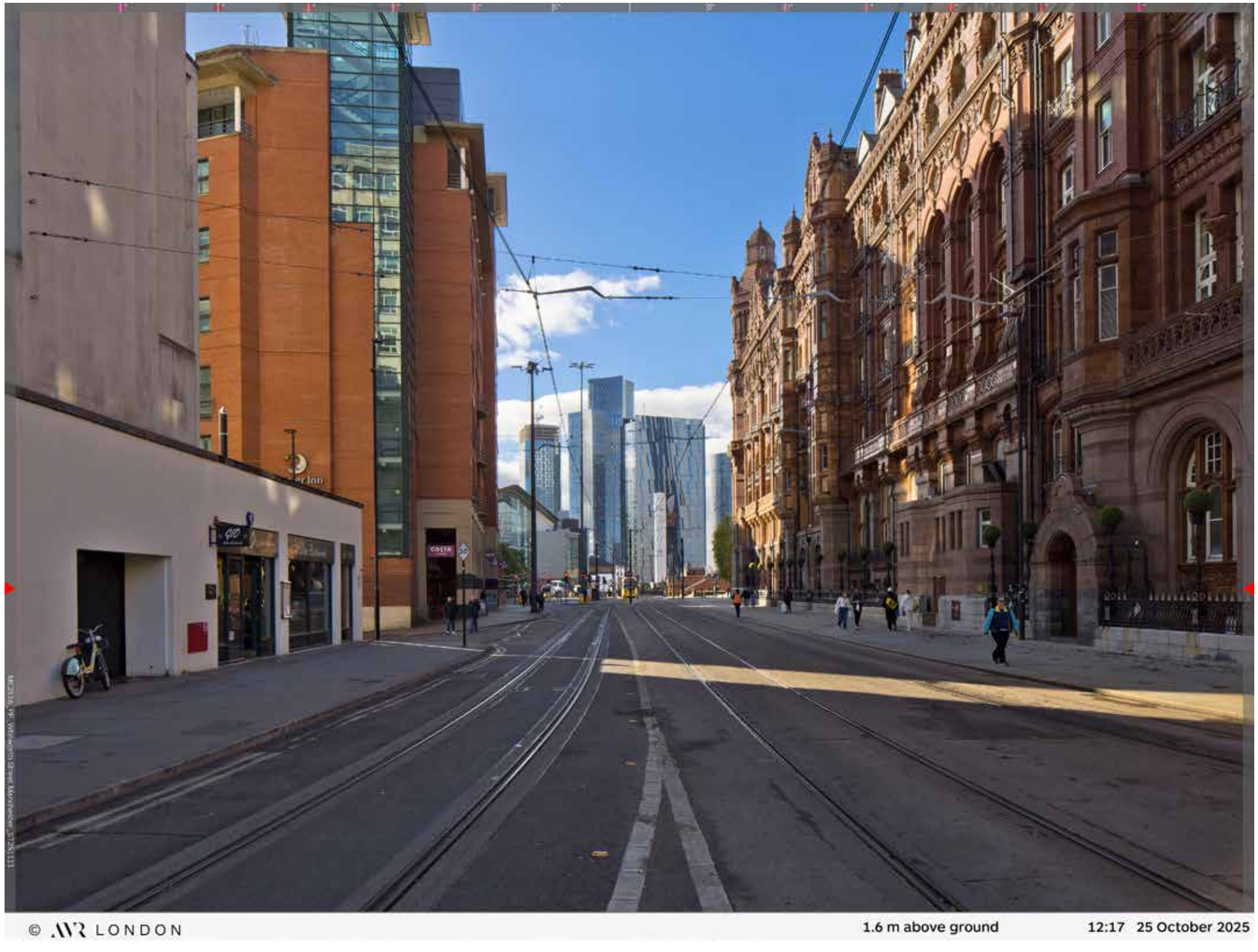


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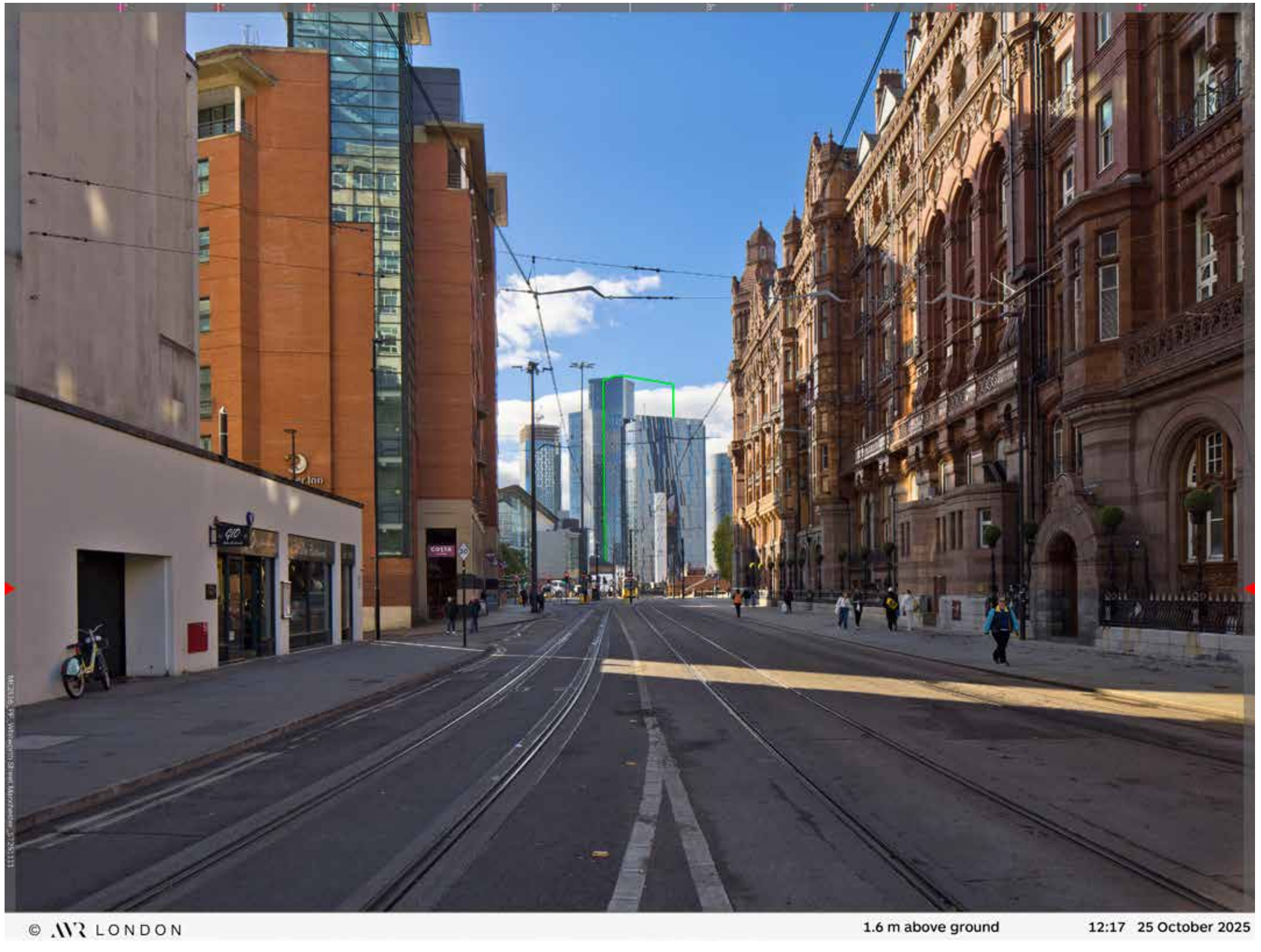


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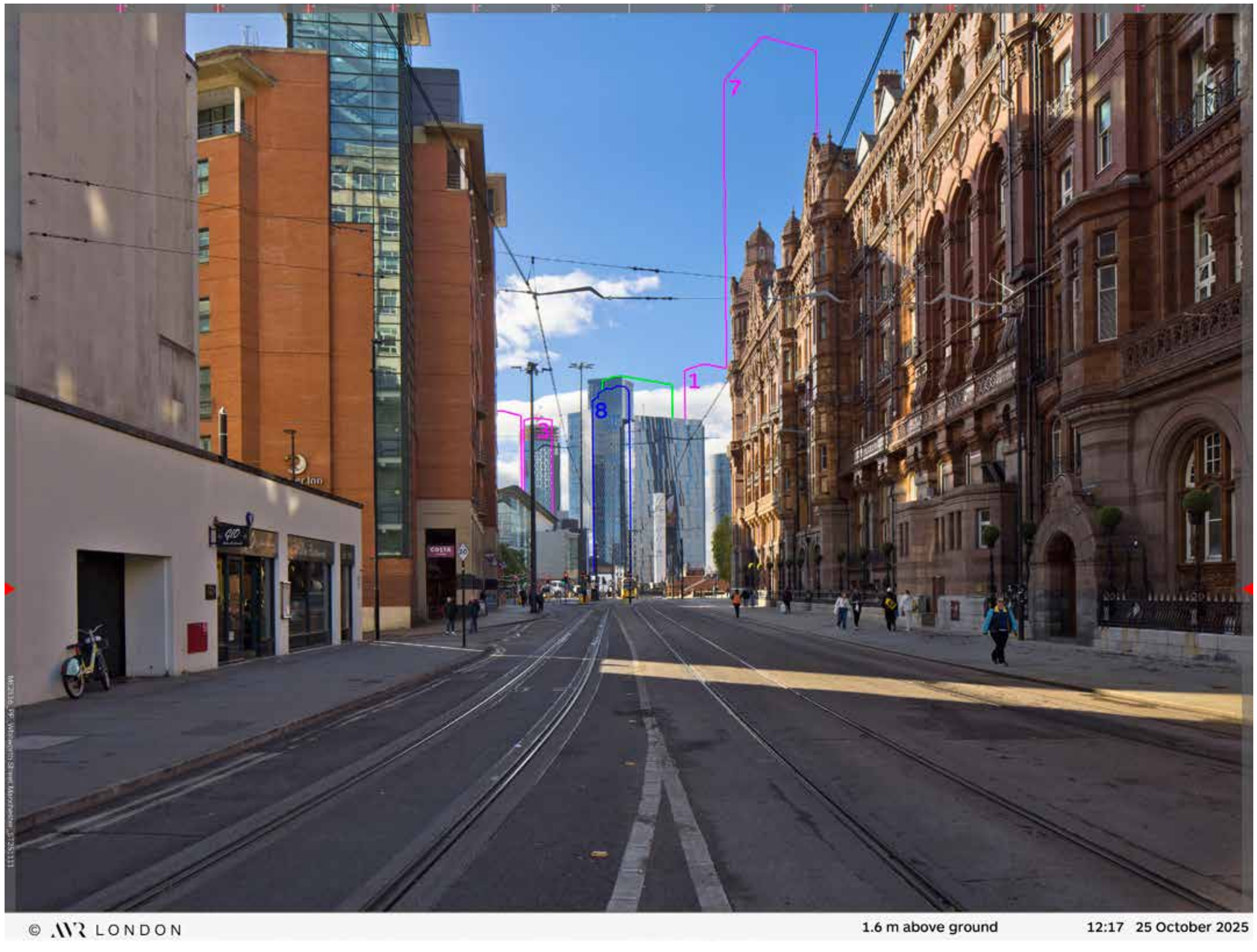
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AVR03



Whitworth Street
Manchester
January 2026



AVR03

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Whitworth Street
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January 2026



AVR04

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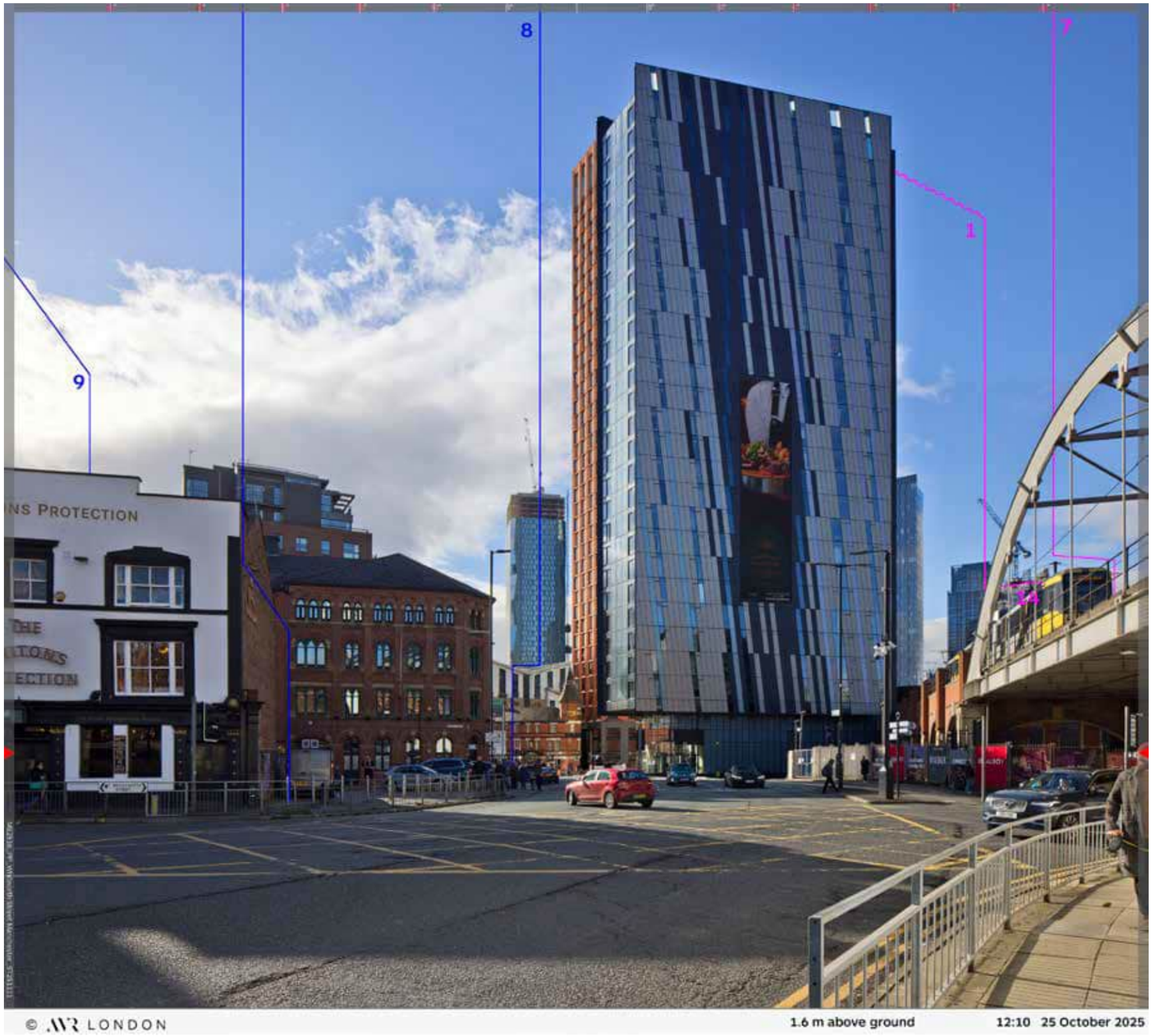


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AVR04

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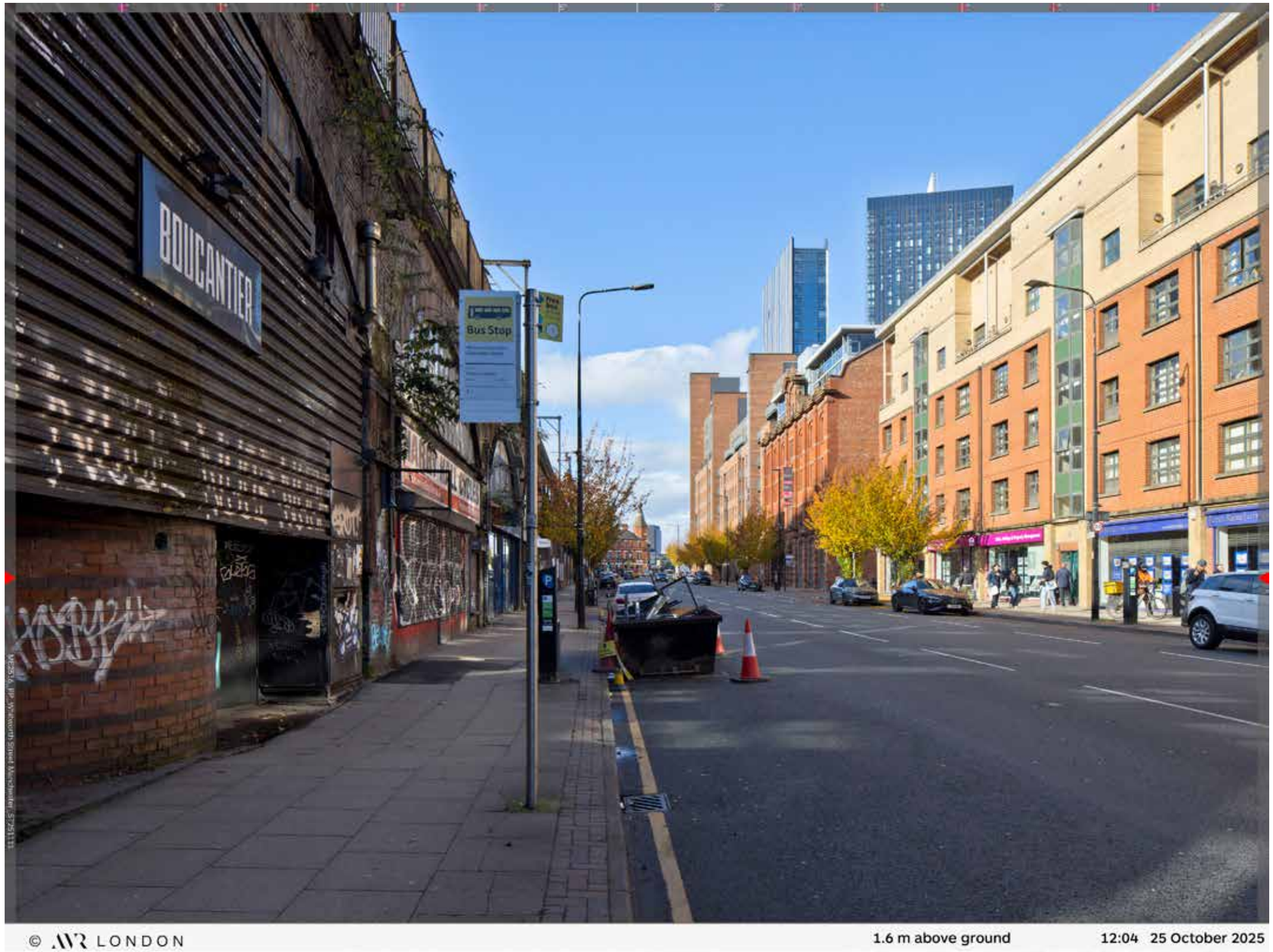


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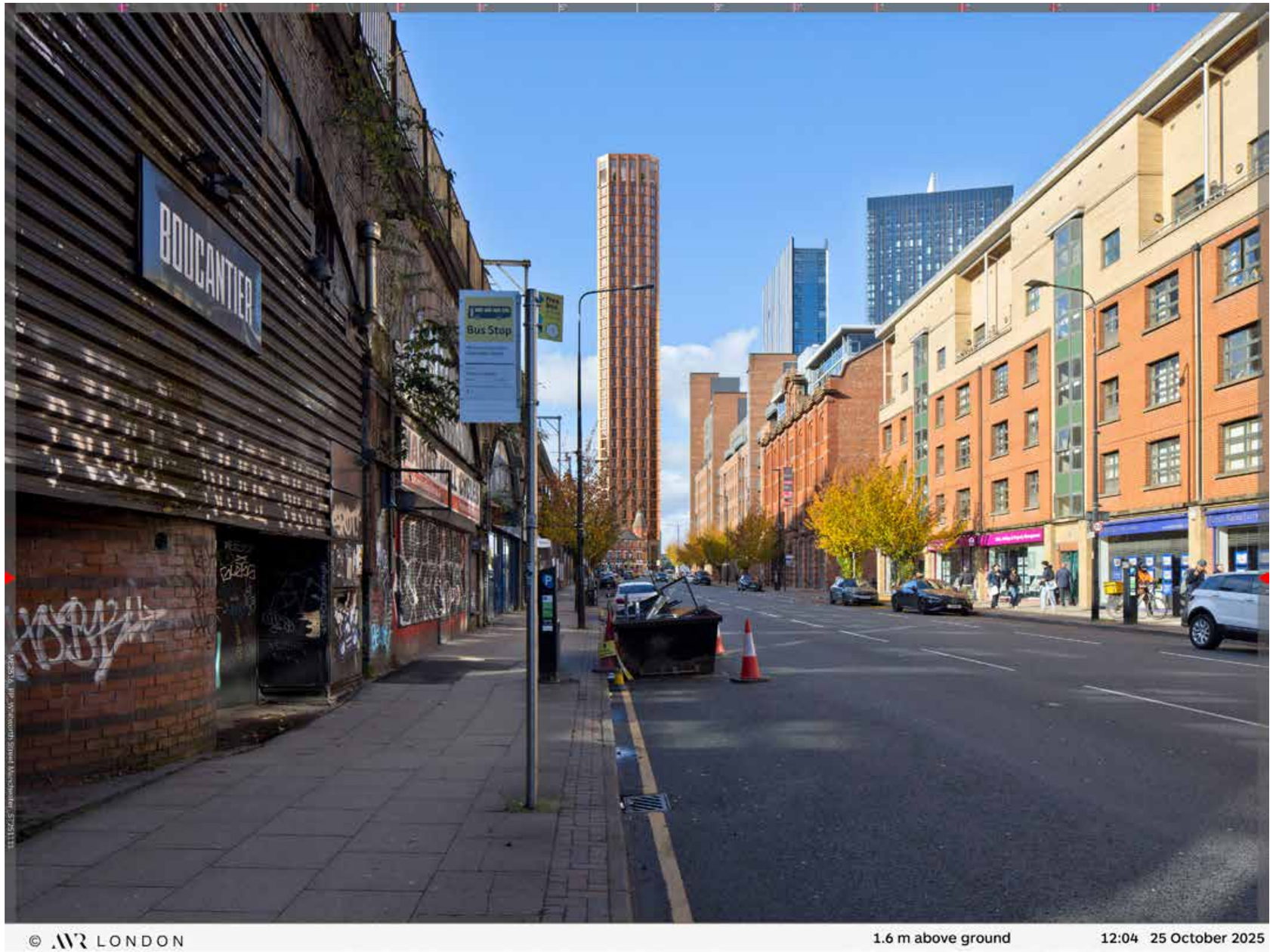
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AVR05

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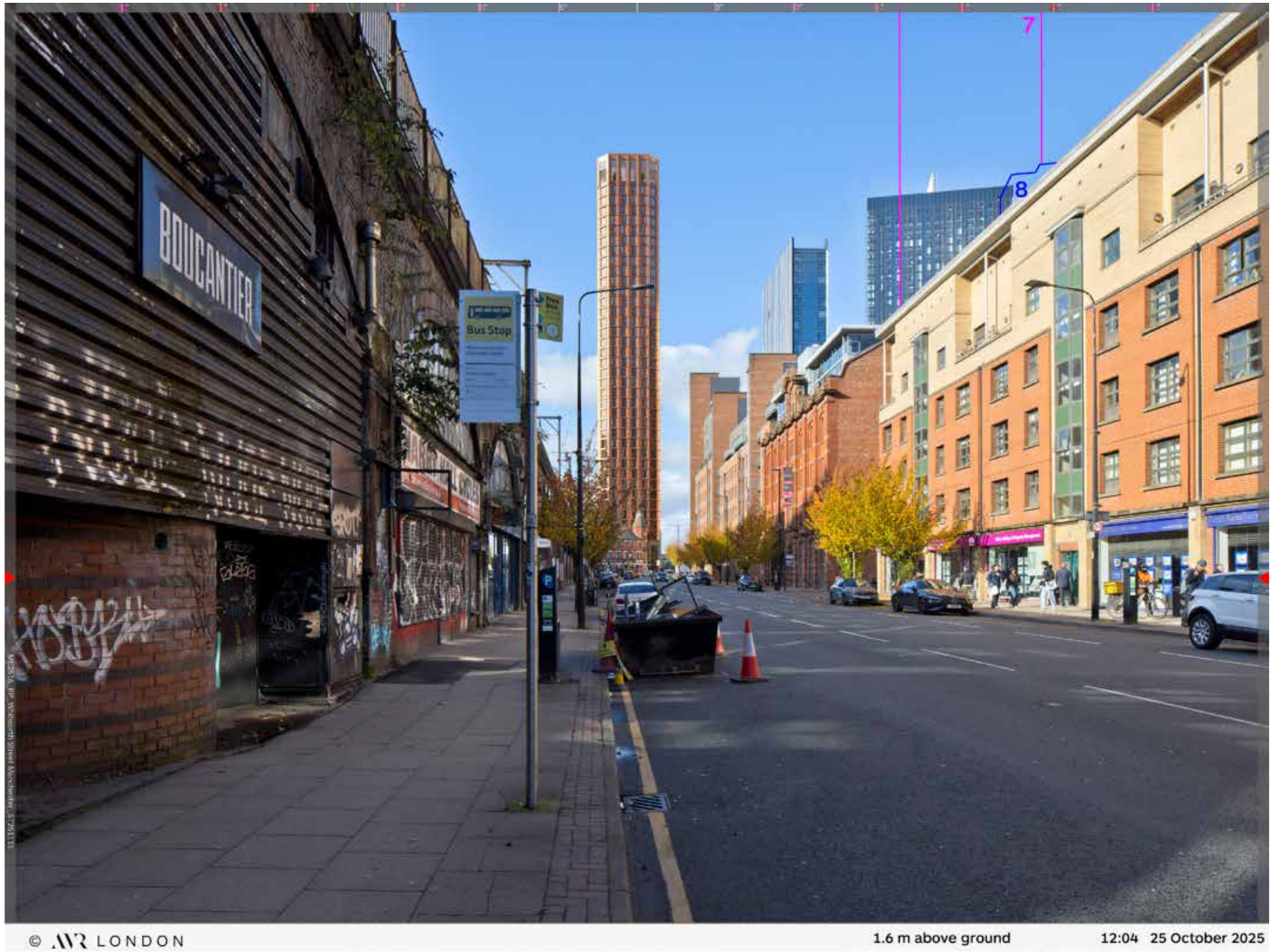


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AVR05

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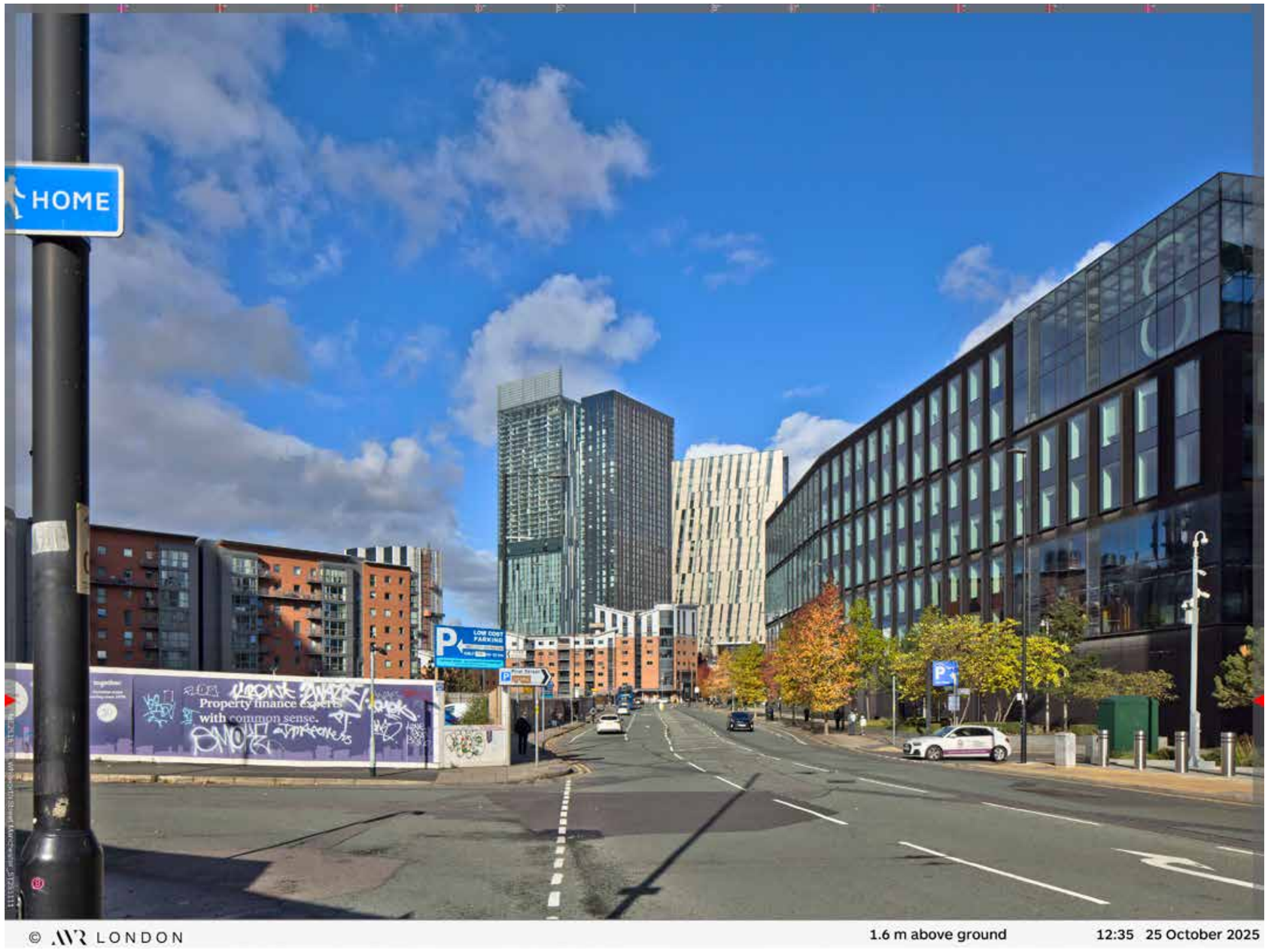


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AVR05

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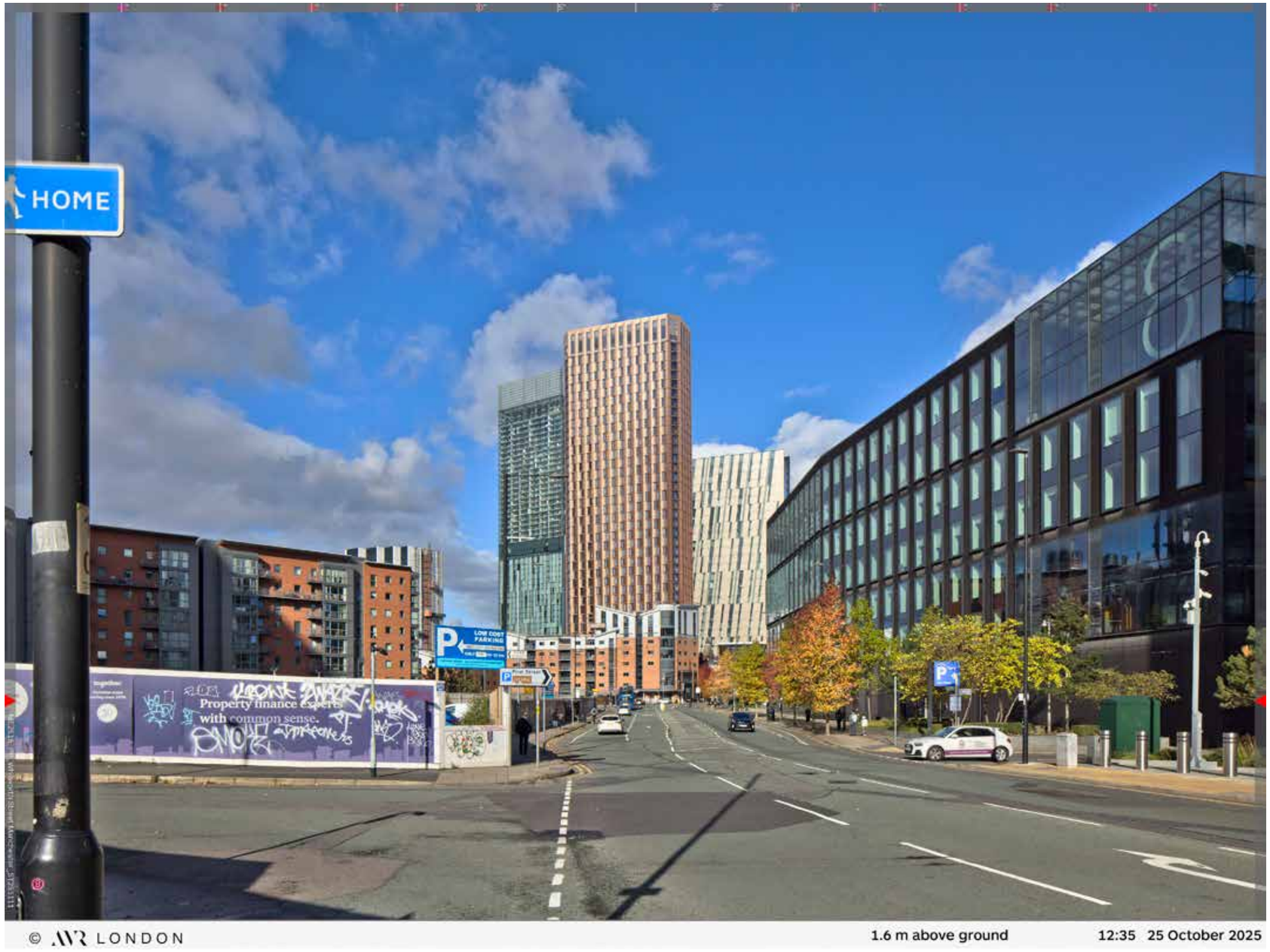


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AVR06

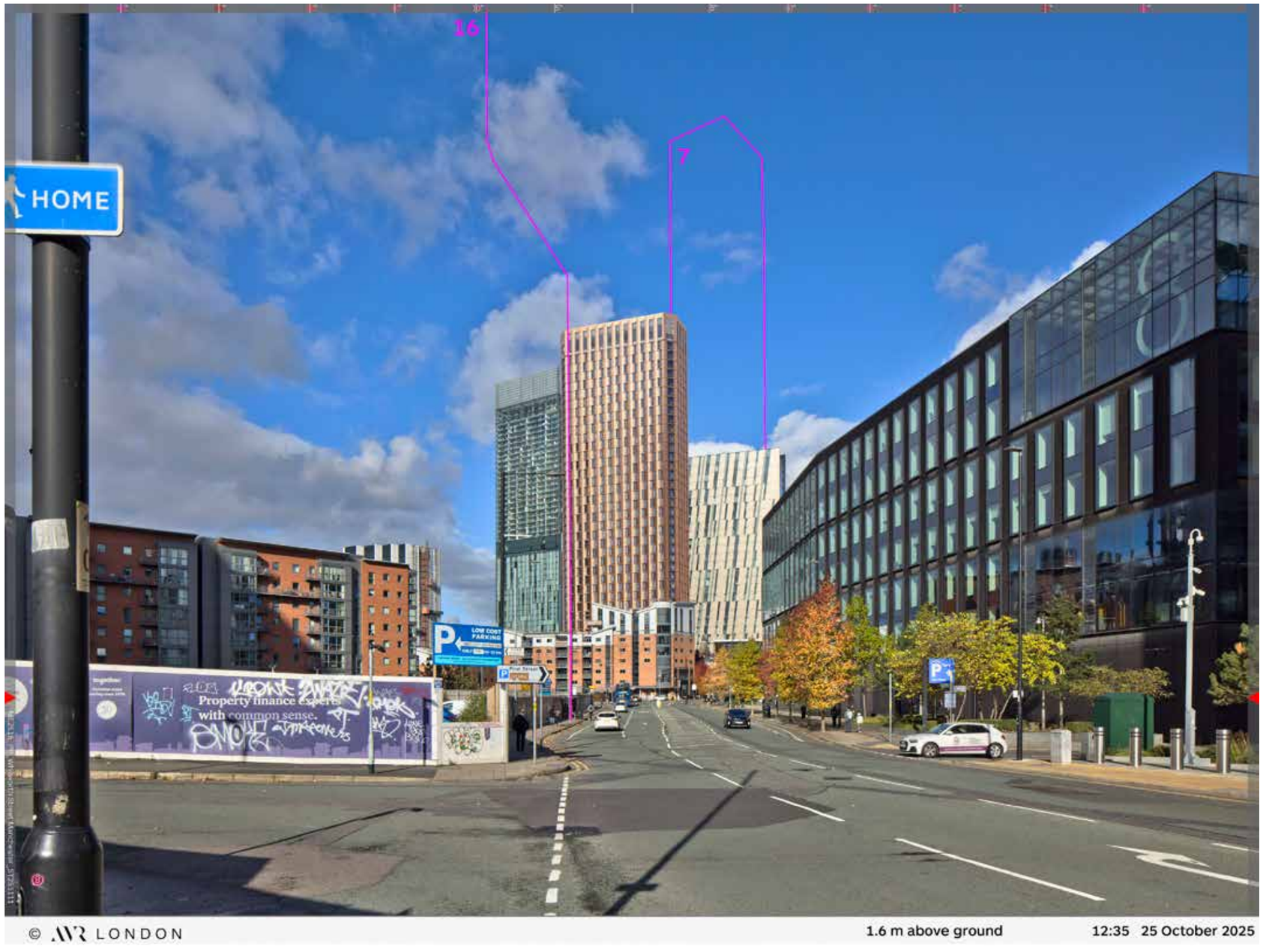
PROPOSED



Whitworth Street
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AVR06



Whitworth Street
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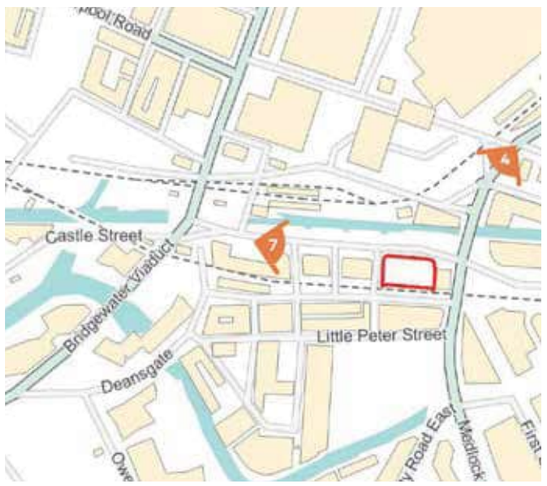
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AVR06

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January 2026

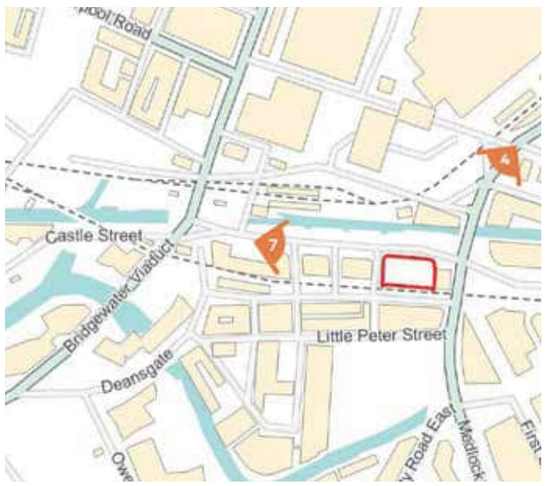


AVR07

PROPOSED



Whitworth Street
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January 2026

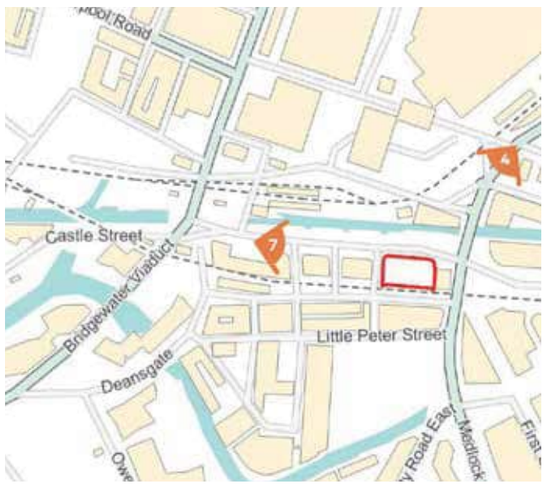


AVR07

CUMULATIVE



Whitworth Street
Manchester
January 2026



AVR07

EXISTING



Whitworth Street
Manchester
January 2026



AVR08

PROPOSED



Whitworth Street
Manchester
January 2026



AVR08

CUMULATIVE

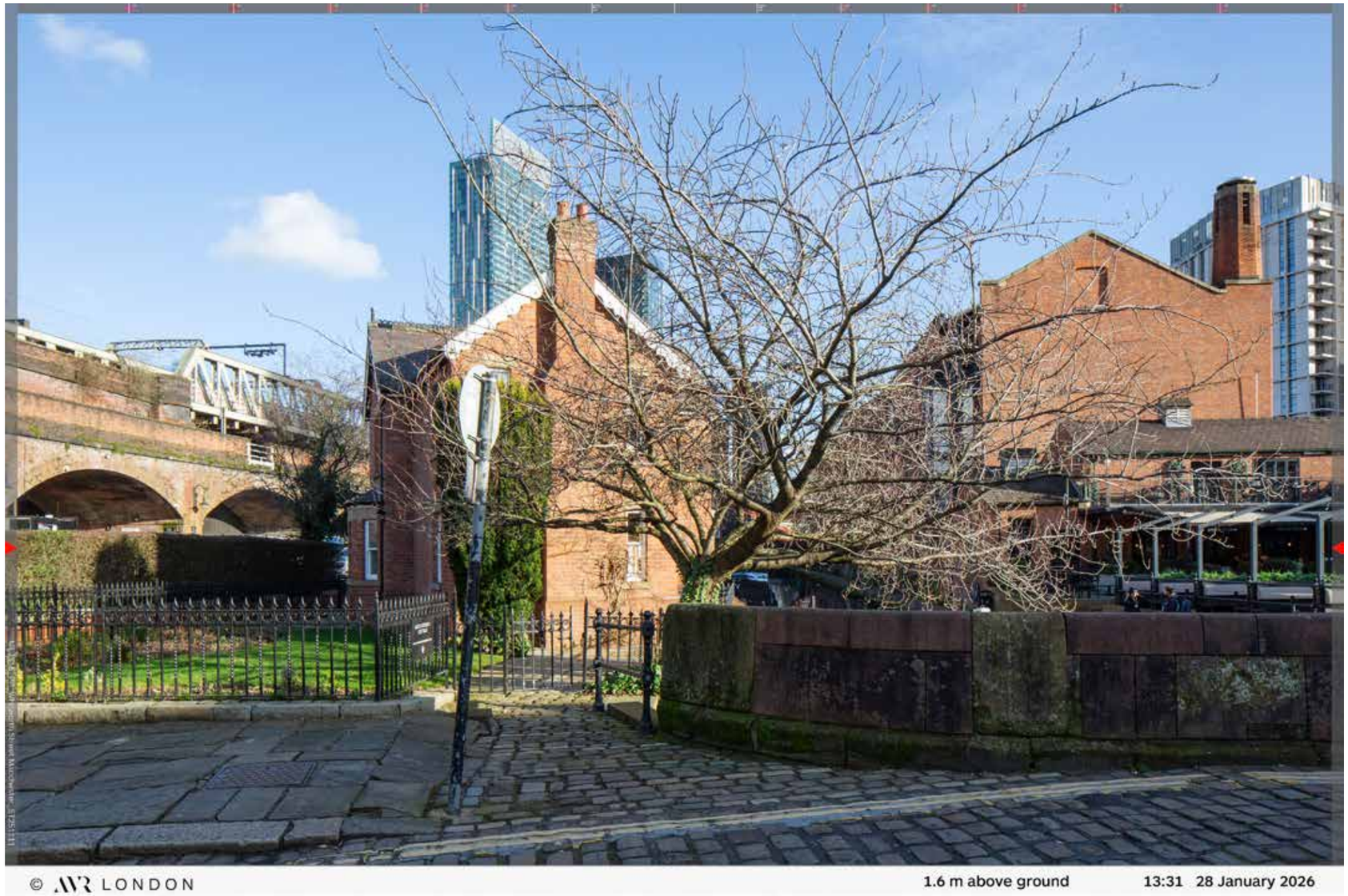


Whitworth Street
Manchester
January 2026

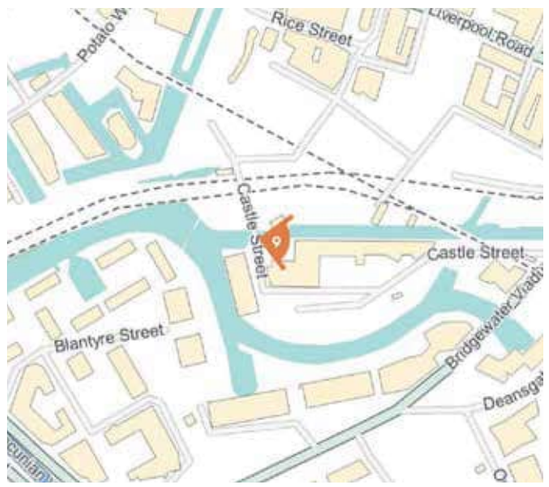


AVR08

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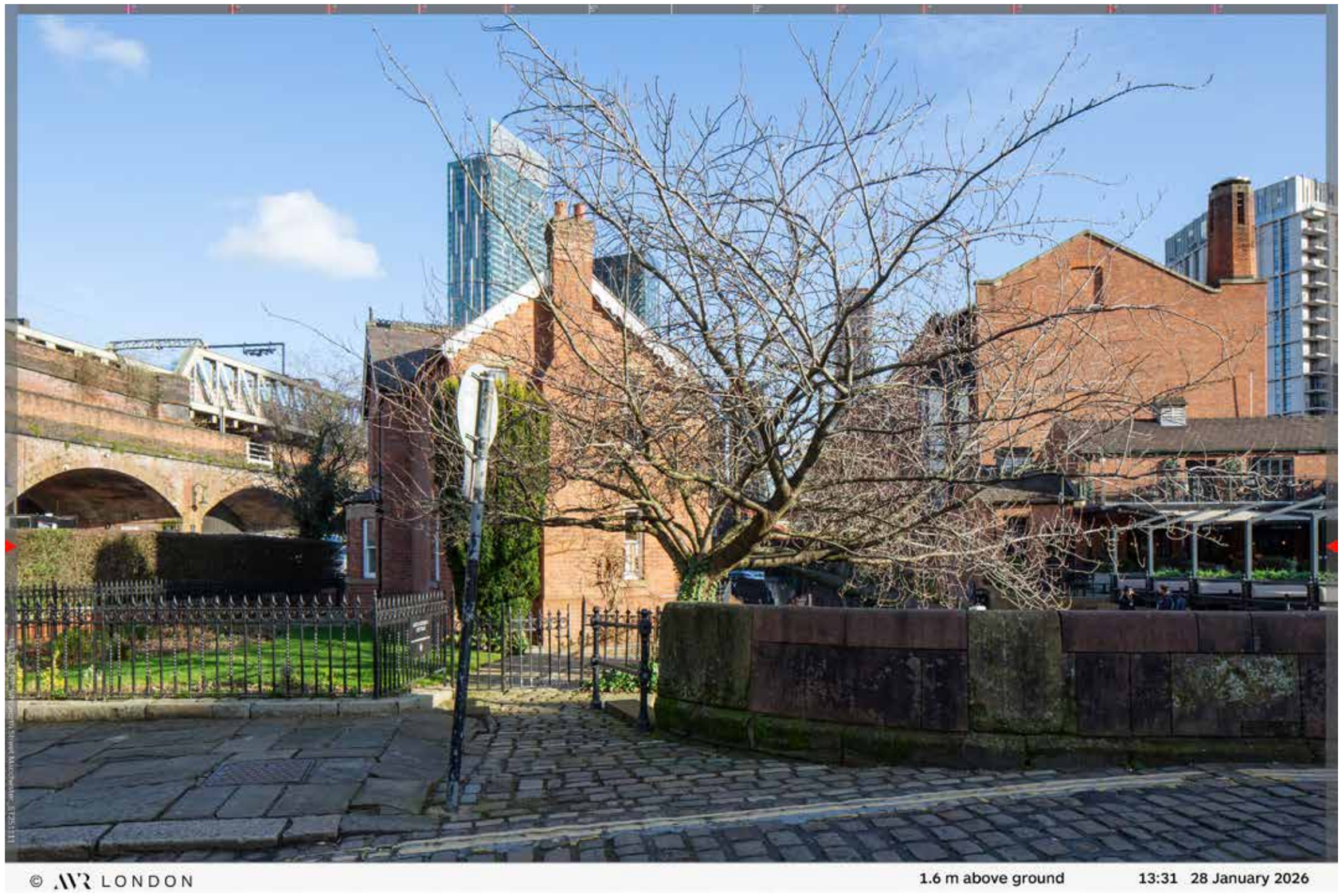


Whitworth Street
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January 2026



AVR09

PROPOSED



Whitworth Street
Manchester
January 2026



AVR09

CUMULATIVE



Whitworth Street
Manchester
January 2026



AVR09

EXISTING



Whitworth Street
Manchester
January 2026



AVR10

PROPOSED

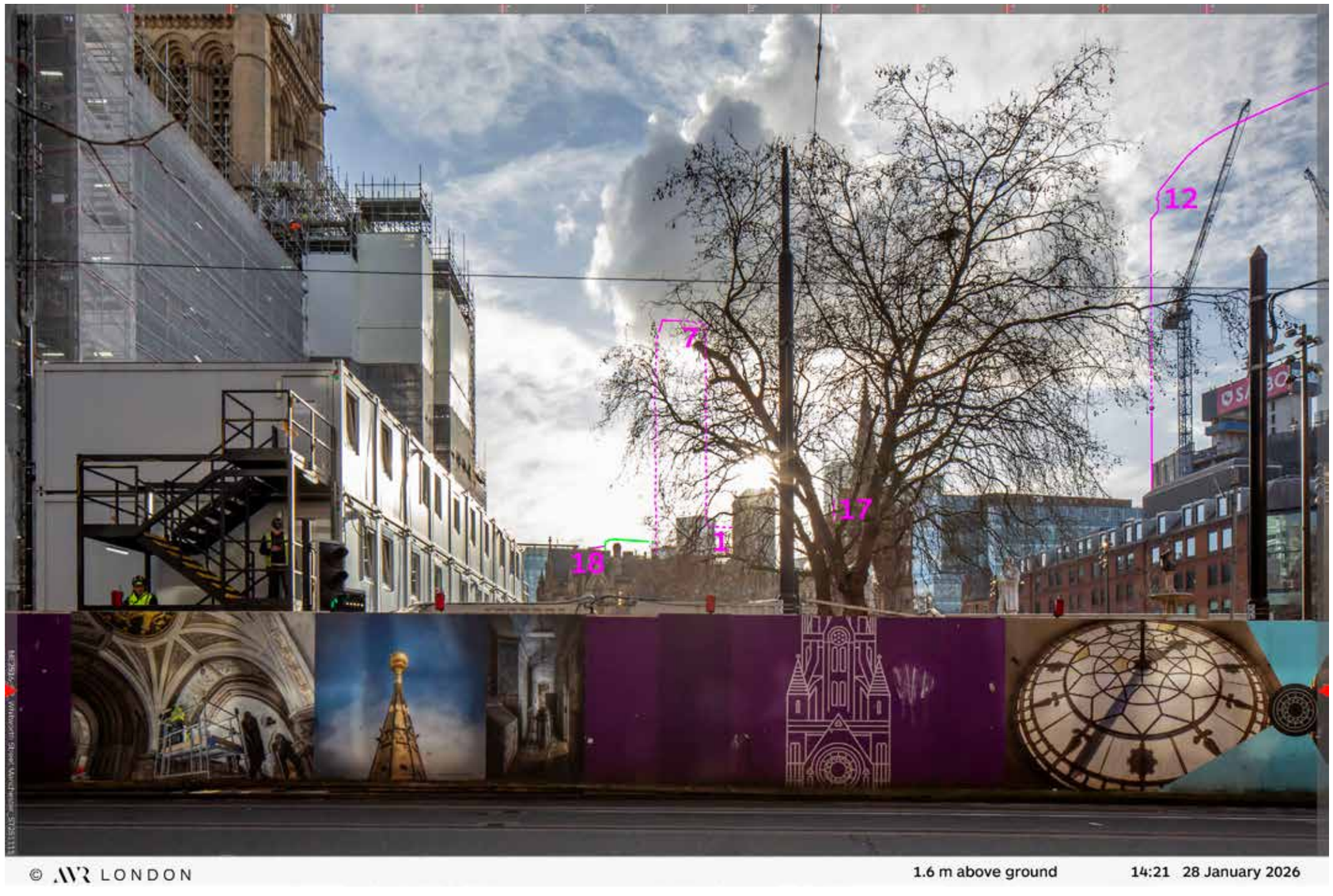


Whitworth Street
Manchester
January 2026



AVR10

CUMULATIVE

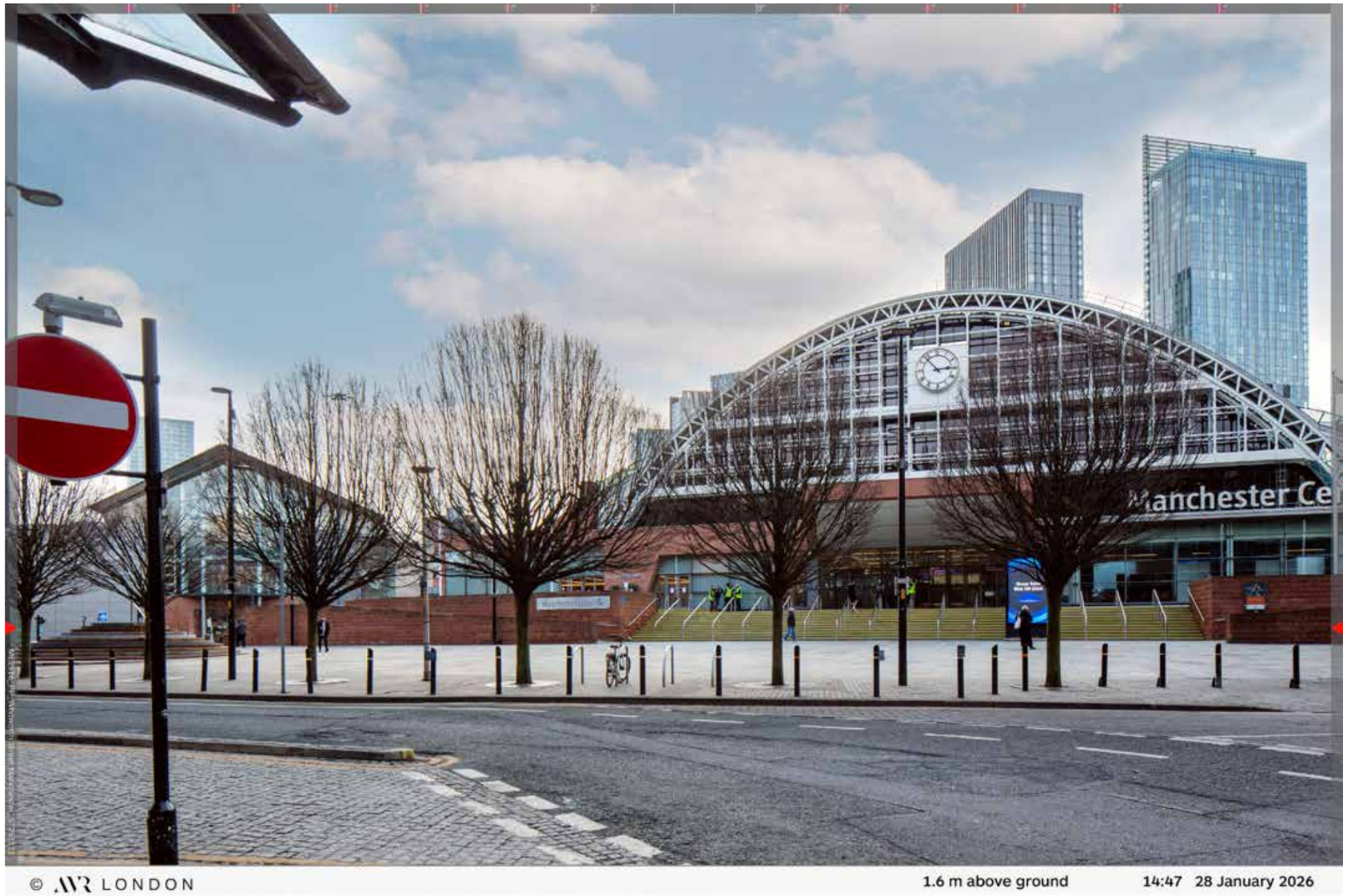


Whitworth Street
Manchester
January 2026



AVR10

EXISTING



Whitworth Street
Manchester
January 2026



AVR11

PROPOSED

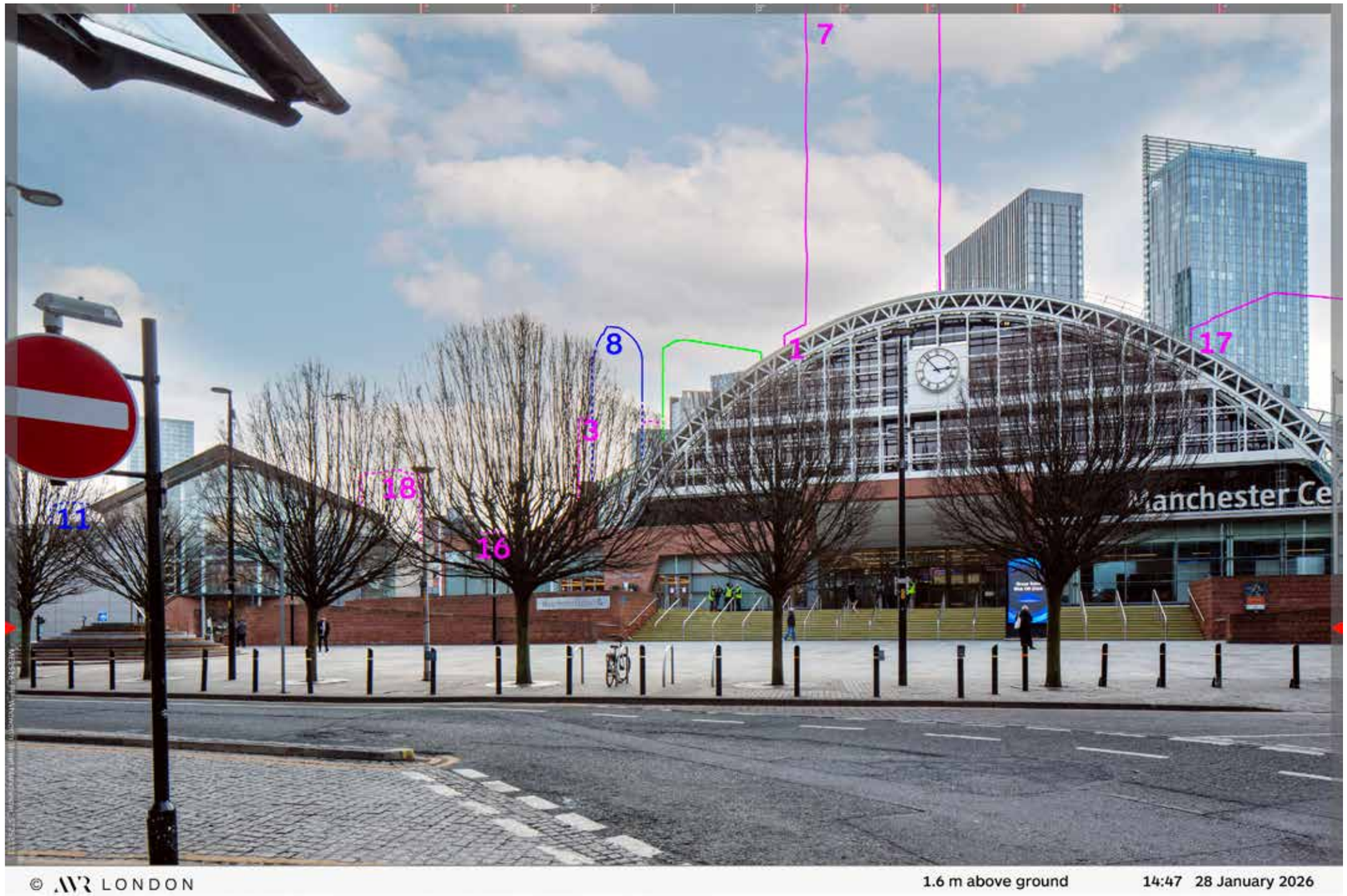


Whitworth Street
Manchester
January 2026



AVR11

CUMULATIVE

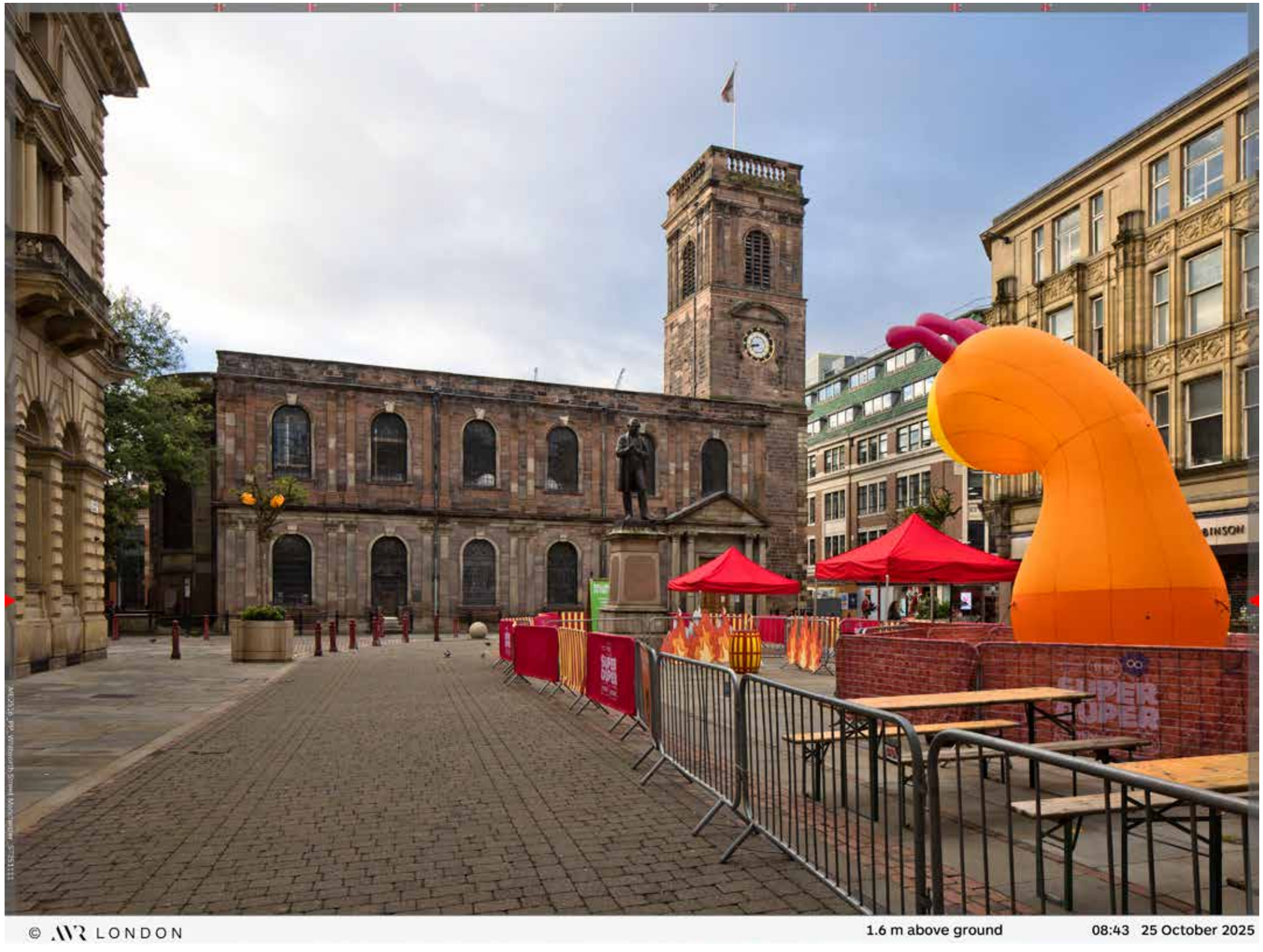


Whitworth Street
Manchester
January 2026



AVR11

EXISTING

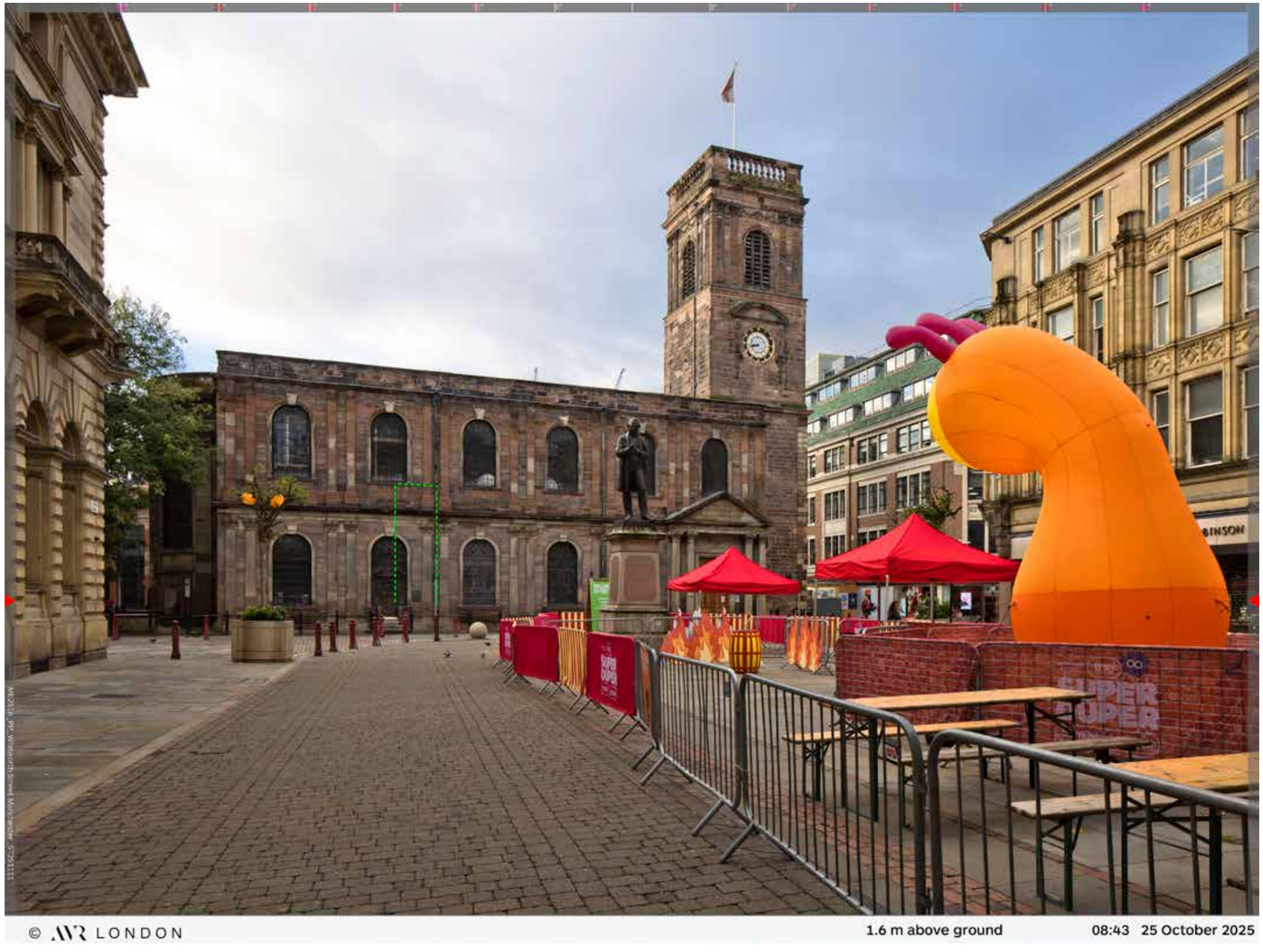


Whitworth Street
Manchester
January 2026



AVR12

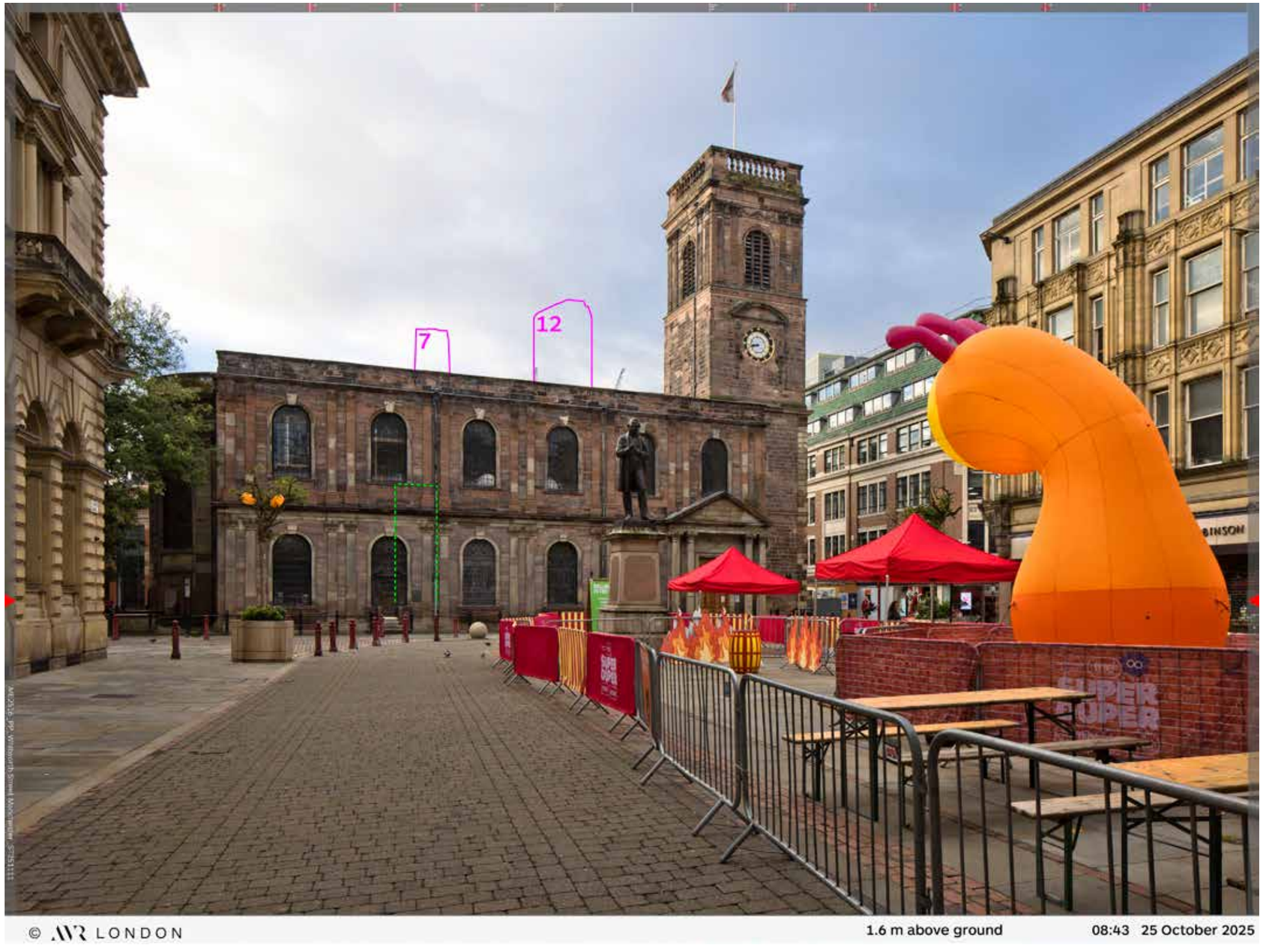
PROPOSED



Whitworth Street
Manchester
January 2026



AVR12



Whitworth Street
Manchester
January 2026

CUMULATIVE



AVR12

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APPENDIX 2: AVR METHODOLOGY PRODUCED BY AVR LONDON

LAND AT 10-12 WHITWORTH STREET WEST, MANCHESTER

AVR

LONDON

PROJECT: Whitworth Street, Manchester
DATE: March 2026

AVR London were commissioned to produce a number of verified views of the proposals at Whitworth Street, Manchester. AVR positions were identified by the planning consultant.

2D plans, Ordnance Survey Mapping, local survey data, and the 3D model for the proposed development were provided by the architect.

PHOTOGRAPHY

Equipment:

Canon EOS R5
Canon TS-E 24mm f/3.5L II
Canon TS-E 17mm f/4

1.1 All photography is undertaken by AVR London's in-house professional photographers.

1.2 In professional architectural photography, having the camera level with the horizon is desirable in order to prevent three point perspective being introduced to the image and to ensure the verticals within the photographed scene remain parallel. This is standard practice and more realistically reflects the viewing experience.

1.3 The lens used by the photographer has the ability, where necessary, to shift up or down while remaining parallel to the sensor, allowing for the horizon in the image to be above, below or central within the image whilst maintaining two point perspective. This allows the photographer to capture the top of a taller proposed development which would usually be cropped, without introducing three point perspective.

When the shift capability of the lens is not used the image FOV and dimensions are the same as a prime lens of equal focal length.

1.4 Once the view positions are confirmed by the townscape consultant, AVR London takes professional photography from each location. At each location the camera is set up over a defined ground point using a plumb line to ensure the position can be identified later.

1.5 The centre of the camera lens is positioned at a height of 1.60 metres above the ground to simulate average viewing height. For standard verified photography, each view is taken with a lens that gives a 68 degree field of view, approximately, a standard which has emerged for verified architectural photography. The nature of digital photography means that a record of the time and date of each photograph is embedded within the photo file; this metadata allows accurate lighting timings to be recreated within the computer model.

1.6 Once the image is taken, the photographer records the tripod location by photographing it in position to ensure the position can be accurately located for surveying (Fig 02).

1.7 Each image is processed by the photographer to ensure it visually matches the conditions on site when the photograph is taken.

REGARDING 24mm FOCAL LENTH IN AN URBAN ENVIRONMENT

1.8 The Landscape Institute Technical Guidance Note [2] states:

1.5.5 *'When regulatory authorities specify their own photographic and photomontage requirements, the landscape professional should follow them unless there is a good reason not to do so.'*

1.9 The London View Management Framework: Supplementary Planning Guidance (2012) Appendix C: Accurate Visual Representation [1] sets out a well-defined and verifiable procedure for preparing Accurate Visual Representations as part of the assessment of the visual impacts of proposed developments. As the LVMF aims to protect the most significant views in London, the guidance set out in Appendix C is considered best practice within the industry.

Fig 01: 24mm photograph with 50mm photograph overlaid

The LVMF guidance indicates that creators of AVRs should use the appropriate lens for each study, which could include wide angle lenses (wider than 50mm) or telephoto lenses (more zoomed than 50mm), where necessary.

Over time the 24mm lens has become the industry standard in urban visualisation due to its ability to capture context with limited distortion.

Given the Landscape Institute's advice to follow the authorities' own requirements, where applicable, AVR London follows the LVMF guidance.

1.10 When we observe a scene, we can focus on 6-10 degrees. However, without moving our head, the scene beyond is observed using our peripheral vision. Once we move our eyes we can observe almost 180 degrees without moving our head. In reality we do not view the world through one fixed position, we move our eyes around a scene and observe, height, width and depth.

1.11 This is acknowledged by the Landscape Institute's Technical Guidance Note [2]. The appreciation of the wider context seen through peripheral vision or by moving our eyes (changing the focal point) is key to our experience of a scene.

While photography cannot replicate the human experience entirely, it is widely acknowledged that the use of a 24mm lens in an urban environment provides the viewer with a more realistic experience

than a 50mm lens. For these reasons the 24mm lens is industry standard in the creation of urban photo montages. It should also be noted that using a consistent focal length is favourable so as to confuse the viewer's sense of scale.

50mm LENS/CROP

1.12 It should also be stressed that if you were to centrally crop into an image taken with a 24mm lens to the same HFOV (Horizontal Field Of View) as a 50mm lens, the resulting image is not identical to that produced by taking it directly with a 50mm lens. An image with a 70 degree HFOV (24mm lens) is geometrically and perspectively identical to an image showing a HFOV of 40 degrees (50mm lens), the 24mm lens purely gives more context to all sides (Fig 01). Further, all of our images allow this 50mm equivalent HFOV to be seen, read and understood on the image itself.

The benefit of using images taken with a 24mm lens is that the observer and in particular an experienced inspector, is not to be able to analyse the image with the benefit of both fields of view.

POINT	EASTING	NORTHING	HEIGHT
AVR03	383896.986	397876.653	39.61
1081	383894.683	397860.591	41.944
1082	383892.776	397858.286	41.939
1083	383880.353	397830.658	47.968
1084	383871.698	397831.116	43.548
1085	383876.783	397832.186	55.751
1086	383876.782	397832.176	61.152
1087	383883.383	397831.345	68.022
1088	383875.06	397834.439	73.928
1089	383827.74	397813.055	65.641
1090	383850.349	397842.673	70.896
1091	383851.585	397843.139	50.372

Table 1: Example surveying data

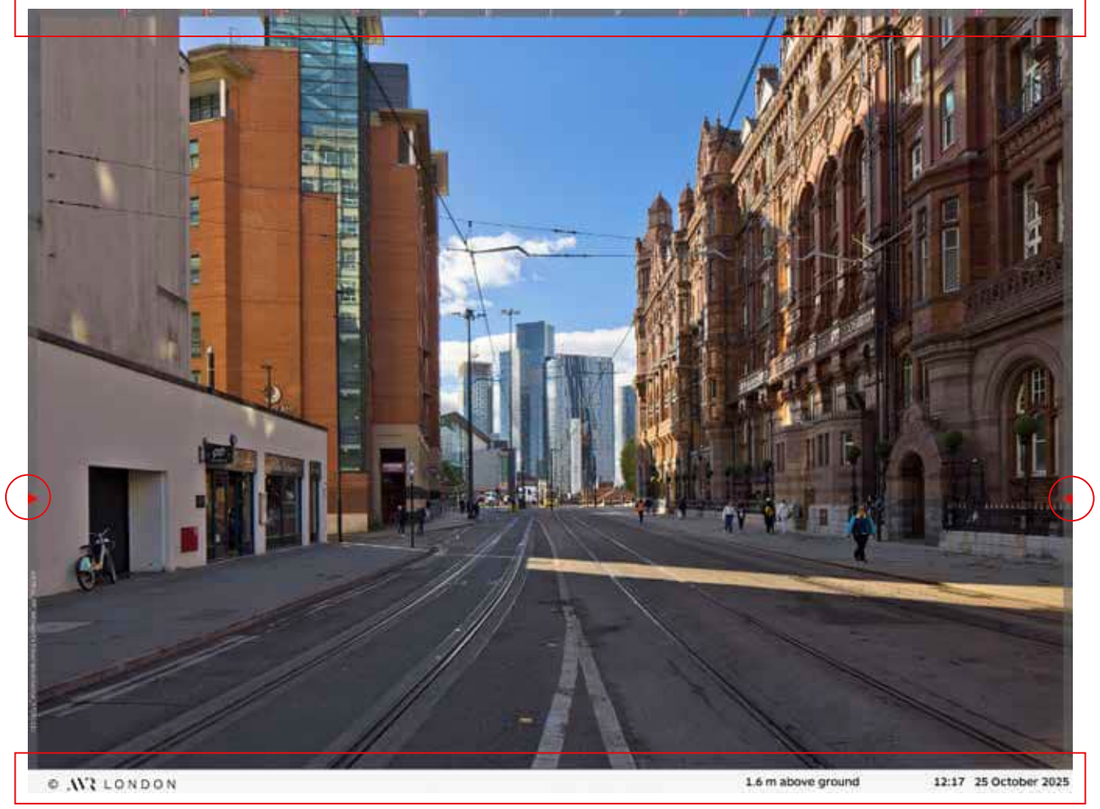


Fig 04: Example AVR London graticule



Fig 02: Tripod location as documented by photographer

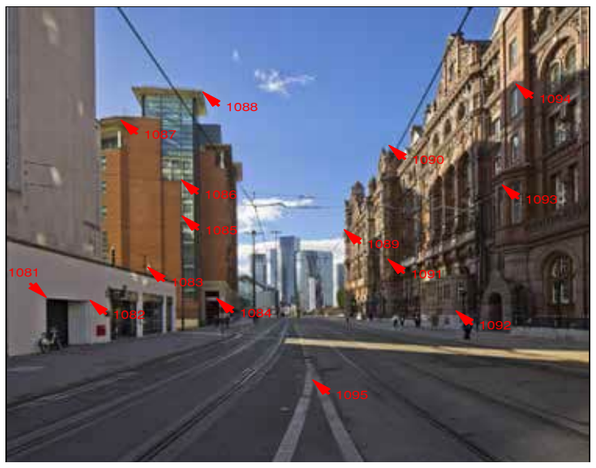


Fig 03: Survey points as highlighted by surveyor

SURVEY

Equipment:

- Leica Total Station Electronic Theodolite which has 1" angle measuring accuracy and 2mm + 2ppm distance accuracy.
- Leica Smart Rover RTK Global Positioning System.
- Wild/Leica NAK2 automatic level which a standard deviation of +/- 0.7mm/km

2.1 The photographer briefs the surveyor, sending across the prepared photographs, ground positions and appropriate data.

2.2 The surveyor establishes a line of sight, two station baseline, coordinated and levelled by real time kinetic GPS observations, usually with one of the stations being the camera location. The eastings and northings are aligned to the Ordnance Survey National Grid (OSGB36) and elevation to Ordnance Survey Datum (OSD) using the OSTN15 GPS transformation program.

2.3 Once the baseline is established, a bearing is determined and a series of clearly unidentifiable static points across the photograph are observed using the total station. These observations are taken throughout the depth of field of the photograph and at same heights within the image.

2.4 The survey control stations are extracted from the OS base mapping and wherever possible, linked together to form a survey network. This means that survey information is accurate to

REFERENCES:

[1] GLA - London View Management Framework: Supplementary Planning Guidance (2012) Appendix C: Accurate Visual Representations
[2] Landscape Institute - Visual Representation of Development Proposals - Technical Guidance Note (September 2019)
[3] Landscape Institute - Guidelines for Landscape and Visual Impact Assessment: 3rd edition (April 2013)

tolerances quoted by GPS survey methods in plan and commensurate with this in level.

2.5 Horizontal and vertical angle observations from the control stations allow the previously identified points within the view to be surveyed using line of sight surveying and the accurate coordination of these points determined using an intersection program. These points are then related back to the Ordnance Survey grid and provided in a spreadsheet format showing point number, easting, northing and level of each point surveyed, together with a reference file showing each marked up image (Fig 03 and Table 1).

2.6 The required horizon line within the image is established using the horizontal collimation of the theodolite (set to approximately above the ground) to identify 3 or 4 features that fall along the horizon line. The theodolite more generally is used for measuring angles and distances.

2.7 Using the surveyed horizon points as a guide, each photograph is checked and rotated, if necessary, in proprietary digital image manipulation software to ensure that the horizon line on the photograph is level and consistent with the information received from the surveyor.

Accurate Visual Representation Production

Process

3.1 The 3D computer model is precisely aligned to a site plan on the OS coordinate grid system.

3.2 Within the 3D software a virtual camera is set up using the coordinates provided by the surveyor along with the previously identified points within the scene. The virtual camera is verified by matching the contextual surveyed points with matching points within the overlaid photograph. As the surveyed data points, virtual camera and 3D model all relate to the same 3-dimensional coordinate system, there is only one position, viewing direction and field of view where all these points coincide with the actual photograph from site. The virtual camera is now verified against the site photograph.

3.3 For fully-rendered views a lighting simulation (usingaccurate latitude, longitude and time) is established within the proprietary 3D modelling software matching that of the actual site photograph. Along with the virtual sunlight, virtual materials are applied to the 3D model to match those advised by the architects. The proprietary 3D modelling software then uses the verified virtual camera, 3D digital model, lighting and material setup to produce a computer generated render of the proposed building.

3.4 The proposal is masked where it is obscured behind built form or street furniture.

3.5 Using the surveyed information and verification process described above, the scale and position of a proposal within a scene can be objectively calculated. However, using the proprietary software currently available the exact response of proposed materials to their environment is subjective so the exact portrayal of a proposal is a collaboration between illustrator and architect. The final computer generated image of the proposed building is achieved by combining the computer-generated render and the site photography within proprietary digital compositing software.

Presentation

Graticule

4.1 Each Accurate Visual Representation is framed by a graticule which provides further information including time and date of photography, horizon markers and field of view of the lens (Fig 04).

4.2 The Field of View is represented along the top of the image in the form of markers with degrees written at the correct intervals.

4.3 The horizon markers indicate where the horizontal plane of view from the camera lies. (section 2 above explains how the surveyor establishes these horizon points).

4.4 The date and time stamp documents exactly when the photograph was taken. This data is recorded in every digital camera file, known as EXIF data.

6. PUBLISHED GUIDANCE

6.1 The Landscape Institute, states in “Visual Representation of Development Proposals - Technical Guidance Note (September 2019)”, that:

“The LI recognises that, for some types of development, targeted or authority-specific guidance may be appropriate.”

“The London View Management Framework provides useful guidance for large-scale urban development, and is particularly useful in identifying what it refers to as ‘AVR Types’ (0 - 3)“

6.2 We agree with the Landscape Institute and it is broadly accepted across the industry that the London View Management Framework Guidance, Appendix C: Accurate Visual Representations outlines best practice for producing Accurate Visual Representations of urban developments.

The framework was set up to protect London’s most important views and has been used as the industry standard for all significant strategic developments in the capital since. The LVMF Guidance was the subject of full consultation with the local authorities in London and other bodies such as Historic England and Historic Royal Palaces.

The following, outlines the key reasons why LVMF guidelines for urban development are recommended:

Field of View (FOV) and Lens Selection

6.3 It is outlined in the guidance (Point 467) “As we experience a scene, our perception is built from a sophisticated visual process that allows us to focus onto individual areas with remarkable clarity whilst remaining aware of a wider overall context.” For this reason a 50mm lens with a FOV of 40 degrees is not appropriate in a built environment. In comparison a 24mm lens with a FOV of 70 degrees allows the viewer to appreciate and understand urban context.

Tilt/Shift Lens

6.4 A tilt/shift lens allows the axis of the lens to be moved vertically or horizontally in order to avoid distortion and thus to replicate more closely the complex manner in which human vision is interpreted into an image in our mind.

Due to the complex nature of these lenses, they are of a much higher quality and cost compared to standard lenses and do not have any distortion, barreling/pin cushion effect that lenses of a lesser quality often have. Despite their complexity and cost, the ability to control the viewing centre of an image without any distortion has made these lenses essential to professional photographers, especially in the discipline of architecture in urban environments.

It should be stressed that AVR London only use the shift function of the lens and this is only shifted in the vertical direction. This is simply to allow us to compose images to better demonstrate the view and the proposal’s place within it without introducing 3-point perspective distortion (converging verticals) and to closer replicate how our mind interprets and corrects for such (Fig 04).

Not only is the use of tilt shift lenses standard practice within architectural photography, it is also standard practice throughout all the established professional practices conducting verified images in London. The LVMF guidance itself uses a vertical rise image as its main image of explanation in the Annex identifying good practice.

Stitching and Accuracy

6.5 A 24mm lens captures enough context that it almost always possible to use one photograph to capture a view position. This ensures stitching of multiple images will not be required, on the rare occasion that 24mm FOV is not wide enough a diptych or triptych is preferable, again this is to avoid stitching of images together. Stitching images together introduces inaccuracies and distortion in to

the photograph and leads to a composite of blended perspectives.

It is always more accurate to verify a single photograph compared to a stitched image. Stitched images are impossible to replicate using the same methodology compared with single photographs as the stitching is either done by hand with causes variation or by automated programs which may also introduce variation.

Proven History

6.6 AVR London hasn't used this methodology, aligned with the London View Management Framework, for planning applications in every London borough, throughout the UK from Cornwall to Scotland and Northern Ireland and as far afield as Sydney, Australia without question.

AVR London have also presented work using this methodology at numerous planning inquiries without question.

Research and Future Developments

6.7 AVR London have always undertaken research in to new areas of technology within the industry and this includes within the verified workflow.

Given the previous stated issues surrounding stitched photography we have worked on various research projects and developed a separate methodology to ensure 360 degree photography can be fully verified and viewed within a headset where appropriate. This accuracy has been tested and proven at planning inquiry.

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APPENDIX 3: VU.CITY MODEL SHOTS

LAND AT 10-12 WHITWORTH STREET WEST, MANCHESTER

VUCITY MODEL SHOT A: BRIDGEWATER CANAL TOWPATH

PROPOSED



VUCITY MODEL SHOT B: LIVERPOOL ROAD

PROPOSED



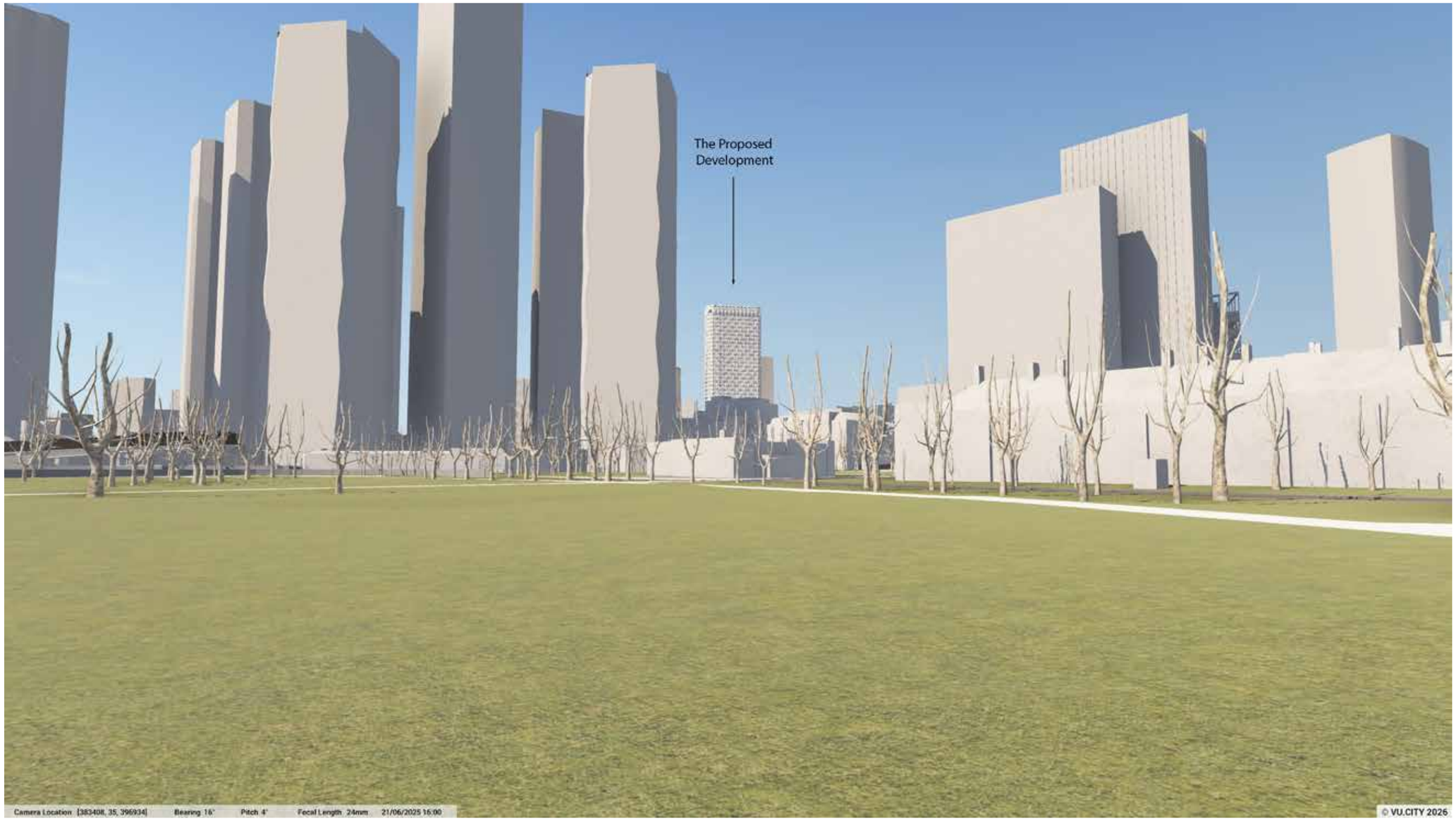
VUCITY MODEL SHOT C: ST JOHN'S GARDEN

PROPOSED



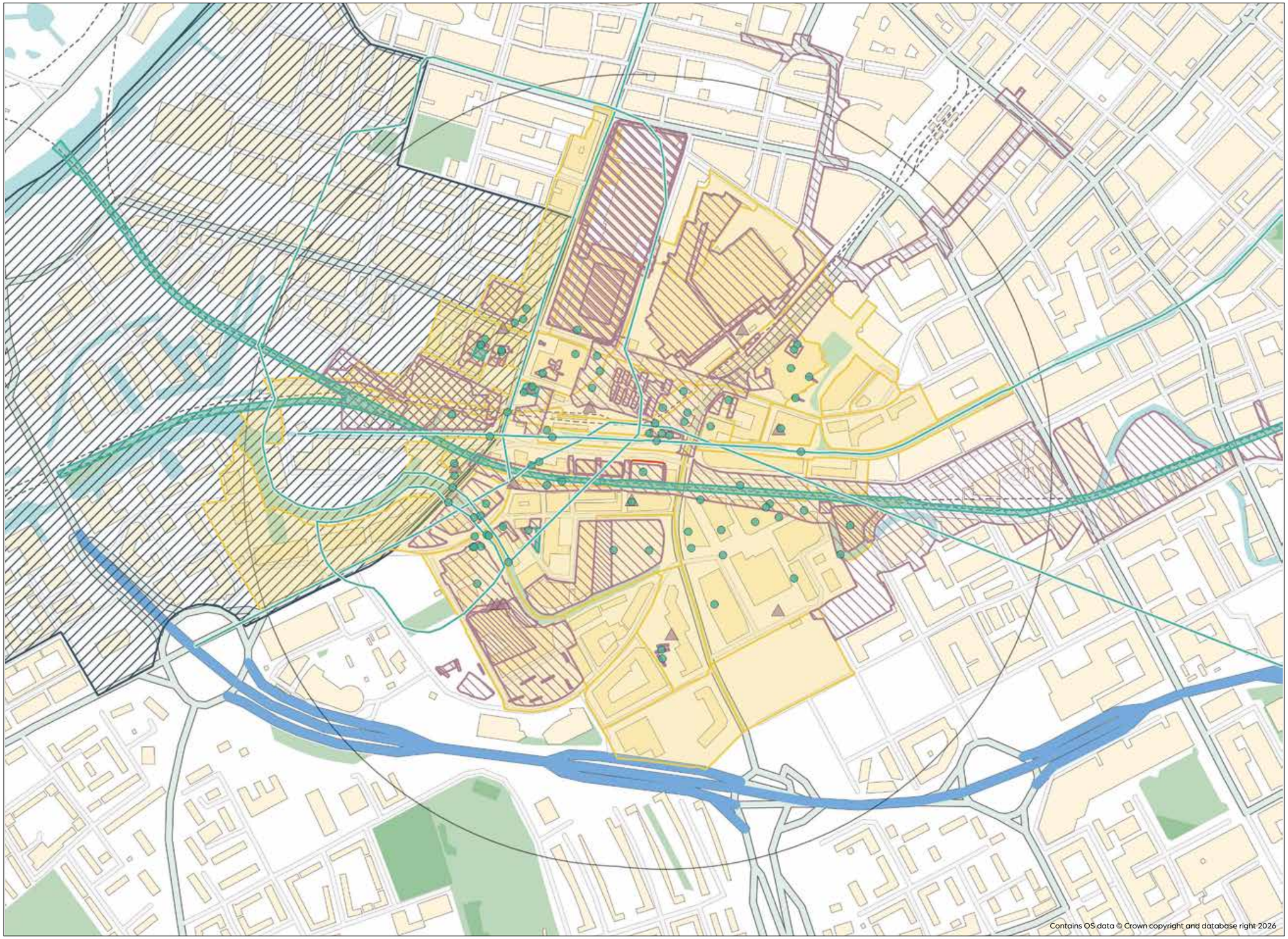
VUCITY MODEL SHOT D: HULME PARK

PROPOSED



APPENDIX 4: GREATER MANCHESTER HISTORIC ENVIRONMENTAL SEARCH

LAND AT 10-12 WHITWORTH STREET WEST, MANCHESTER



GLHER REPORT

- Application Site

HER Events Geometry

- Point
- Polygon

HR SItes Geometry

- Point
- Polygon
- Line

Castlefield CA Geometry

- Polygon

HLC Sources Geometry

- Polygon

LOCATION:
10–12 Whitworth Street West, Manchester

DATE:
May 2022

SCALE:
1:5,000 @ A3

FIGURE:

▲ **NORTH**

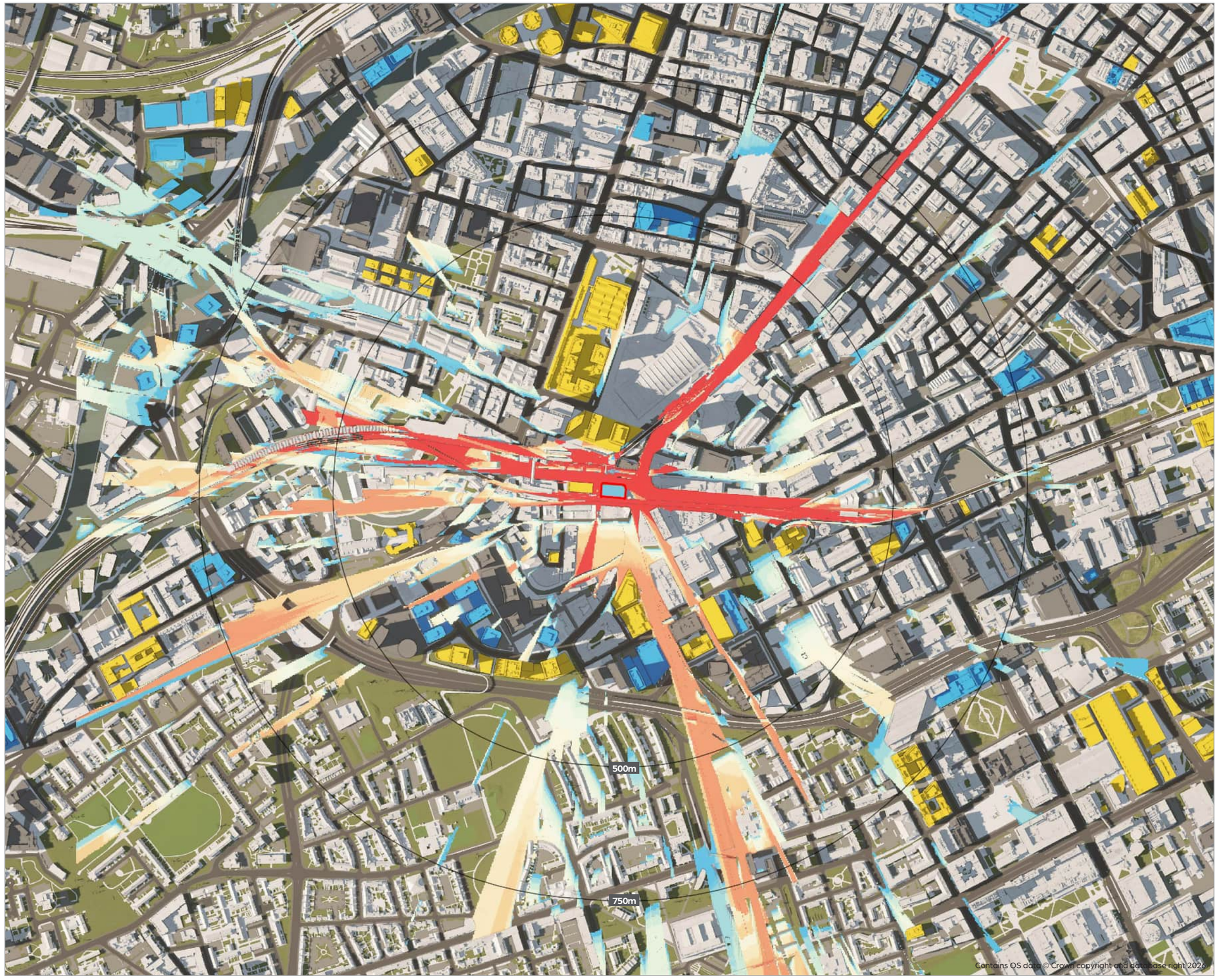
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Appendix 8.2
Supporting Plans

ZONE OF THEORETICAL VISIBILITY (ZTV) VUCITY (WINTER CONDITION, NO LEAVES)



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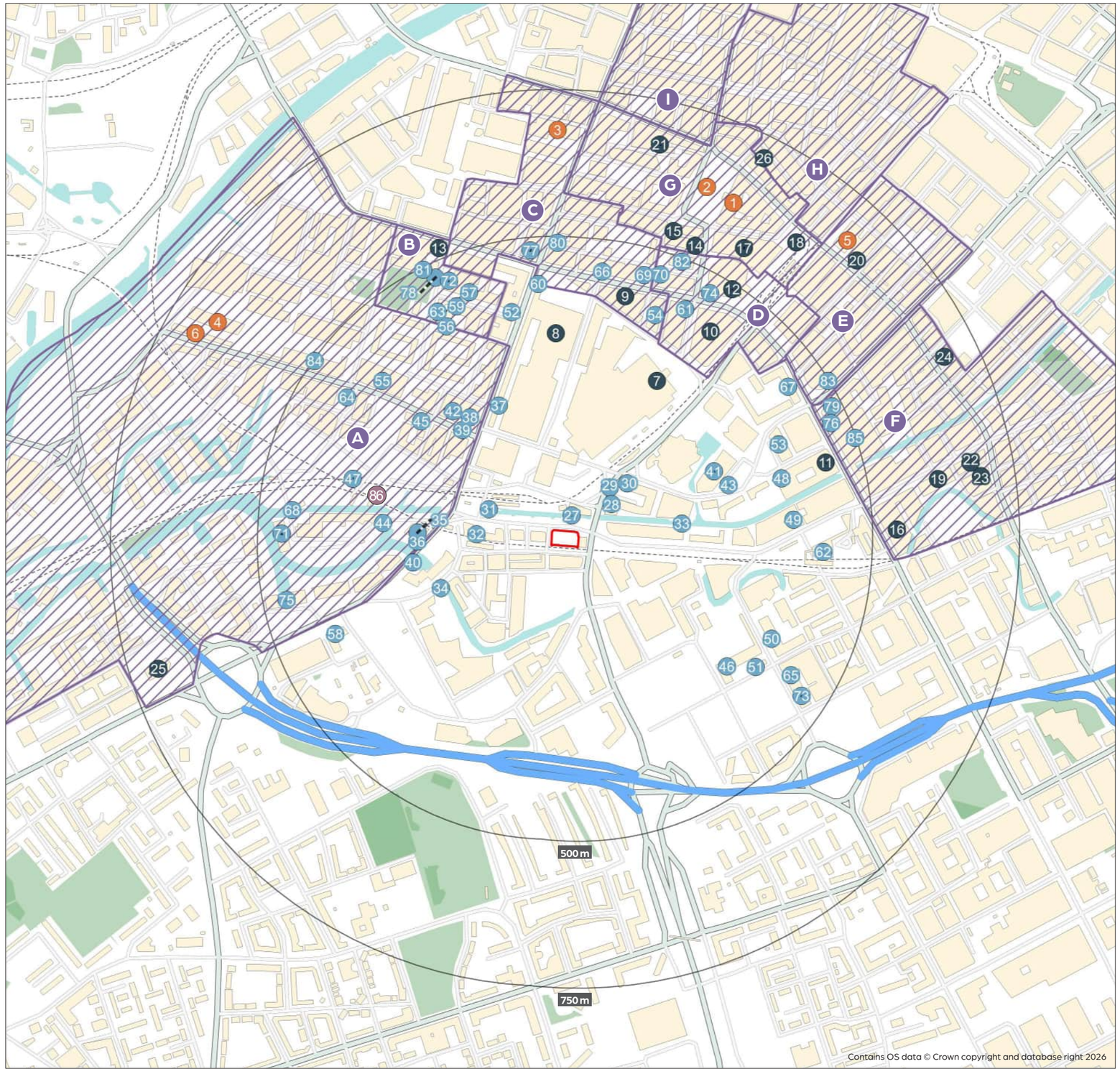
LOCATION:
10-12 Whitworth Street West, Manchester

DATE:
April 2026

FIGURE:

▲ **NORTH**

MONTAGU EVANS
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HERITAGE ASSET PLAN

Application Site

Conservation Areas

A. Castlefield
B. St John Street
C. Deansgate and Peter Street
D. St Peter's Square
E. George Street
F. Whitworth Street and Princess Street
G. Albert Square
H. Upper King Street
I. St Ann's Square

Listed Buildings

Grade I

1. Town Hall
2. Albert Memorial
3. John Rylands Library and attached Railings, Gates and Lamp Standards
4. Old Warehouse to North of former Liverpool Road Railway Station
5. Manchester Art Gallery
6. Former Liverpool Road Railway Station, Station Masters House

Grade II*

7. G Mex
8. Deansgate Goods Station and attached Carriage Ramp
9. Free Trade Hall
10. Midland Hotel
11. Tootal, Broadhurst and Lee Building
12. Central Public Library
13. Cobden House, 19 Quay Street
14. Lawrence Buildings
15. Memorial Hall
16. Former Refuge Assurance Company Offices
17. Town Hall Extension
18. Manchester War Memorial
19. India House (including attached Wrought Iron Gateway linked to Lancaster House)
20. The Athenaeum
21. Roman Catholic Church of St Mary (The Hidden Gem)
22. Lancaster House
23. Asia House
24. 103, Princess Street
25. Church of St George
26. Manchester Law Library

Grade II (within 500m)

27. Rochdale Canal Lock No. 90, Approx. 30 metres West of Albion Bridge
28. 13–17, Albion Street
29. Manchester South Junction and Altrincham Railway Viaduct
30. The Britons Protection Public House
31. Rochdale Canal Lock Keepers Cottage at Lock No. 91, Next to Gaythorn Tunnel, and Rochdale Canal Lock No. 91 at East End of Gaythorn Tunnel
32. Deansgate Station
33. Rochdale Canal Lock No. 89 (Tib Lock), on South Side of Havelock Mills
34. Boundary Stone on Knott Mill Bridge, and Floodgate on East Side of Knott Mill Bridge
35. Former Congregational Chapel
36. Electricity Junction Box in Castlefield Canal Basin, Manchester
37. 235–291, Deansgate
38. Castlefield Information Centre
39. K6 Telephone Kiosk Beside South West Corner of No. 330 Deansgate
40. Electricity Junction Box in Castlefield Canal Basin, Manchester
41. Chepstow House
42. Former Market Hall
43. Peveril of The Peak Public House
44. Electricity Junction Box on Castle Street, Manchester
45. 29–41, Liverpool Road
46. Former Cotton Mill on West Side of Junction with Cambridge Street
47. Castlefield Railway Viaduct from G-Mex to Dawson Street
48. Lee House
49. The Ritz Dance Hall
50. Chorlton New Mill and attached Chimney
51. Mill Chimney Stack on West Side of Junction with Cambridge Street
52. K6 Telephone Kiosk in front of St John Street Chambers
53. Canada House
54. Royale Club
55. Museum of Science and Industry, Air and Space Museum
56. Manchester & Salford Junction Canal Tunnel
57. 8 and 8a, 10, 12–16, 18 and 20, 22, 24, 24a and 26, and 28, St John Street
58. Bridgewater Canal Offices
59. 11–17, 19, and 21–25, St John Street
60. Former Entrance to Deansgate Goods Station including Nos 223 to 233
61. 56–58, Peter Street
62. Manchester Oxford Road Station (including Platform Structures)
63. Nos 25 to 31 and attached former Chapel
64. Former St Matthews Sunday School
65. Chorlton Old Mill
66. Albert Memorial Hall
67. Princes Buildings
68. Rochdale Canal Lock No. 92 and Castle Street Bridge
69. Harvester House
70. Lancashire House
71. Merchants Warehouse
72. 15a, Byrom Street
73. Mill on North East Corner of Junction with Chester Street
74. Sculptural Group adrift to South-West of Central Public Library, Peter Street, Manchester
75. Middle Warehouse, at former Castle Field Goods Yard
76. 61, Oxford Street
77. Royal London House
78. Two Bollards at East End of St Johns Passage
79. 127–133, Portland Street
80. Onward Buildings
81. No. 14, Byrom Street
82. Manchester Quaker Meeting House, Boundary Walls and Steps
83. 116 and 118, Portland Street
84. Power Hall of Museum of Science and Industry
85. St James Buildings

Scheduled Monuments

86. Remains of eastern wall of the Roman fort

LOCATION:
10–12 Whitworth Street West, Manchester

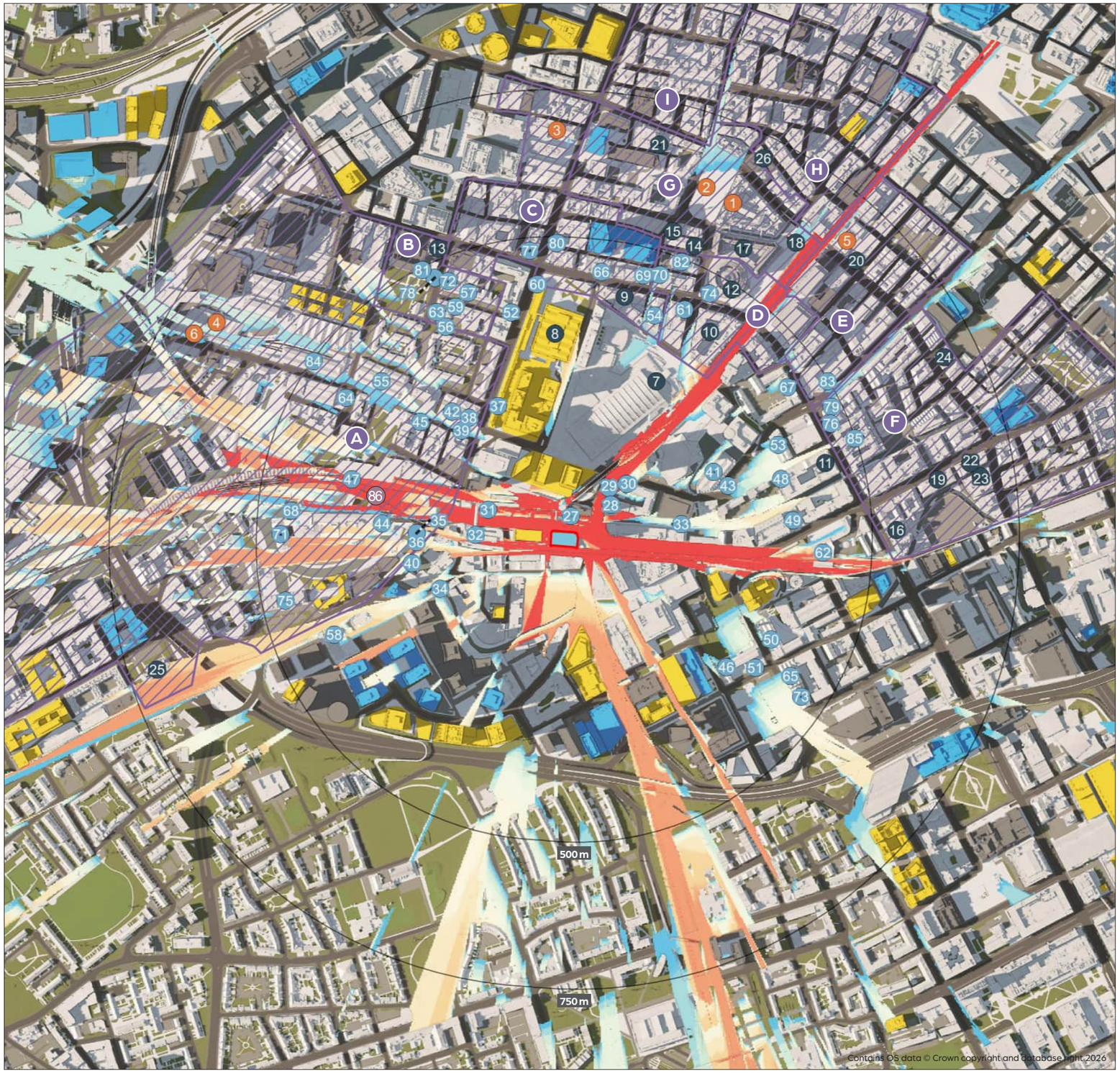
DATE:
April 2026

SCALE:
1:7,500 @ A3

FIGURE:

▲ **NORTH**

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70 ST MARY AXE,
LONDON, EC3A 8BE
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HERITAGE ASSET PLAN & ZTV OVERLAY

Application Site

Conservation Areas

A. Castlefield
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C. Deansgate and Peter Street
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E. George Street
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40. Electricity Junction Box in Castlefield Canal Basin, Manchester
41. Chepstow House
42. Former Market Hall
43. Peveril of The Peak Public House
44. Electricity Junction Box on Castle Street, Manchester
45. 29–41, Liverpool Road
46. Former Cotton Mill on West Side of Junction with Cambridge Street
47. Castlefield Railway Viaduct from G-Mex to Dawson Street
48. Lee House
49. The Ritz Dance Hall
50. Chorlton New Mill and attached Chimney
51. Mill Chimney Stack on West Side of Junction with Cambridge Street
52. K6 Telephone Kiosk in front of St John Street Chambers
53. Canada House
54. Royale Club
55. Museum of Science and Industry, Air and Space Museum
56. Manchester & Salford Junction Canal Tunnel
57. 8 and 8a, 10, 12–16, 18 and 20, 22, 24, 24a and 26, and 28, St John Street
58. Bridgewater Canal Offices
59. 11–17, 19, and 21–25, St John Street
60. Former Entrance to Deansgate Goods Station including Nos 223 to 233
61. 56–58, Peter Street
62. Manchester Oxford Road Station (including Platform Structures)
63. Nos 25 to 31 and attached former Chapel
64. Former St Matthews Sunday School
65. Chorlton Old Mill
66. Albert Memorial Hall
67. Princes Buildings
68. Rochdale Canal Lock No. 92 and Castle Street Bridge
69. Harvester House
70. Lancashire House
71. Merchants Warehouse
72. 15a, Byrom Street
73. Mill on North East Corner of Junction with Chester Street
74. Sculptural Group adrift to South-West of Central Public Library, Peter Street, Manchester
75. Middle Warehouse, at former Castle Field Goods Yard
76. 61, Oxford Street
77. Royal London House
78. Two Bollards at East End of St Johns Passage
79. 127–133, Portland Street
80. Onward Buildings
81. No. 14, Byrom Street
82. Manchester Quaker Meeting House, Boundary Walls and Steps
83. 116 and 118, Portland Street
84. Power Hall of Museum of Science and Industry
85. St James Buildings

Scheduled Monuments

86. Remains of eastern wall of the Roman fort

LOCATION:
10–12 Whitworth Street West, Manchester

DATE:
April 2026

SCALE:
1:7,500 @ A3

FIGURE:

▲ **NORTH**

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TOWNSCAPE CHARACTER AREA PLAN

- Application Site
- 1 Petersfield
- 2 First Street
- 3 Castlefield
- 4 Great Jackson Street
- 5 St John's
- 6 Hulme Park

500 m

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TOWNSCAPE CHARACTER AREA PLAN & ZTV OVERLAY

- Application Site
- 1 Petersfield
- 2 First Street
- 3 Castlefield
- 4 Great Jackson Street
- 5 St John's
- 6 Hulme Park

500 m

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SCALE:
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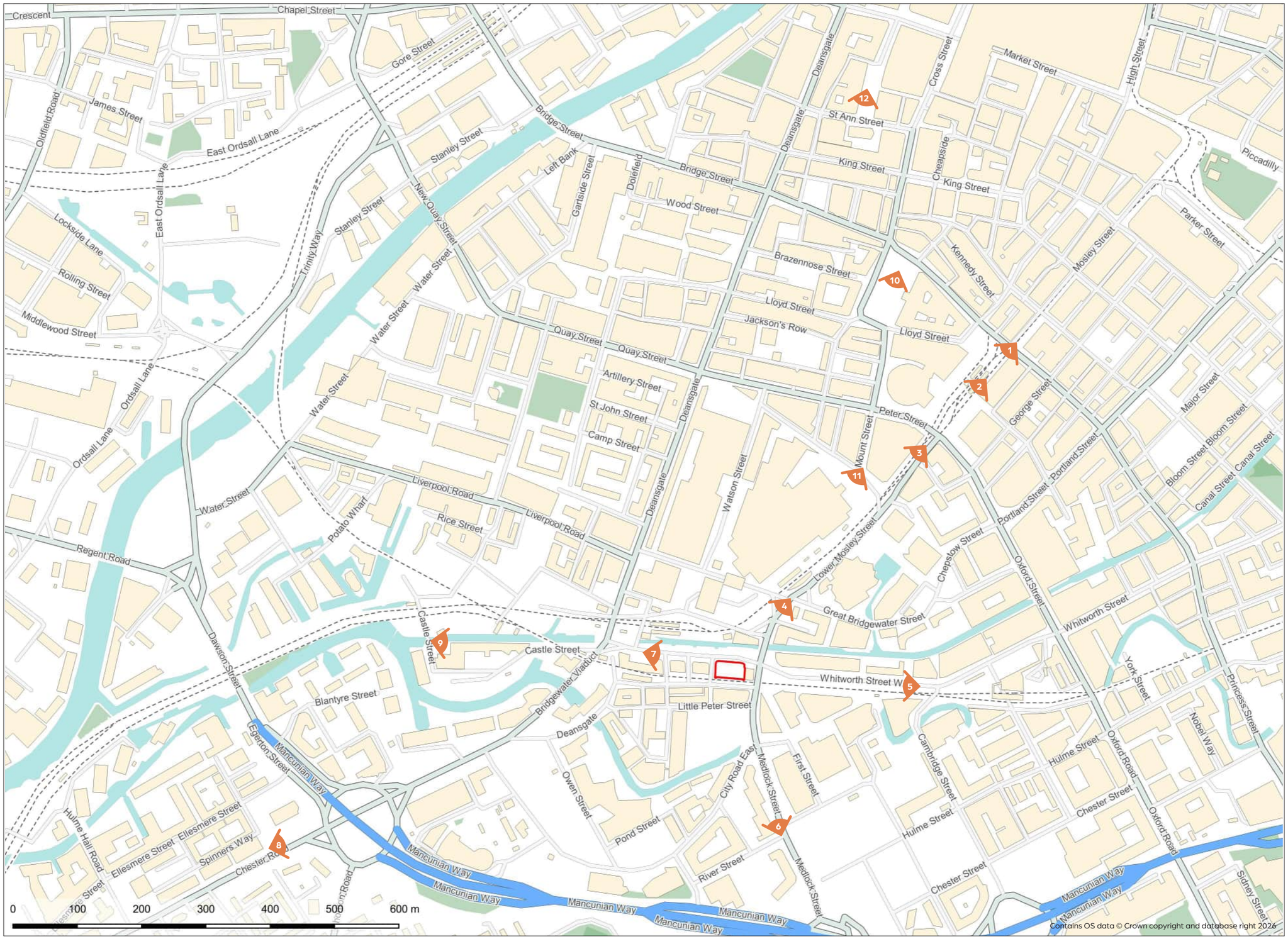
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VIEWPOINT LOCATION PLAN

- Application Site
1. Mosley Street / Art Gallery
2. St Peter's Square
3. Lower Mosely Street
4. Albion Street / Great Bridgewater Street
5. Whitworth Street West – eastern end
6. Medlock Street
7. Whitworth Street West – west end
8. St George's Church/Chester Road
9. Castle Street, Castlefield
10. Albert Square
11. Windmill Street
12. St Ann's Square



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FIGURE:

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VIEWPOINT LOCATION PLAN & ZTV

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7. Whitworth Street West – west end
8. St George's Church/Chester Road
9. Castle Street, Castlefield
10. Albert Square
11. Windmill Street
12. St Ann's Square

0 100 200 300 400 500 600 m

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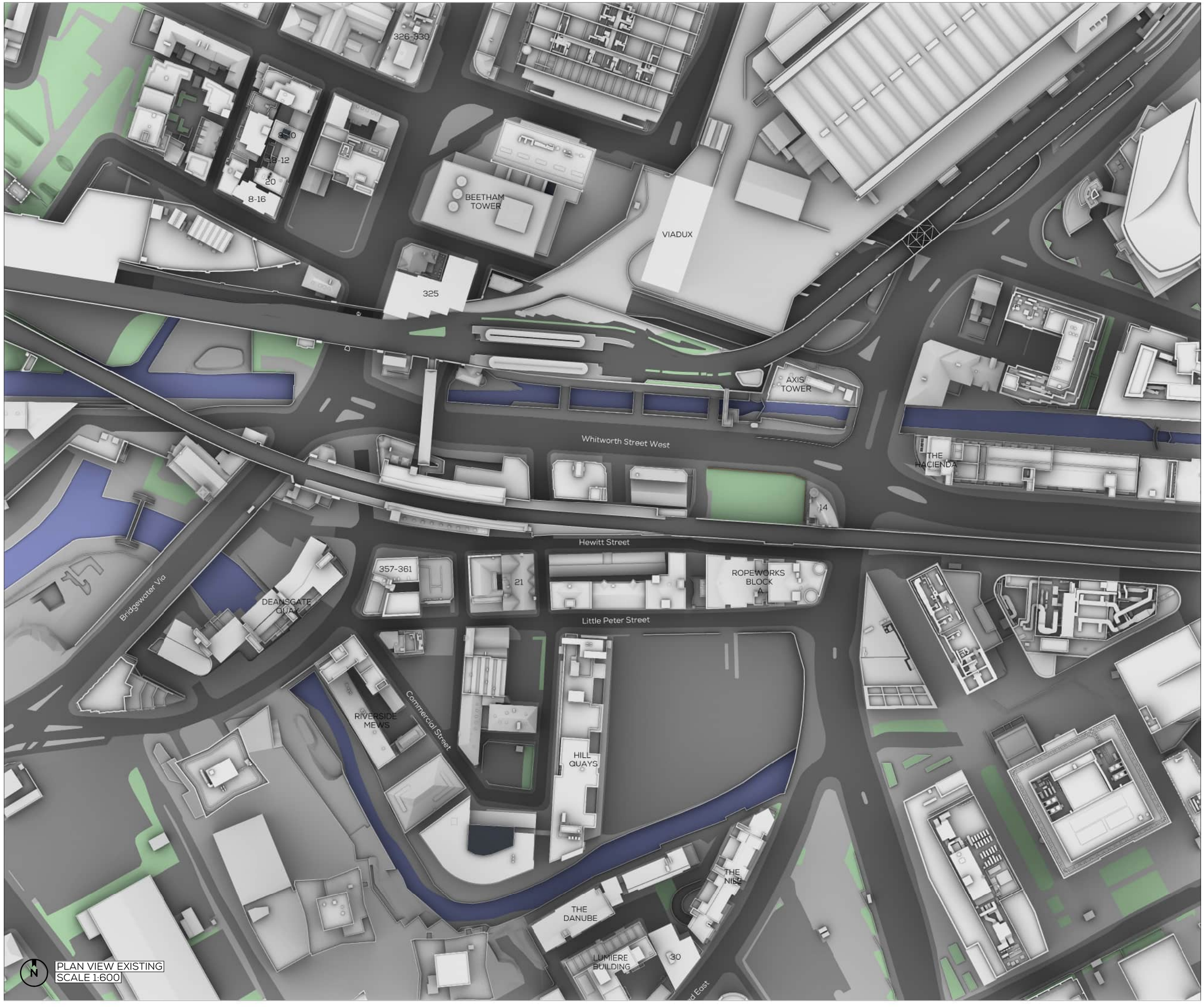
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Appendix 9.1

Drawings



PLAN VIEW EXISTING
SCALE 1:600

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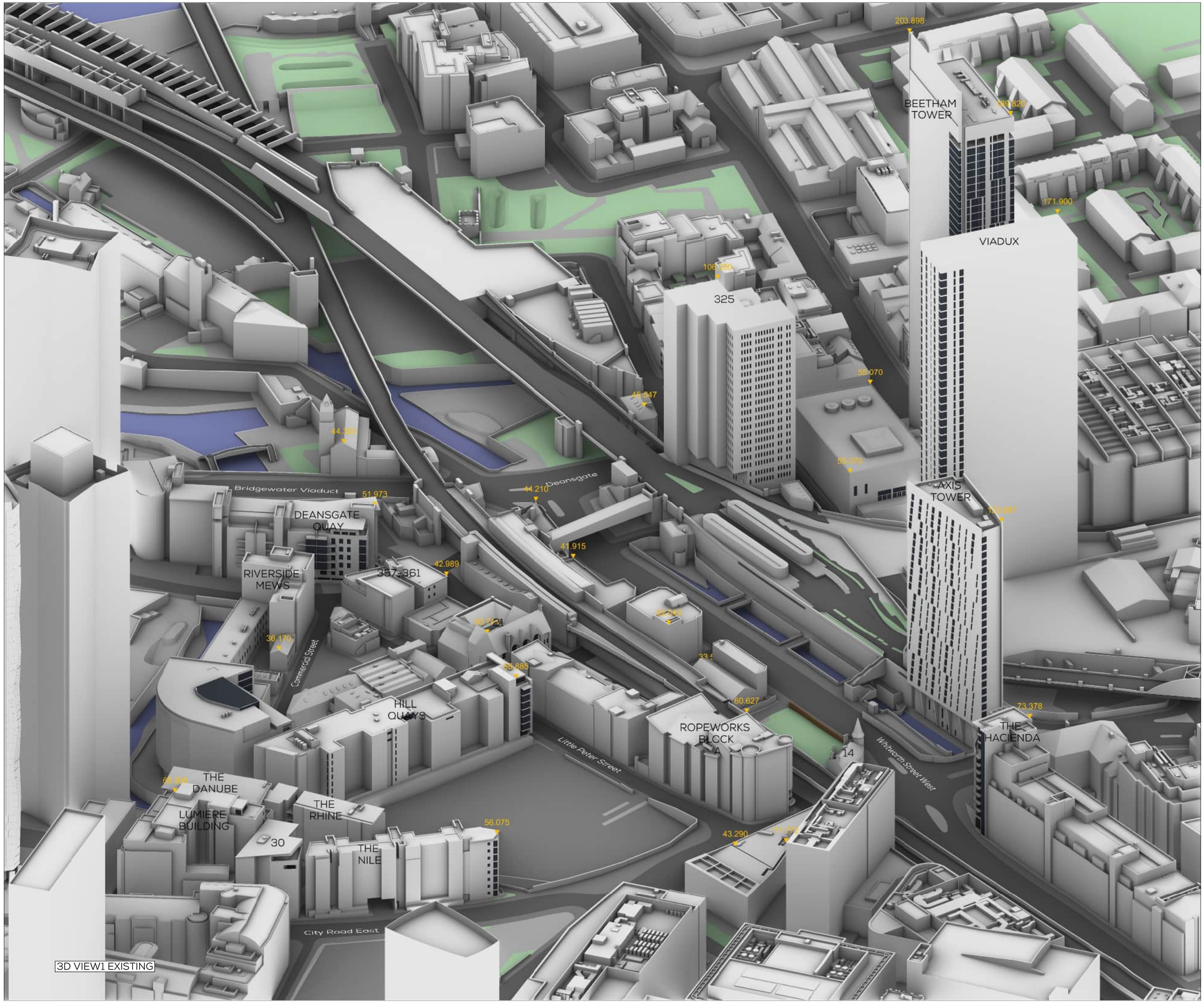
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PLAN VIEW EXISTING

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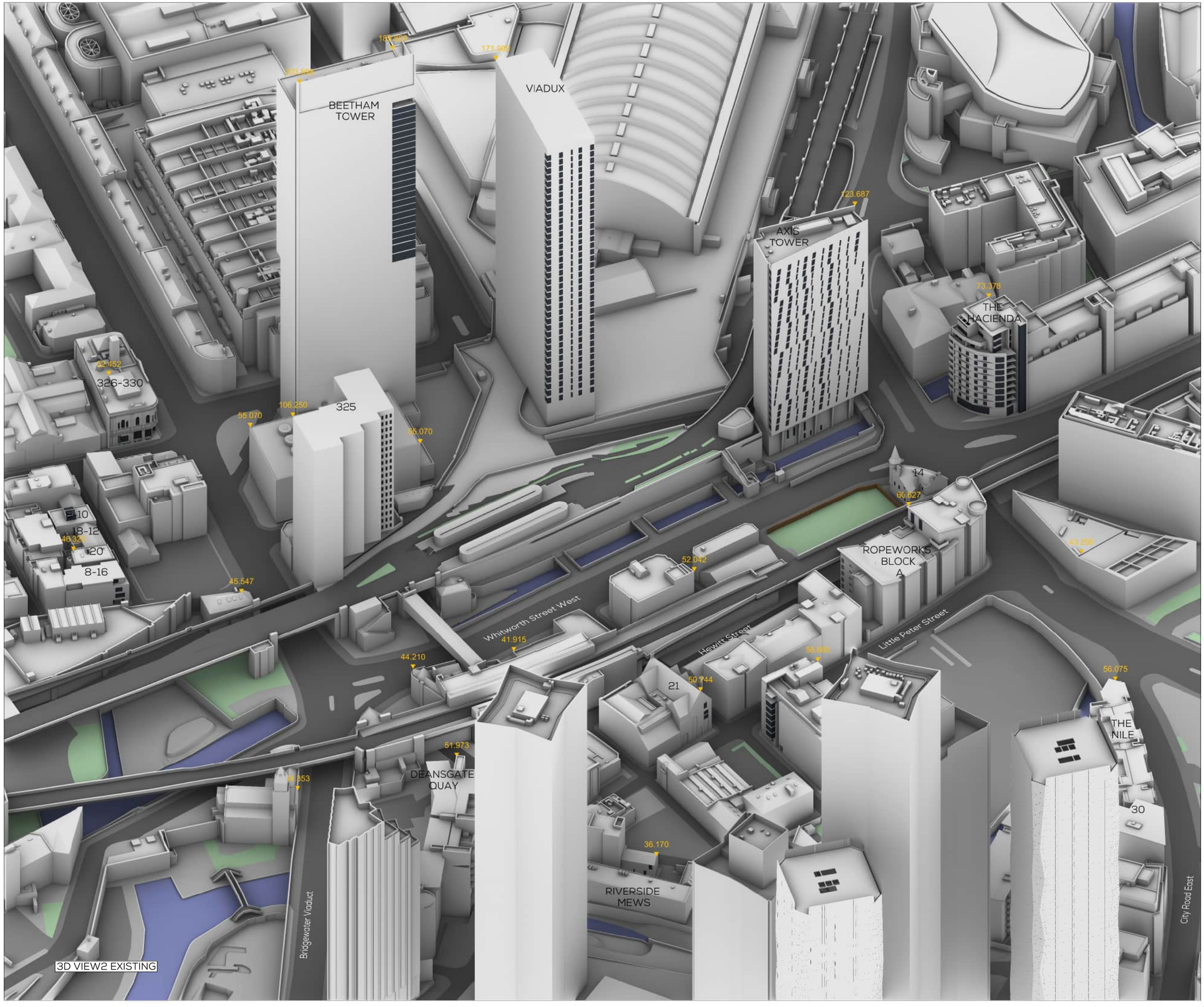
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10-12 Whitworth Street

DRAWING NAME:
3D VIEW1 EXISTING

DWN BY	SCALE	CHK BY	DATE	REV No.
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3D VIEW2 EXISTING

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NOTES:
Existing
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DRAWING NAME:
3D VIEW2 EXISTING

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PLAN VIEW PROPOSED
SCALE 1:600

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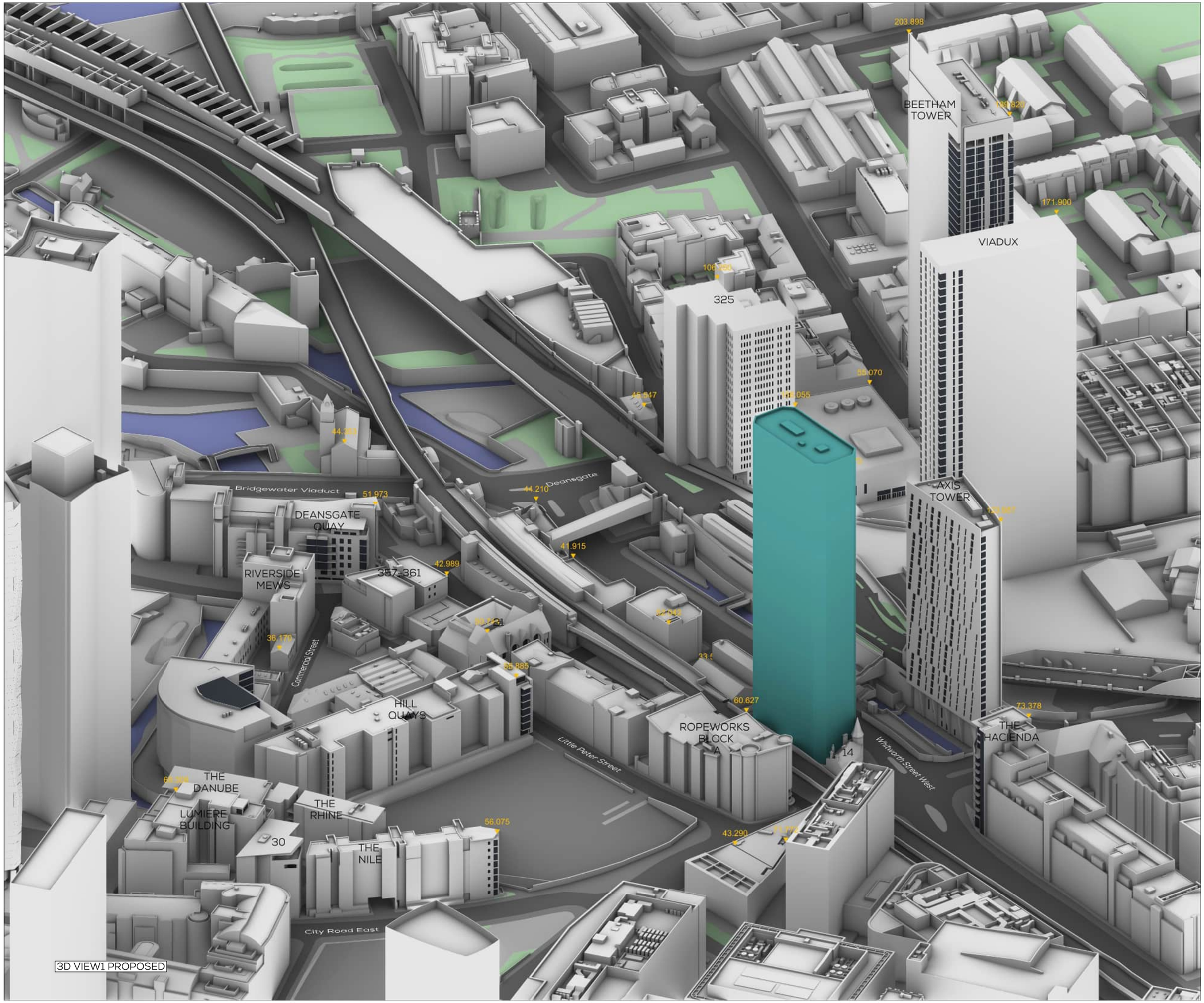
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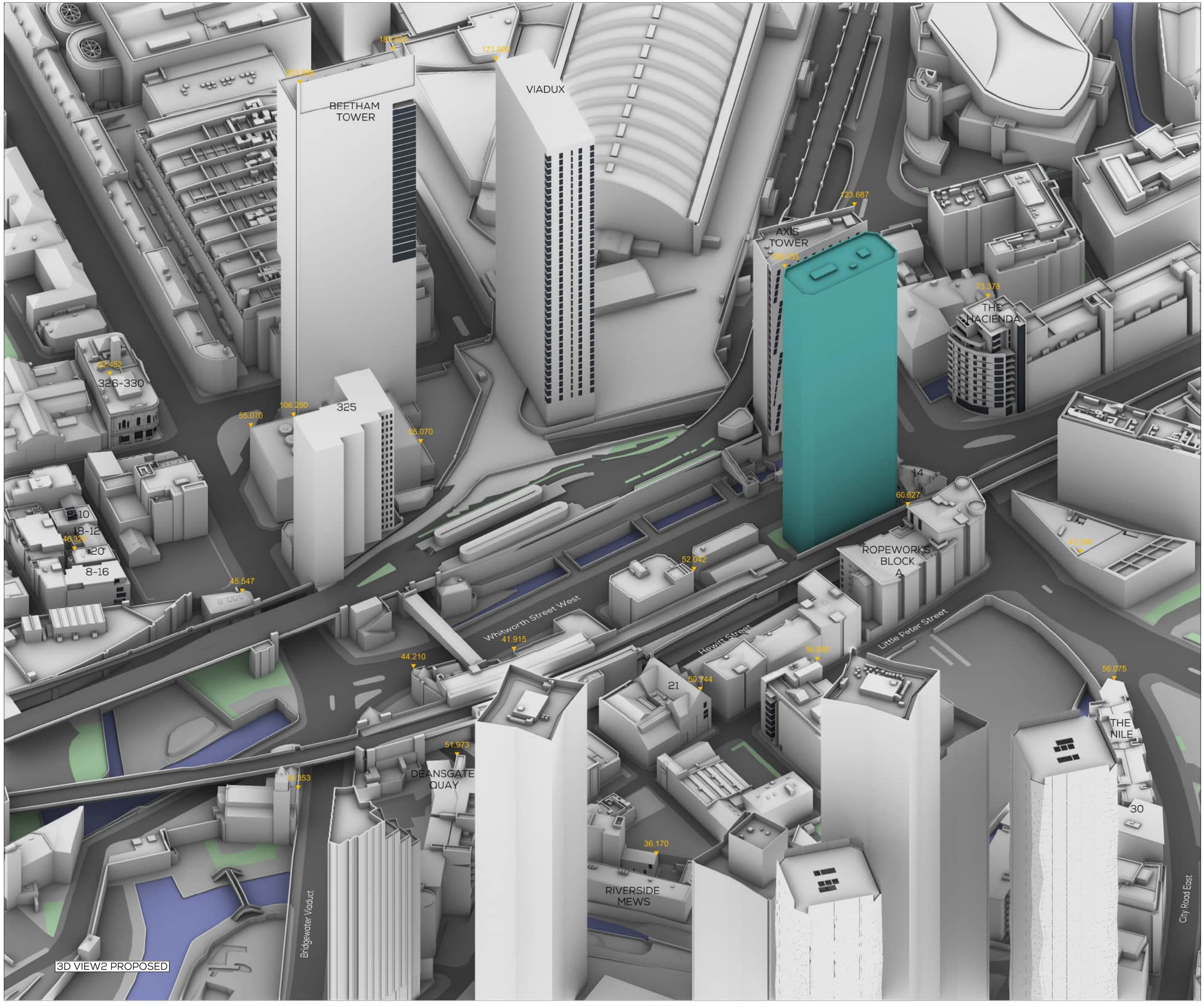
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3D VIEW1 PROPOSED

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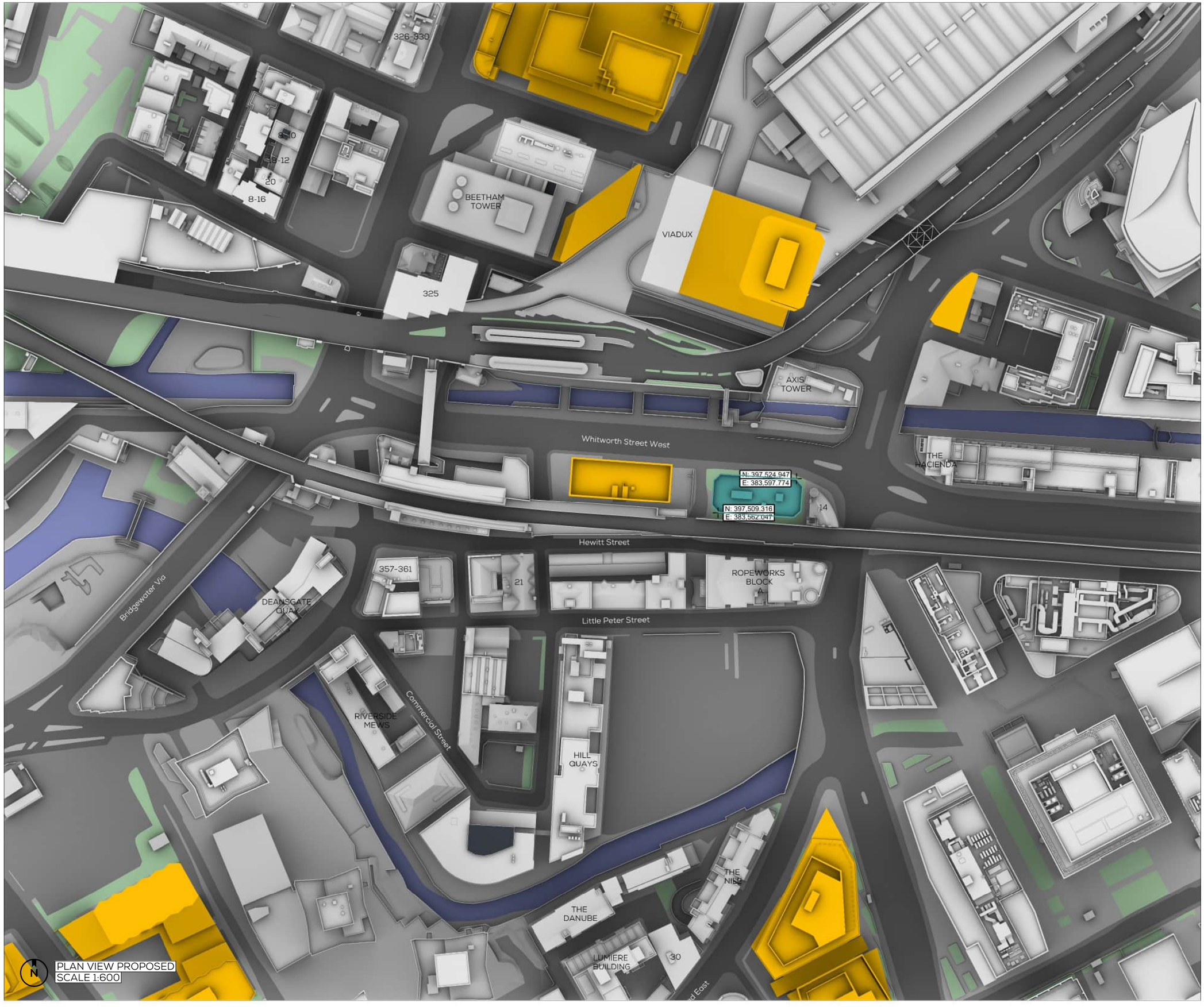
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3D VIEW2 PROPOSED

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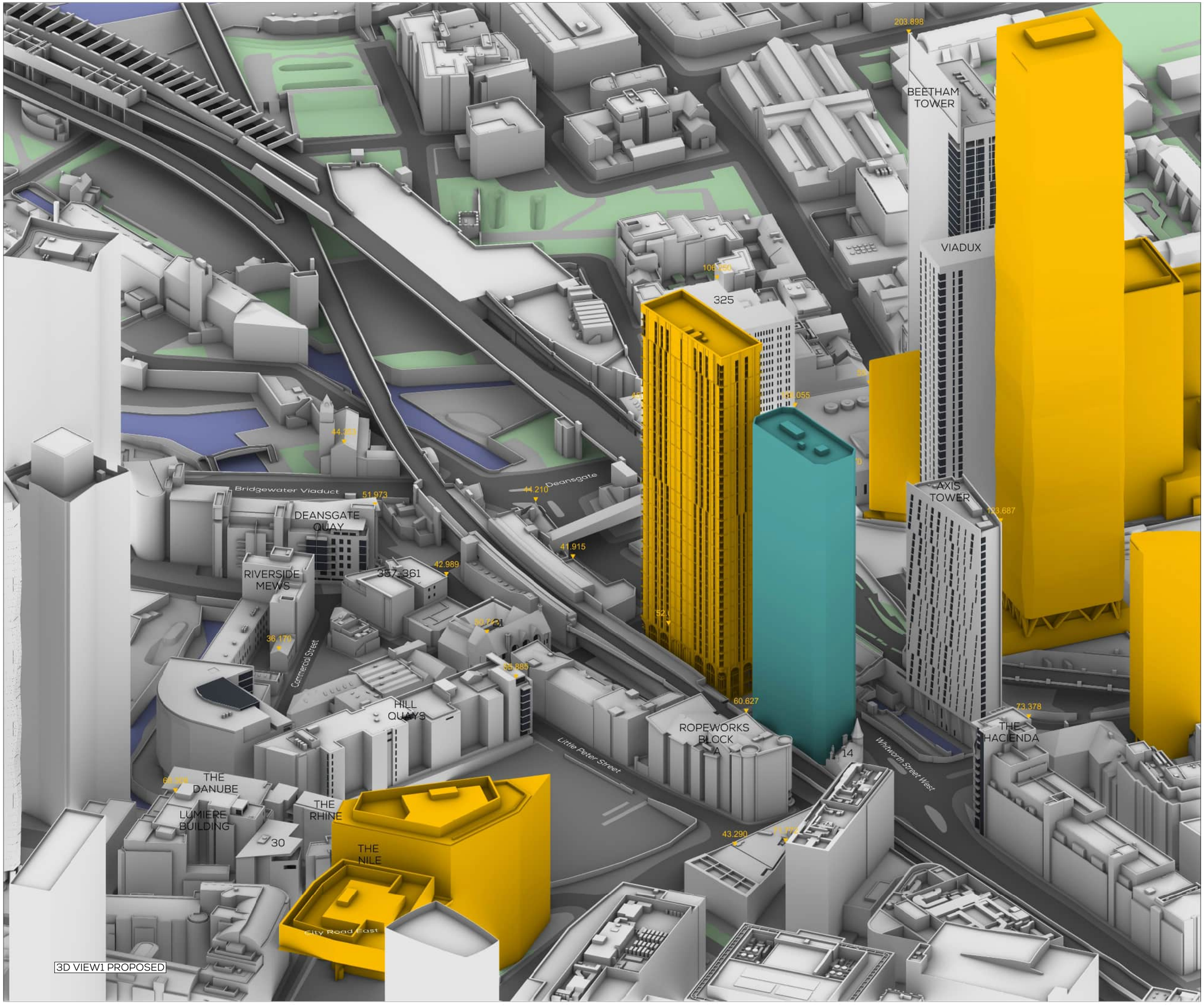
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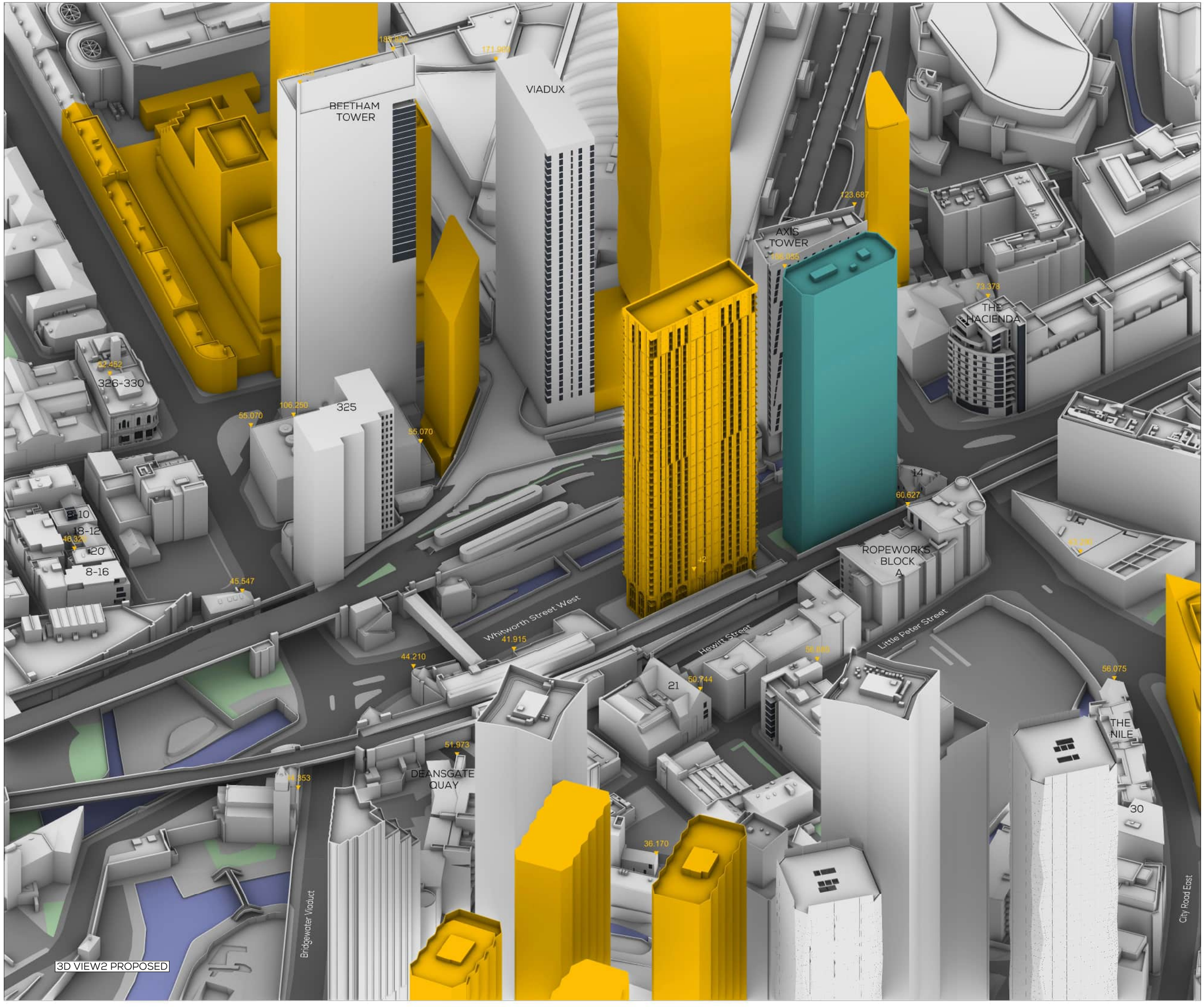
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3D VIEW1 PROPOSED

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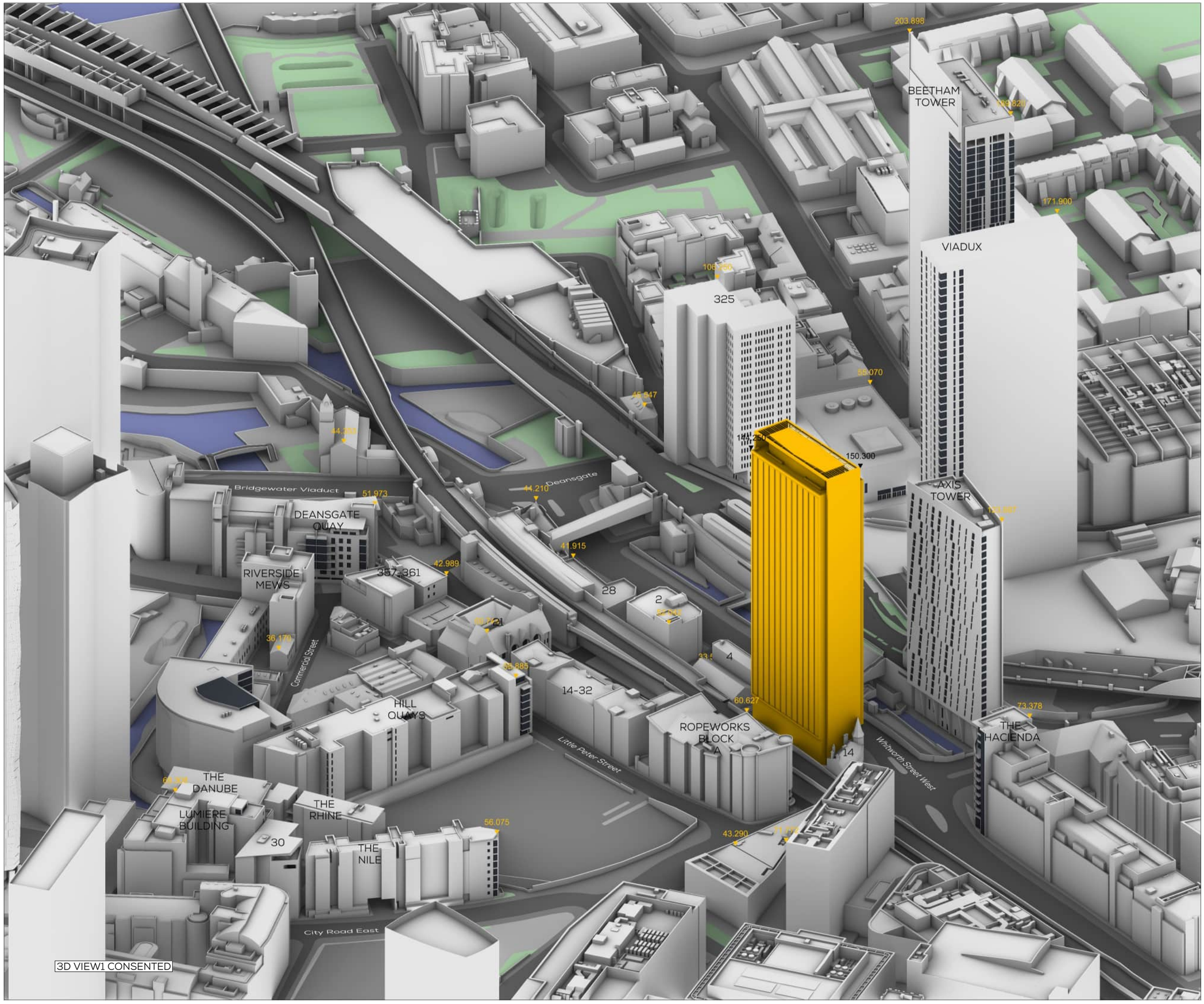
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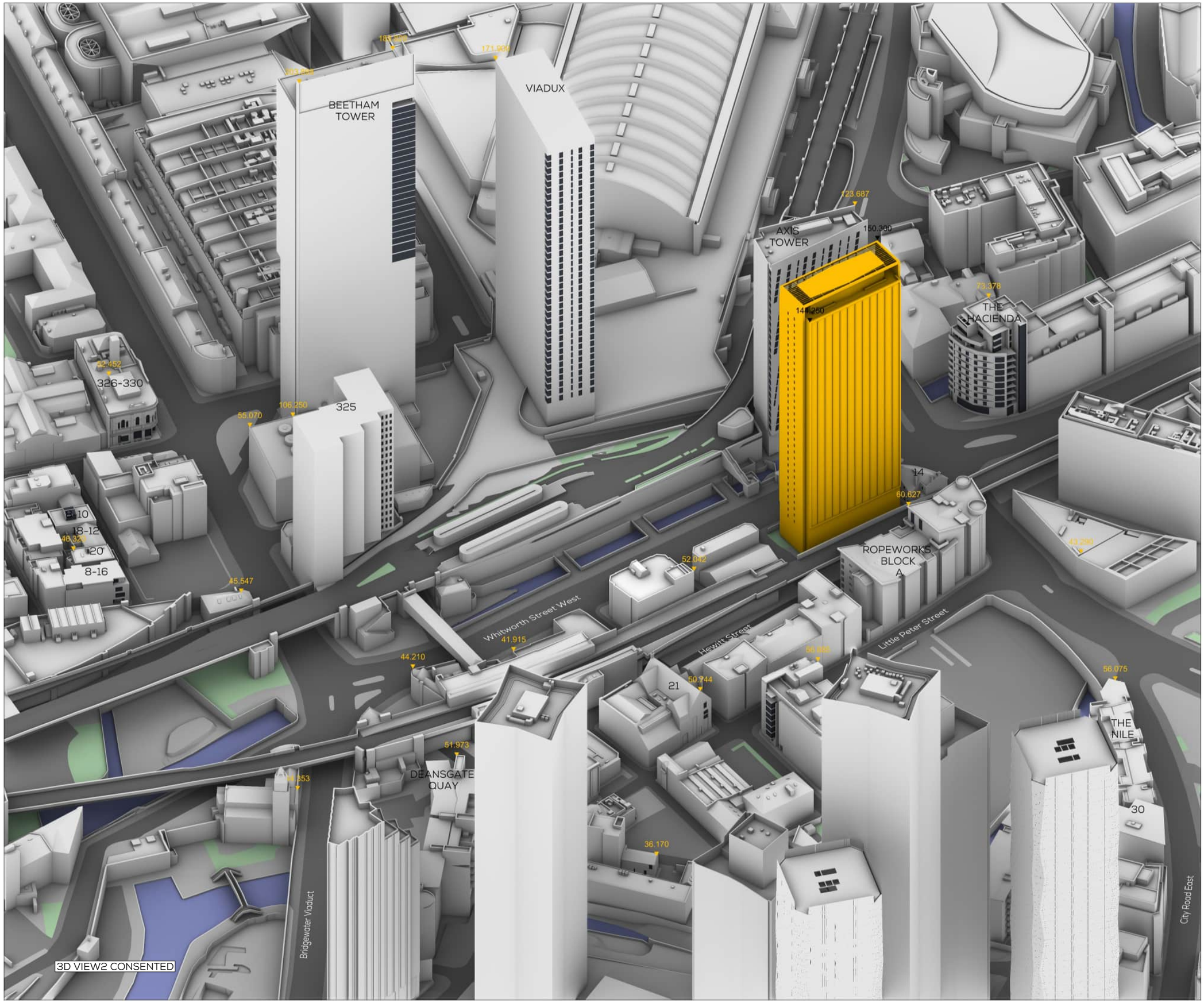
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Appendix 9.2

Daylight & Sunlight Results

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
HILL QUAYS																	
F00	R1	RESIDENTIAL	BEDROOM	W1/F00	9.3	8.0	1.3	14.0	95.2	94.9	0.4	3	0	3	0	0.0	0.0
	R2	RESIDENTIAL	KITCHEN	W2/F00	4.4	4.4	0.0	0.0	88.4	88.4	0						
				W3/F00	12.9	12.9	0.0	0.0									
	R3	RESIDENTIAL	RECEPTION	W4/F00	1.6	1.6	0.0	0.0	100.0	100.0	0	1	1	1	1	0.0	0.0
				W5/F00	16.2	16.2	0.0	0.0				0	0	0	0	0.0	0.0
				W10/F00	0.1	0.1	0.0	0.0				0	0	0	0	0.0	0.0
F01	R1	RESIDENTIAL	LKD	W1/F01	10.3	10.3	0.0	0.0	84.3	84.1	0.2	26	1	26	1	0.0	0.0
				W2/F01	4.4	3.0	1.4	31.8				0	0	0	0	0.0	0.0
				W25/F01	26.5	25.9	0.6	2.3				26	0	26	0	0.0	0.0
	R2	RESIDENTIAL	LKD	W3/F01	30.8	29.8	1.0	3.2	86.1	85.7	0.5	38	6	38	6	0.0	0.0
				W4/F01	3.5	2.3	1.2	34.3				1	0	1	0	0.0	0.0
	R3	RESIDENTIAL	LKD	W5/F01	3.1	2.2	0.9	29.0	80.0	78.6	1.7						
	R4	RESIDENTIAL	LKD	W6/F01	15.7	15.3	0.4	2.5	68.3	67.9	0.6	27	13	27	13	0.0	0.0
				W7/F01	14.2	12.3	1.9	13.4				1	0	1	0	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W8/F01	10.1	8.3	1.8	17.8	34.7	29.4	15.2	1	0	1	0	0.0	0.0
				W9/F01	14.7	13.0	1.7	11.6				3	0	3	0	0.0	0.0
				W10/F01	4.9	4.9	0.0	0.0				0	0	0	0	0.0	0.0
	R7	RESIDENTIAL	BEDROOM	W12/F01	10.4	8.7	1.7	16.3	76.3	72.7	4.8	3	0	3	0	0.0	0.0
	R8	RESIDENTIAL	LKD	W13/F01	5.4	5.4	0.0	0.0	88.2	88.2	0	0	0	0	0	0.0	0.0
				W14/F01	11.6	11.6	0.0	0.0				5	0	5	0	0.0	0.0
				W15/F01	25.9	25.9	0.0	0.0				31	3	31	3	0.0	0.0
				W16/F01	8.3	8.3	0.0	0.0				23	2	23	2	0.0	0.0
	R9	RESIDENTIAL	LKD	W17/F01	2.6	2.6	0.0	0.0	77.3	77.3	0.1	0	0	0	0	0.0	0.0
				W18/F01	23.3	23.3	0.0	0.0				1	0	1	0	0.0	0.0
	R10	RESIDENTIAL	LKD	W19/F01	5.5	5.3	0.2	3.6	68.4	67.6	1.2	0	0	0	0	0.0	0.0
				W20/F01	26.1	25.7	0.4	1.5				0	0	0	0	0.0	0.0
	R11	RESIDENTIAL	LKD	W21/F01	7.9	7.4	0.5	6.3	69.9	68.3	2.4	0	0	0	0	0.0	0.0
				W22/F01	26.5	25.8	0.7	2.6				0	0	0	0	0.0	0.0
	R12	RESIDENTIAL	LKD	W23/F01	19.4	18.6	0.8	4.1	68.3	68.3	0						
	R13	RESIDENTIAL	LKD	W24/F01	14.0	13.4	0.6	4.3	82.4	81.8	0.8	0	0	0	0	0.0	0.0
F02	R1	RESIDENTIAL	LKD	W1/F02	12.0	12.0	0.0	0.0	89.4	89.3	0.1	29	1	29	1	0.0	0.0
				W2/F02	27.9	27.3	0.6	2.2				30	0	30	0	0.0	0.0
				W3/F02	4.8	3.2	1.6	33.3				0	0	0	0	0.0	0.0
	R2	RESIDENTIAL	LKD	W4/F02	31.6	30.6	1.0	3.2	87.7	86.5	1.4	39	7	39	7	0.0	0.0
				W5/F02	3.9	2.5	1.4	35.9				1	0	1	0	0.0	0.0
	R3	RESIDENTIAL	LKD	W6/F02	3.6	2.5	1.1	30.6	86.2	85.5	0.8						
	R4	RESIDENTIAL	LKD	W7/F02	17.0	17.0	0.0	0.0	71.5	70.9	0.9	42	14	42	14	0.0	0.0
				W8/F02	30.1	28.0	2.1	7.0				44	13	44	13	0.0	0.0
				W9/F02	16.2	14.8	1.4	8.6				5	0	5	0	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W10/F02	11.3	9.1	2.2	19.5	44.4	38.7	13	1	0	1	0	0.0	0.0
				W11/F02	18.3	16.2	2.1	11.5				3	0	3	0	0.0	0.0
				W12/F02	6.1	6.1	0.0	0.0				0	0	0	0	0.0	0.0
	R7	RESIDENTIAL	BEDROOM	W14/F02	11.6	9.4	2.2	19.0	80.9	75.8	6.3	3	0	3	0	0.0	0.0
	R8	RESIDENTIAL	LKD	W15/F02	6.6	6.6	0.0	0.0	91.4	91.4	0	0	0	0	0	0.0	0.0
				W16/F02	12.8	12.8	0.0	0.0				5	0	5	0	0.0	0.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
HILL QUAYS (CONTINUED)																	
F02	R8	RESIDENTIAL	LKD	W17/F02	27.4	27.4	0.0	0.0	91.4	91.4	0	31	3	31	3	0.0	0.0
				W18/F02	8.7	8.7	0.0	0.0				23	2	23	2	0.0	0.0
	R9	RESIDENTIAL	LKD	W19/F02	3.3	3.3	0.0	0.0	78.7	78.6	0.2	0	0	0	0	0.0	0.0
				W20/F02	24.6	24.5	0.1	0.4				1	0	1	0	0.0	0.0
	R10	RESIDENTIAL	LKD	W21/F02	6.4	6.1	0.3	4.7	70.1	68.9	1.8	0	0	0	0	0.0	0.0
				W22/F02	27.6	27.0	0.6	2.2				1	0	1	0	0.0	0.0
	R11	RESIDENTIAL	LKD	W23/F02	8.8	8.3	0.5	5.7	71.7	69.7	2.8	0	0	0	0	0.0	0.0
				W24/F02	28.0	27.2	0.8	2.9				0	0	0	0	0.0	0.0
	R12	RESIDENTIAL	LKD	W25/F02	20.2	19.4	0.8	4.0	68.5	68.5	0						
	R13	RESIDENTIAL	LKD	W26/F02	15.4	14.7	0.7	4.5	86.5	86.5	0	1	0	1	0	0.0	0.0
F03	R1	RESIDENTIAL	LKD	W1/F03	14.1	14.1	0.0	0.0	91.5	91.5	0	33	3	33	3	0.0	0.0
				W2/F03	29.6	28.9	0.7	2.4				35	3	35	3	0.0	0.0
				W3/F03	4.9	3.3	1.6	32.7				0	0	0	0	0.0	0.0
	R2	RESIDENTIAL	LKD	W4/F03	32.5	31.5	1.0	3.1	88.6	86.9	1.9	40	8	40	8	0.0	0.0
				W5/F03	4.2	2.7	1.5	35.7				1	0	1	0	0.0	0.0
	R3	RESIDENTIAL	LKD	W6/F03	4.0	2.8	1.2	30.0	87.2	87.1	0.1						
	R4	RESIDENTIAL	LKD	W7/F03	17.5	17.5	0.0	0.0	75.2	74.7	0.7	42	14	42	14	0.0	0.0
				W8/F03	31.3	29.0	2.3	7.3				44	13	44	13	0.0	0.0
				W9/F03	19.1	17.6	1.5	7.9				6	0	6	0	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W10/F03	12.4	9.9	2.5	20.2	63.8	57.5	9.9	1	0	1	0	0.0	0.0
				W11/F03	21.9	19.6	2.3	10.5				3	0	3	0	0.0	0.0
				W12/F03	7.4	7.4	0.0	0.0				0	0	0	0	0.0	0.0
	R7	RESIDENTIAL	BEDROOM	W14/F03	12.7	10.3	2.4	18.9	85.4	80.3	6	4	0	4	0	0.0	0.0
	R8	RESIDENTIAL	LKD	W15/F03	7.6	7.6	0.0	0.0	93.2	93.2	0	0	0	0	0	0.0	0.0
				W16/F03	14.0	14.0	0.0	0.0				6	0	6	0	0.0	0.0
				W17/F03	28.6	28.6	0.0	0.0				32	3	32	3	0.0	0.0
				W18/F03	8.9	8.9	0.0	0.0				23	2	23	2	0.0	0.0
	R9	RESIDENTIAL	LKD	W19/F03	4.2	4.2	0.0	0.0	79.7	79.4	0.3	0	0	0	0	0.0	0.0
				W20/F03	26.0	25.8	0.2	0.8				1	0	1	0	0.0	0.0
	R10	RESIDENTIAL	LKD	W21/F03	7.5	7.1	0.4	5.3	71.7	70.1	2.2	0	0	0	0	0.0	0.0
				W22/F03	28.9	28.2	0.7	2.4				1	0	1	0	0.0	0.0
	R11	RESIDENTIAL	LKD	W23/F03	9.8	9.2	0.6	6.1	74.1	72.3	2.5	0	0	0	0	0.0	0.0
				W24/F03	29.2	28.3	0.9	3.1				0	0	0	0	0.0	0.0
	R12	RESIDENTIAL	LKD	W25/F03	21.0	20.2	0.8	3.8	68.7	68.7	0						
	R13	RESIDENTIAL	LKD	W26/F03	17.0	16.3	0.7	4.1	86.6	86.6	0	3	0	3	0	0.0	0.0
F04	R1	RESIDENTIAL	LKD	W1/F04	16.4	16.4	0.0	0.0	93.4	93.4	0	38	6	38	6	0.0	0.0
				W2/F04	31.2	30.6	0.6	1.9				36	4	36	4	0.0	0.0
				W3/F04	5.1	3.5	1.6	31.4				0	0	0	0	0.0	0.0
	R2	RESIDENTIAL	LKD	W4/F04	33.4	32.4	1.0	3.0	88.9	87.0	2.1	42	10	42	10	0.0	0.0
				W5/F04	4.4	2.8	1.6	36.4				1	0	1	0	0.0	0.0
	R3	RESIDENTIAL	LKD	W6/F04	4.7	3.4	1.3	27.7	87.4	87.4	0						
	R4	RESIDENTIAL	LKD	W7/F04	18.0	18.0	0.0	0.0	96.8	96.8	0	42	14	42	14	0.0	0.0
				W8/F04	32.5	29.9	2.6	8.0				45	13	45	13	0.0	0.0
				W9/F04	22.2	20.6	1.6	7.2				6	0	6	0	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W10/F04	13.4	10.6	2.8	20.9	90.6	84.7	6.6	2	0	2	0	0.0	0.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
HILL QUAYS (CONTINUED)																	
F04	R5	RESIDENTIAL	BEDROOM	W11/F04	25.6	23.1	2.5	9.8	90.6	84.7	6.6	4	0	4	0	0.0	0.0
				W12/F04	8.6	8.6	0.0	0.0				0	0	0	0	0.0	0.0
	R7	RESIDENTIAL	BEDROOM	W14/F04	13.8	11.0	2.8	20.3	88.8	84.0	5.4	4	0	4	0	0.0	0.0
	R8	RESIDENTIAL	LKD	W15/F04	8.8	8.8	0.0	0.0	94.2	94.2	0	0	0	0	0	0.0	0.0
				W16/F04	15.3	15.3	0.0	0.0				6	0	6	0	0.0	0.0
				W17/F04	29.8	29.8	0.0	0.0				32	3	32	3	0.0	0.0
				W18/F04	9.1	9.1	0.0	0.0				23	2	23	2	0.0	0.0
	R9	RESIDENTIAL	LKD	W19/F04	5.5	5.5	0.0	0.0	80.9	80.1	1	0	0	0	0	0.0	0.0
				W20/F04	27.5	27.2	0.3	1.1				1	0	1	0	0.0	0.0
	R10	RESIDENTIAL	LKD	W21/F04	8.7	8.2	0.5	5.7	74.1	72.3	2.4	0	0	0	0	0.0	0.0
				W22/F04	30.2	29.4	0.8	2.6				1	0	1	0	0.0	0.0
	R11	RESIDENTIAL	LKD	W23/F04	10.8	10.2	0.6	5.6	78.9	77.1	2.3	0	0	0	0	0.0	0.0
				W24/F04	30.2	29.4	0.8	2.6				1	0	1	0	0.0	0.0
	R12	RESIDENTIAL	LKD	W25/F04	21.8	20.9	0.9	4.1	69.0	69.0	0						
	R13	RESIDENTIAL	LKD	W26/F04	18.8	18.1	0.7	3.7	86.7	86.7	0	3	0	3	0	0.0	0.0
F05	R1	RESIDENTIAL	LKD	W1/F05	18.7	18.7	0.0	0.0	95.6	95.6	0	42	9	42	9	0.0	0.0
				W2/F05	32.7	32.1	0.6	1.8				41	8	41	8	0.0	0.0
				W3/F05	5.4	3.8	1.6	29.6				0	0	0	0	0.0	0.0
	R2	RESIDENTIAL	LKD	W4/F05	34.1	33.1	1.0	2.9	89.4	87.4	2.2	43	10	43	10	0.0	0.0
				W5/F05	5.7	4.1	1.6	28.1				1	0	1	0	0.0	0.0
	R3	RESIDENTIAL	LKD	W6/F05	5.8	4.4	1.4	24.1	88.6	88.6	0						
	R4	RESIDENTIAL	LKD	W7/F05	18.5	18.5	0.0	0.0	99.4	99.4	0	43	14	43	14	0.0	0.0
				W8/F05	33.4	30.7	2.7	8.1				45	13	45	13	0.0	0.0
				W9/F05	24.3	22.6	1.7	7.0				7	0	7	0	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W10/F05	14.0	11.1	2.9	20.7	92.5	86.1	7	2	0	2	0	0.0	0.0
				W11/F05	28.4	25.7	2.7	9.5				5	0	5	0	0.0	0.0
				W12/F05	9.7	9.7	0.0	0.0				0	0	0	0	0.0	0.0
	R7	RESIDENTIAL	BEDROOM	W14/F05	14.4	11.5	2.9	20.1	89.3	84.6	5.3	5	0	5	0	0.0	0.0
	R8	RESIDENTIAL	LKD	W15/F05	9.8	9.8	0.0	0.0	95.8	95.8	0	0	0	0	0	0.0	0.0
				W16/F05	16.6	16.6	0.0	0.0				6	0	6	0	0.0	0.0
				W17/F05	30.8	30.8	0.0	0.0				32	3	32	3	0.0	0.0
				W18/F05	9.3	9.3	0.0	0.0				23	2	23	2	0.0	0.0
	R9	RESIDENTIAL	LKD	W19/F05	7.4	7.2	0.2	2.7	82.2	80.6	1.9	0	0	0	0	0.0	0.0
				W20/F05	29.2	28.5	0.7	2.4				1	0	1	0	0.0	0.0
	R10	RESIDENTIAL	LKD	W21/F05	10.2	9.6	0.6	5.9	79.0	77.3	2.2	0	0	0	0	0.0	0.0
				W22/F05	31.5	30.6	0.9	2.9				1	0	1	0	0.0	0.0
	R11	RESIDENTIAL	LKD	W23/F05	12.0	11.3	0.7	5.8	83.0	83.0	0	0	0	0	0	0.0	0.0
				W24/F05	31.4	30.4	1.0	3.2				2	0	2	0	0.0	0.0
	R12	RESIDENTIAL	LKD	W25/F05	22.6	21.7	0.9	4.0	69.0	69.0	0						
	R13	RESIDENTIAL	LKD	W26/F05	21.1	20.4	0.7	3.3	86.7	86.7	0	7	0	7	0	0.0	0.0
F06	R1	RESIDENTIAL	LKD	W1/F06	20.6	20.6	0.0	0.0	96.0	96.0	0	46	12	46	12	0.0	0.0
				W2/F06	34.1	33.5	0.6	1.8				43	10	43	10	0.0	0.0
				W3/F06	6.8	5.2	1.6	23.5				0	0	0	0	0.0	0.0
	R2	RESIDENTIAL	LKD	W4/F06	34.8	33.8	1.0	2.9	93.4	91.4	2.1	45	11	45	11	0.0	0.0
				W5/F06	7.1	5.4	1.7	23.9				1	0	1	0	0.0	0.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
HILL QUAYS (CONTINUED)																	
F06	R3	RESIDENTIAL	LKD	W6/F06	6.9	5.4	1.5	21.7	92.2	92.2	0						
	R4	RESIDENTIAL	LKD	W7/F06	19.2	19.2	0.0	0.0	99.6	99.6	0	44	15	44	15	0.0	0.0
				W8/F06	33.6	30.8	2.8	8.3				47	14	47	14	0.0	0.0
				W9/F06	24.6	22.9	1.7	6.9				8	0	8	0	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W10/F06	13.7	10.7	3.0	21.9	92.6	86.2	6.8	2	0	2	0	0.0	0.0
				W11/F06	29.7	26.9	2.8	9.4				5	0	5	0	0.0	0.0
				W12/F06	10.6	10.6	0.0	0.0				0	0	0	0	0.0	0.0
	R7	RESIDENTIAL	BEDROOM	W14/F06	14.4	11.5	2.9	20.1	89.6	84.9	5.2	8	0	7	0	12.5	0.0
	R8	RESIDENTIAL	LKD	W15/F06	10.4	10.4	0.0	0.0	95.9	95.9	0	0	0	0	0	0.0	0.0
				W16/F06	17.5	17.5	0.0	0.0				6	0	6	0	0.0	0.0
				W17/F06	31.6	31.6	0.0	0.0				33	3	33	3	0.0	0.0
				W18/F06	10.2	10.2	0.0	0.0				24	2	24	2	0.0	0.0
	R9	RESIDENTIAL	LKD	W19/F06	9.7	9.3	0.4	4.1	83.7	81.8	2.2	0	0	0	0	0.0	0.0
				W20/F06	31.0	30.1	0.9	2.9				1	0	1	0	0.0	0.0
	R10	RESIDENTIAL	LKD	W21/F06	11.9	11.3	0.6	5.0	84.6	84.6	0	0	0	0	0	0.0	0.0
				W22/F06	32.7	31.7	1.0	3.1				3	0	3	0	0.0	0.0
	R11	RESIDENTIAL	LKD	W23/F06	13.3	12.6	0.7	5.3	87.6	87.6	0	1	0	1	0	0.0	0.0
				W24/F06	32.5	31.5	1.0	3.1				4	0	4	0	0.0	0.0
	R12	RESIDENTIAL	LKD	W25/F06	23.5	22.5	1.0	4.3	69.2	69.2	0						
	R13	RESIDENTIAL	LKD	W26/F06	24.4	23.6	0.8	3.3	86.7	86.7	0	12	0	12	0	0.0	0.0
F07	R1	RESIDENTIAL	LKD	W1/F07	22.4	22.4	0.0	0.0	96.1	96.1	0	47	13	47	13	0.0	0.0
				W2/F07	35.1	34.5	0.6	1.7				45	11	45	11	0.0	0.0
				W3/F07	8.1	6.6	1.5	18.5				0	0	0	0	0.0	0.0
	R2	RESIDENTIAL	LKD	W5/F07	35.4	34.4	1.0	2.8	99.7	99.7	0	45	11	45	11	0.0	0.0
				W6/F07	8.6	6.8	1.8	20.9				1	0	1	0	0.0	0.0
				W100/F07	32.2	31.6	0.6	1.9				29	4	29	4	0.0	0.0
	R3	RESIDENTIAL	LKD	W7/F07	35.3	33.7	1.6	4.5	100.0	100.0	0	45	13	45	13	0.0	0.0
				W8/F07	9.9	8.3	1.6	16.2				1	0	1	0	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W9/F07	20.3	20.3	0.0	0.0	100.0	100.0	0	45	16	45	16	0.0	0.0
				W10/F07	26.4	24.0	2.4	9.1				35	13	35	13	0.0	0.0
				W11/F07	20.0	18.5	1.5	7.5				9	0	9	0	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W12/F07	11.2	8.2	3.0	26.8	91.9	85.2	7.4	2	0	2	0	0.0	0.0
				W13/F07	27.8	25.0	2.8	10.1				4	0	4	0	0.0	0.0
				W14/F07	10.7	10.7	0.0	0.0				0	0	0	0	0.0	0.0
	R7	RESIDENTIAL	BEDROOM	W16/F07	13.7	10.7	3.0	21.9	91.9	91.9	0	9	1	8	1	11.1	0.0
	R8	RESIDENTIAL	LKD	W17/F07	12.2	12.2	0.0	0.0	92.8	92.8	0						
	R9	RESIDENTIAL	LKD	W18/F07	0.1	0.1	0.0	0.0	89.8	89.8	0	0	0	0	0	0.0	0.0
				W19/F07	2.8	2.8	0.0	0.0				0	0	0	0	0.0	0.0
	R10	RESIDENTIAL	LKD	W20/F07	3.2	3.1	0.1	3.1	90.3	90.3	0						
	R11	RESIDENTIAL	LKD	W21/F07	3.2	3.1	0.1	3.1	88.8	88.8	0						
	R12	RESIDENTIAL	LKD	W22/F07	24.6	23.7	0.9	3.7	70.1	70.1	0						
	R13	RESIDENTIAL	LKD	W23/F07	29.2	28.4	0.8	2.7	86.8	86.8	0	27	0	27	0	0.0	0.0
F08	R1	RESIDENTIAL	LKD	W1/F08	24.2	24.2	0.0	0.0	96.2	96.2	0	49	13	49	13	0.0	0.0
				W2/F08	35.8	35.1	0.7	2.0				47	12	47	12	0.0	0.0
				W3/F08	10.3	8.7	1.6	15.5				1	0	1	0	0.0	0.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
HILL QUAYS (CONTINUED)																	
F08	R2	RESIDENTIAL	LKD	W5/F08	35.9	34.9	1.0	2.8	96.3	96.3	0	46	11	46	11	0.0	0.0
				W6/F08	10.5	8.7	1.8	17.1				1	0	1	0	0.0	0.0
				W100/F08	33.2	32.6	0.6	1.8				32	4	32	4	0.0	0.0
	R3	RESIDENTIAL	UNKNOWN	W8/F08	33.6	31.5	2.1	6.3	100.0	100.0	0	13	0	13	0	0.0	0.0
				W15/F08	33.8	32.6	1.2	3.6				41	6	41	6	0.0	0.0
	R4	RESIDENTIAL	UNKNOWN	W9/F08	33.3	30.5	2.8	8.4	100.0	100.0	0	38	6	38	6	0.0	0.0
				W10/F08	32.0	29.1	2.9	9.1				14	0	14	0	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W11/F08	32.7	30.8	1.9	5.8	99.1	99.0	0.1						
				W13/F08	28.9	28.9	0.0	0.0									
	R6**	RESIDENTIAL	BEDROOM	W12/F08	33.2	31.3	1.9	5.7	99.9	99.9	0						
	R7	RESIDENTIAL	LKD	W14/F08	32.7	31.9	0.8	2.4	86.7	86.7	0	34	2	34	2	0.0	0.0
F09	R1	RESIDENTIAL	LKD	W2/F09	34.8	34.0	0.8	2.3	86.7	86.7	0	39	7	39	7	0.0	0.0
RIVERSIDE MEWS																	
F00	R1	RESIDENTIAL	LKD	W1/F00	9.5	9.5	0.0	0.0	99.6	99.6	0	17	0	17	0	0.0	0.0
				W2/F00	10.5	10.5	0.0	0.0				16	0	16	0	0.0	0.0
				W3/F00	27.6	26.4	1.2	4.3				19	1	19	1	0.0	0.0
				W4/F00	27.6	26.4	1.2	4.3				19	1	19	1	0.0	0.0
				W5/F00	27.5	26.3	1.2	4.4				19	1	19	1	0.0	0.0
				W6/F00	27.5	26.3	1.2	4.4				19	1	19	1	0.0	0.0
	R2	RESIDENTIAL	UNKNOWN	W7/F00	23.7	22.5	1.2	5.1	97.1	97.1	0						
	R3	RESIDENTIAL	UNKNOWN	W8/F00	23.3	22.1	1.2	5.2	95.6	91.2	4.6						
	R4	RESIDENTIAL	UNKNOWN	W9/F00	12.1	12.1	0.0	0.0	38.1	37.9	0.6						
	R5	RESIDENTIAL	UNKNOWN	W10/F00	7.2	7.2	0.0	0.0	26.7	26.7	0						
	R6	RESIDENTIAL	UNKNOWN	W11/F00	4.1	4.1	0.0	0.0	14.4	14.4	0						
	R7	RESIDENTIAL	UNKNOWN	W12/F00	2.5	2.5	0.0	0.0	8.1	8.1	0						
	R8	RESIDENTIAL	UNKNOWN	W13/F00	1.7	1.7	0.0	0.0	5.0	5.0	0						
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	14.2	14.2	0.0	0.0	99.7	99.7	0	22	1	22	1	0.0	0.0
				W2/F01	28.9	27.5	1.4	4.8				20	3	20	3	0.0	0.0
				W3/F01	28.9	27.5	1.4	4.8				20	2	20	2	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W4/F01	28.9	27.5	1.4	4.8	98.6	98.6	0						
	R3	RESIDENTIAL	BEDROOM	W5/F01	28.9	27.6	1.3	4.5	98.9	98.9	0						
				W6/F01	28.9	27.5	1.4	4.8									
	R4	RESIDENTIAL	BEDROOM	W7/F01	27.9	26.7	1.2	4.3	91.1	91.1	0						
				W8/F01	23.1	23.1	0.0	0.0									
	R5	RESIDENTIAL	BEDROOM	W9/F01	22.1	22.1	0.0	0.0	99.6	99.6	0						
	R6	RESIDENTIAL	LKD	W10/F01	21.1	21.1	0.0	0.0	87.9	87.9	0						
				W11/F01	19.7	19.7	0.0	0.0									
	R7	RESIDENTIAL	UNKNOWN	W12/F01	26.0	24.9	1.1	4.2	98.9	98.9	0						
	R8	RESIDENTIAL	UNKNOWN	W13/F01	27.5	26.3	1.2	4.4	99.0	99.0	0						
				W14/F01	27.1	25.8	1.3	4.8									
	R9**	RESIDENTIAL	UNKNOWN	W15/F01	26.3	25.1	1.2	4.6	99.7	99.3	0.4						
				W16/F01	25.5	24.5	1.0	3.9									
	R10	RESIDENTIAL	UNKNOWN	W17/F01	24.1	23.3	0.8	3.3	96.4	96.4	0						
	R11	RESIDENTIAL	UNKNOWN	W18/F01	22.4	21.5	0.9	4.0	98.4	98.4	0						
	R12	RESIDENTIAL	UNKNOWN	W19/F01	16.3	15.5	0.8	4.9	75.8	73.7	2.8						

* Inclined Windows, ** Rooms deeper than 5m, *** Kitchens less than 13sqm

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
RIVERSIDE MEWS (CONTINUED)																	
F01	R13	RESIDENTIAL	UNKNOWN	W20/F01	8.9	8.9	0.0	0.0	38.1	38.1	0						
	R14	RESIDENTIAL	UNKNOWN	W21/F01	4.8	4.8	0.0	0.0	15.3	15.3	0						
	R15	RESIDENTIAL	UNKNOWN	W22/F01	2.9	2.9	0.0	0.0	9.3	9.3	0						
	R16	RESIDENTIAL	UNKNOWN	W23/F01	2.0	2.0	0.0	0.0	6.4	6.4	0						
F02	R1	RESIDENTIAL	UNKNOWN	W1/F02	29.5	28.3	1.2	4.1	89.8	89.5	0.4						
	R2	RESIDENTIAL	UNKNOWN	W2/F02	29.3	28.0	1.3	4.4	86.6	86.3	0.4						
	R3	RESIDENTIAL	UNKNOWN	W3/F02	28.6	27.3	1.3	4.5	85.4	85.2	0.2						
	R4	RESIDENTIAL	UNKNOWN	W4/F02	26.4	25.1	1.3	4.9	86.0	85.7	0.3						
	R5	RESIDENTIAL	UNKNOWN	W5/F02	18.9	17.6	1.3	6.9	80.2	80.2	0.1						
	R6	RESIDENTIAL	UNKNOWN	W6/F02	10.2	10.2	0.0	0.0	41.6	41.6	0						
	R7	RESIDENTIAL	UNKNOWN	W7/F02	5.8	5.8	0.0	0.0	18.6	18.6	0						
	R8	RESIDENTIAL	UNKNOWN	W8/F02	3.8	3.8	0.0	0.0	13.1	13.1	0						
	R9	RESIDENTIAL	UNKNOWN	W9/F02	2.8	2.8	0.0	0.0	10.6	10.6	0						
THE RHINE																	
B01	R1	RESIDENTIAL	UNKNOWN	W1/B01	26.7	25.1	1.6	6.0	84.0	84.0	0						
	R2	RESIDENTIAL	UNKNOWN	W2/B01	26.1	24.6	1.5	5.7	83.7	83.7	0						
	R3	RESIDENTIAL	UNKNOWN	W3/B01	24.0	22.8	1.2	5.0	84.2	84.2	0						
	R4	RESIDENTIAL	UNKNOWN	W4/B01	23.2	22.0	1.2	5.2	77.2	77.2	0						
	R5	RESIDENTIAL	UNKNOWN	W5/B01	21.8	20.7	1.1	5.0	72.9	72.9	0						
	R6	RESIDENTIAL	UNKNOWN	W6/B01	20.3	19.2	1.1	5.4	64.5	64.5	0						
F00	R1	RESIDENTIAL	LKD	W1/F00	26.9	25.4	1.5	5.6	95.3	95.3	0	3	0	3	0	0.0	0.0
				W2/F00	5.3	5.3	0.0	0.0				1	0	1	0	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F00	9.0	8.1	0.9	10.0	81.6	79.9	2						
	R3	RESIDENTIAL	LKD	W4/F00	24.9	23.6	1.3	5.2	73.3	73.3	0	1	0	1	0	0.0	0.0
				W5/F00	5.0	5.0	0.0	0.0				1	0	1	0	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F00	6.6	6.3	0.3	4.5	73.3	72.0	1.8						
	R5	RESIDENTIAL	BEDROOM	W7/F00	21.3	20.1	1.2	5.6	89.2	89.2	0						
	R6	RESIDENTIAL	BEDROOM	W8/F00	21.5	20.4	1.1	5.1	74.8	74.8	0						
	R7	RESIDENTIAL	BEDROOM	W9/F00	7.7	6.8	0.9	11.7	57.6	57.6	0						
	R8	RESIDENTIAL	LKD	W10/F00	10.1	9.2	0.9	8.9	87.5	87.5	0						
				W11/F00	21.5	20.4	1.1	5.1									
F01	R1	RESIDENTIAL	LKD	W1/F01	27.9	26.4	1.5	5.4	99.9	99.9	0	6	0	6	0	0.0	0.0
				W2/F01	5.9	5.9	0.0	0.0				2	0	2	0	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F01	9.9	9.1	0.8	8.1	90.1	88.5	1.7						
	R3	RESIDENTIAL	LKD	W4/F01	26.0	24.7	1.3	5.0	79.9	79.9	0	1	0	1	0	0.0	0.0
				W5/F01	5.6	5.6	0.0	0.0				1	0	1	0	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F01	8.8	8.5	0.3	3.4	79.9	78.6	1.6						
	R5	RESIDENTIAL	BEDROOM	W7/F01	22.6	21.4	1.2	5.3	90.9	90.9	0						
	R6	RESIDENTIAL	BEDROOM	W8/F01	22.7	21.5	1.2	5.3	78.2	78.2	0						
	R7	RESIDENTIAL	LKD	W9/F01	10.7	9.8	0.9	8.4	92.8	92.8	0						
				W11/F01	22.9	21.8	1.1	4.8									
	R8	RESIDENTIAL	BEDROOM	W10/F01	10.0	8.9	1.1	11.0	64.5	64.5	0						
F02	R1	RESIDENTIAL	LKD	W1/F02	29.0	27.5	1.5	5.2	99.9	99.9	0	6	0	6	0	0.0	0.0
				W2/F02	6.6	6.6	0.0	0.0				4	0	4	0	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F02	10.9	10.0	0.9	8.3	93.9	92.4	1.5						

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
THE RHINE (CONTINUED)																	
F02	R3	RESIDENTIAL	LKD	W4/F02	27.2	25.9	1.3	4.8	85.2	85.2	0	1	0	1	0	0.0	0.0
				W5/F02	6.2	6.2	0.0	0.0				2	0	2	0	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F02	9.9	9.6	0.3	3.0	88.0	86.7	1.5						
	R5	RESIDENTIAL	BEDROOM	W7/F02	23.8	22.5	1.3	5.5	94.3	94.3	0						
	R6	RESIDENTIAL	BEDROOM	W8/F02	23.9	22.7	1.2	5.0	84.5	84.5	0						
	R7	RESIDENTIAL	LKD	W9/F02	11.0	10.0	1.0	9.1	95.1	95.1	0						
				W11/F02	24.5	23.4	1.1	4.5									
	R8	RESIDENTIAL	BEDROOM	W10/F02	11.1	10.0	1.1	9.9	73.0	73.0	0						
F03	R1	RESIDENTIAL	LKD	W1/F03	30.0	28.5	1.5	5.0	99.9	99.9	0	7	0	7	0	0.0	0.0
				W2/F03	7.2	7.2	0.0	0.0				5	0	5	0	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F03	11.9	10.9	1.0	8.4	95.0	93.6	1.5						
	R3	RESIDENTIAL	LKD	W4/F03	28.4	27.1	1.3	4.6	92.4	92.4	0	4	0	4	0	0.0	0.0
				W5/F03	6.9	6.9	0.0	0.0				4	0	4	0	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F03	11.0	10.7	0.3	2.7	93.3	92.0	1.4						
	R5	RESIDENTIAL	BEDROOM	W7/F03	24.8	23.6	1.2	4.8	97.8	97.8	0						
	R6	RESIDENTIAL	BEDROOM	W8/F03	25.1	23.9	1.2	4.8	93.9	93.9	0						
	R7	RESIDENTIAL	LKD	W9/F03	11.2	10.3	0.9	8.0	97.7	97.7	0						
				W11/F03	26.1	25.0	1.1	4.2									
	R8	RESIDENTIAL	BEDROOM	W10/F03	12.2	11.1	1.1	9.0	85.8	85.8	0						
F04	R1	RESIDENTIAL	LKD	W1/F04	31.0	29.5	1.5	4.8	99.9	99.9	0	7	0	7	0	0.0	0.0
				W2/F04	7.9	7.9	0.0	0.0				5	0	5	0	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F04	12.8	11.8	1.0	7.8	95.2	93.8	1.5						
	R3	RESIDENTIAL	LKD	W4/F04	29.7	28.3	1.4	4.7	97.8	97.8	0	4	0	4	0	0.0	0.0
				W5/F04	7.6	7.6	0.0	0.0				4	0	4	0	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F04	12.0	11.8	0.2	1.7	93.8	92.5	1.3						
	R5	RESIDENTIAL	BEDROOM	W7/F04	25.0	23.8	1.2	4.8	98.3	98.3	0						
	R6	RESIDENTIAL	BEDROOM	W8/F04	25.3	24.2	1.1	4.3	98.1	98.1	0						
	R7	RESIDENTIAL	LKD	W9/F04	11.6	10.6	1.0	8.6	100.0	100.0	0						
				W11/F04	27.8	26.7	1.1	4.0									
	R8	RESIDENTIAL	BEDROOM	W10/F04	13.3	12.2	1.1	8.3	92.5	92.5	0						
F05	R1	RESIDENTIAL	LKD	W1/F05	31.9	30.4	1.5	4.7	99.9	99.9	0	8	0	8	0	0.0	0.0
				W2/F05	8.5	8.5	0.0	0.0				5	0	5	0	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F05	13.6	12.7	0.9	6.6	95.2	93.9	1.4						
	R3	RESIDENTIAL	LKD	W4/F05	30.9	29.6	1.3	4.2	97.9	97.9	0	4	0	4	0	0.0	0.0
				W5/F05	7.3	7.3	0.0	0.0				3	0	3	0	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F05	10.0	9.8	0.2	2.0	93.3	91.9	1.4						
	R5	RESIDENTIAL	BEDROOM	W7/F05	12.3	11.2	1.1	8.9	97.8	97.8	0						
	R6	RESIDENTIAL	BEDROOM	W8/F05	12.1	11.0	1.1	9.1	97.7	97.7	0						
	R7	RESIDENTIAL	LKD	W9/F05	10.5	9.5	1.0	9.5	100.0	100.0	0						
				W11/F05	29.5	28.4	1.1	3.7									
	R8	RESIDENTIAL	BEDROOM	W10/F05	10.4	9.5	0.9	8.7	94.5	94.5	0						
F06	R1	RESIDENTIAL	LKD	W1/F06	32.8	31.3	1.5	4.6	99.9	99.9	0	8	0	8	0	0.0	0.0
				W2/F06	13.2	13.2	0.0	0.0				9	0	9	0	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F06	25.4	24.6	0.8	3.1	96.8	96.8	0						
	R3	RESIDENTIAL	LKD	W4/F06	32.0	30.7	1.3	4.1	98.0	98.0	0	5	0	5	0	0.0	0.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
THE RHINE (CONTINUED)																	
F06	R3	RESIDENTIAL	LKD	W5/F06	9.5	9.5	0.0	0.0	98.0	98.0	0	3	0	3	0	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F06	20.4	20.2	0.2	1.0	95.1	95.0	0						
	R5	RESIDENTIAL	BEDROOM	W7/F06	25.2	24.0	1.2	4.8	98.4	98.4	0						
	R6	RESIDENTIAL	BEDROOM	W8/F06	25.3	24.1	1.2	4.7	98.4	98.4	0						
	R7	RESIDENTIAL	LKD	W9/F06	12.6	11.7	0.9	7.1	100.0	100.0	0						
				W11/F06	30.9	29.8	1.1	3.6									
	R8	RESIDENTIAL	BEDROOM	W10/F06	21.5	20.4	1.1	5.1	96.1	96.1	0						
THE NILE																	
B01	R1	RESIDENTIAL	UNKNOWN	W1/B01	18.3	17.6	0.7	3.8	58.8	57.8	1.7						
	R2	RESIDENTIAL	UNKNOWN	W2/B01	20.0	19.4	0.6	3.0	52.8	52.8	0						
	R3	RESIDENTIAL	UNKNOWN	W3/B01	21.5	20.9	0.6	2.8	78.8	78.8	0						
				W4/B01	22.6	21.9	0.7	3.1									
	R4	RESIDENTIAL	UNKNOWN	W5/B01	23.7	22.9	0.8	3.4	78.7	78.7	0						
	R5	RESIDENTIAL	UNKNOWN	W6/B01	24.2	23.5	0.7	2.9	78.7	78.7	0						
	R6	RESIDENTIAL	UNKNOWN	W7/B01	25.0	24.2	0.8	3.2	71.4	71.4	0						
F00	R1	RESIDENTIAL	LKD	W1/F00	29.8	29.8	0.0	0.0	100.0	100.0	0	49	13	49	13	0.0	0.0
				W2/F00	30.0	30.0	0.0	0.0				50	13	50	13	0.0	0.0
				W3/F00	27.7	26.0	1.7	6.1				9	0	9	0	0.0	0.0
				W4/F00	16.7	15.4	1.3	7.8				6	0	6	0	0.0	0.0
	R3**	RESIDENTIAL	LKD	W8/F00	25.3	24.5	0.8	3.2	80.5	80.5	0						
	R4	RESIDENTIAL	BEDROOM	W9/F00	7.8	7.8	0.0	0.0	85.7	85.7	0						
	R5	RESIDENTIAL	BEDROOM	W10/F00	21.1	21.0	0.1	0.5	97.4	96.5	0.9						
	R6	RESIDENTIAL	BEDROOM	W11/F00	21.1	20.4	0.7	3.3	91.9	91.7	0.2						
	R7	RESIDENTIAL	BEDROOM	W12/F00	8.7	8.0	0.7	8.0	78.3	77.4	1.2						
	R8	RESIDENTIAL	LKD	W13/F00	7.3	6.2	1.1	15.1	97.9	97.9	0						
				W14/F00	20.2	19.6	0.6	3.0									
	R9	RESIDENTIAL	UNKNOWN	W15/F00	17.2	16.4	0.8	4.7	38.3	38.3	0						
	R10	RESIDENTIAL	BEDROOM	W16/F00	11.9	11.2	0.7	5.9	38.7	38.7	0						
	R11	RESIDENTIAL	LKD	W17/F00	5.7	4.3	1.4	24.6	52.4	52.4	0						
				W19/F00	11.3	10.7	0.6	5.3									
	R12	RESIDENTIAL	BEDROOM	W18/F00	2.3	1.7	0.6	26.1	36.4	36.1	0.8						
	R13	RESIDENTIAL	BEDROOM	W20/F00	3.0	3.0	0.0	0.0	17.4	17.4	0						
	R14	RESIDENTIAL	BEDROOM	W21/F00	8.5	8.5	0.0	0.0	25.8	25.8	0						
	R15	RESIDENTIAL	BEDROOM	W22/F00	11.0	11.0	0.0	0.0	25.4	25.4	0						
F01	R1	RESIDENTIAL	LKD	W1/F01	30.6	30.6	0.0	0.0	100.0	100.0	0	50	13	50	13	0.0	0.0
				W2/F01	30.8	30.8	0.0	0.0				53	15	53	15	0.0	0.0
				W3/F01	28.4	26.7	1.7	6.0				9	0	9	0	0.0	0.0
				W4/F01	18.7	17.2	1.5	8.0				8	0	8	0	0.0	0.0
	R3	RESIDENTIAL	LKD	W8/F01	26.0	25.3	0.7	2.7	90.2	90.2	0	12	0	12	0	0.0	0.0
				W9/F01	4.2	4.2	0.0	0.0				6	0	6	0	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W10/F01	8.4	8.4	0.0	0.0	86.1	86.1	0						
	R5	RESIDENTIAL	BEDROOM	W11/F01	22.1	21.9	0.2	0.9	97.4	96.5	0.9						
	R6	RESIDENTIAL	BEDROOM	W12/F01	22.2	21.5	0.7	3.2	93.2	93.0	0.2						
	R7	RESIDENTIAL	LKD	W13/F01	9.8	8.1	1.7	17.3	99.2	99.2	0						
				W15/F01	21.3	20.6	0.7	3.3									

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
THE NILE (CONTINUED)																	
F01	R8	RESIDENTIAL	BEDROOM	W14/F01	9.3	8.6	0.7	7.5	78.5	78.0	0.7						
	R9	RESIDENTIAL	UNKNOWN	W16/F01	18.2	17.4	0.8	4.4	41.0	41.0	0						
	R10	RESIDENTIAL	BEDROOM	W17/F01	13.2	12.6	0.6	4.5	43.4	43.4	0						
	R11	RESIDENTIAL	LKD	W18/F01	6.2	4.8	1.4	22.6	55.6	55.6	0	0	0	0	0	0.0	0.0
				W20/F01	13.1	12.5	0.6	4.6				3	0	3	0	0.0	0.0
				W21/F01	2.1	2.1	0.0	0.0				2	0	2	0	0.0	0.0
	R12	RESIDENTIAL	BEDROOM	W19/F01	2.6	2.0	0.6	23.1	42.8	42.6	0.5						
	R13	RESIDENTIAL	BEDROOM	W22/F01	4.2	4.2	0.0	0.0	23.1	23.1	0						
	R14	RESIDENTIAL	BEDROOM	W23/F01	9.5	9.5	0.0	0.0	32.1	32.1	0						
	R15	RESIDENTIAL	BEDROOM	W24/F01	12.6	12.6	0.0	0.0	31.6	31.6	0						
F02	R1	RESIDENTIAL	LKD	W1/F02	31.6	31.6	0.0	0.0	100.0	100.0	0	54	16	54	16	0.0	0.0
				W2/F02	31.4	31.4	0.0	0.0				50	13	50	13	0.0	0.0
				W3/F02	29.1	27.3	1.8	6.2				10	0	10	0	0.0	0.0
				W4/F02	19.4	17.8	1.6	8.2				9	0	9	0	0.0	0.0
	R3	RESIDENTIAL	LKD	W8/F02	26.9	26.1	0.8	3.0	96.3	96.3	0	12	0	12	0	0.0	0.0
				W9/F02	4.7	4.7	0.0	0.0				7	0	7	0	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W10/F02	9.0	9.0	0.0	0.0	87.3	87.3	0						
	R5	RESIDENTIAL	BEDROOM	W11/F02	23.0	22.8	0.2	0.9	97.4	96.5	0.9						
	R6	RESIDENTIAL	BEDROOM	W12/F02	23.1	22.4	0.7	3.0	94.3	94.2	0.1						
	R7	RESIDENTIAL	LKD	W13/F02	10.1	8.4	1.7	16.8	99.9	99.9	0						
				W15/F02	22.7	22.1	0.6	2.6									
	R8	RESIDENTIAL	BEDROOM	W14/F02	9.9	9.2	0.7	7.1	79.5	79.0	0.7						
	R9	RESIDENTIAL	UNKNOWN	W16/F02	19.6	18.8	0.8	4.1	43.5	43.5	0						
	R10	RESIDENTIAL	LKD	W17/F02	17.6	16.9	0.7	4.0	73.6	73.6	0	6	0	6	0	0.0	0.0
				W18/F02	2.8	2.8	0.0	0.0				3	0	3	0	0.0	0.0
	R11	RESIDENTIAL	BEDROOM	W19/F02	1.8	1.8	0.0	0.0	48.0	48.0	0						
	R12	RESIDENTIAL	BEDROOM	W20/F02	13.7	13.4	0.3	2.2	55.1	54.5	1						
	R13	RESIDENTIAL	BEDROOM	W21/F02	14.9	14.3	0.6	4.0	48.2	48.2	0						
	R14	RESIDENTIAL	LKD	W22/F02	6.8	5.4	1.4	20.6	61.3	61.3	0	0	0	0	0	0.0	0.0
				W24/F02	15.1	14.6	0.5	3.3				6	0	6	0	0.0	0.0
				W25/F02	2.3	2.3	0.0	0.0				3	0	3	0	0.0	0.0
	R15	RESIDENTIAL	BEDROOM	W23/F02	3.3	2.7	0.6	18.2	50.6	50.5	0.2						
	R16	RESIDENTIAL	BEDROOM	W26/F02	5.6	5.6	0.0	0.0	32.5	32.5	0						
	R17	RESIDENTIAL	BEDROOM	W27/F02	10.6	10.6	0.0	0.0	41.4	41.4	0						
	R18	RESIDENTIAL	BEDROOM	W28/F02	14.5	14.5	0.0	0.0	43.0	43.0	0						
F03	R1	RESIDENTIAL	LKD	W1/F03	32.2	32.2	0.0	0.0	100.0	100.0	0	50	13	50	13	0.0	0.0
				W2/F03	32.3	32.3	0.0	0.0				56	16	56	16	0.0	0.0
				W3/F03	29.7	28.0	1.7	5.7				11	0	11	0	0.0	0.0
				W4/F03	20.1	18.4	1.7	8.5				9	0	9	0	0.0	0.0
	R3	RESIDENTIAL	LKD	W8/F03	27.8	27.0	0.8	2.9	99.9	99.9	0	14	0	14	0	0.0	0.0
				W9/F03	5.1	5.1	0.0	0.0				9	0	9	0	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W10/F03	9.8	9.8	0.0	0.0	88.1	88.1	0						
	R5	RESIDENTIAL	BEDROOM	W11/F03	23.8	23.6	0.2	0.8	97.4	96.5	0.9						
	R6	RESIDENTIAL	BEDROOM	W12/F03	24.2	23.4	0.8	3.3	95.8	95.8	0.1						
	R7	RESIDENTIAL	LKD	W13/F03	10.3	8.6	1.7	16.5	99.9	99.9	0						

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
THE NILE (CONTINUED)																	
F03	R7	RESIDENTIAL	LKD	W15/F03	24.5	23.8	0.7	2.9	99.9	99.9	0						
	R8	RESIDENTIAL	BEDROOM	W14/F03	10.8	10.1	0.7	6.5	81.9	81.3	0.6						
	R9	RESIDENTIAL	UNKNOWN	W16/F03	21.5	20.7	0.8	3.7	48.0	48.0	0						
	R10	RESIDENTIAL	LKD	W17/F03	19.6	18.9	0.7	3.6	75.1	75.1	0	7	0	7	0	0.0	0.0
				W18/F03	3.4	3.4	0.0	0.0				5	1	5	1	0.0	0.0
	R11	RESIDENTIAL	BEDROOM	W19/F03	2.6	2.6	0.0	0.0	55.1	55.1	0						
	R12	RESIDENTIAL	BEDROOM	W20/F03	15.6	15.4	0.2	1.3	60.5	59.9	0.9						
	R13	RESIDENTIAL	BEDROOM	W21/F03	16.8	16.1	0.7	4.2	58.1	58.1	0						
	R14	RESIDENTIAL	LKD	W22/F03	7.6	6.2	1.4	18.4	68.8	68.8	0	0	0	0	0	0.0	0.0
				W24/F03	17.6	17.0	0.6	3.4				8	0	8	0	0.0	0.0
				W25/F03	2.6	2.6	0.0	0.0				4	0	4	0	0.0	0.0
	R15	RESIDENTIAL	BEDROOM	W23/F03	4.5	3.9	0.6	13.3	65.1	65.0	0.1						
	R16	RESIDENTIAL	BEDROOM	W26/F03	7.3	7.3	0.0	0.0	51.3	51.3	0						
	R17	RESIDENTIAL	BEDROOM	W27/F03	11.9	11.9	0.0	0.0	56.6	56.6	0						
	R18	RESIDENTIAL	BEDROOM	W28/F03	16.7	16.7	0.0	0.0	62.0	62.0	0						
F04	R1	RESIDENTIAL	LKD	W1/F04	32.9	32.9	0.0	0.0	100.0	100.0	0	52	13	52	13	0.0	0.0
				W2/F04	33.0	33.0	0.0	0.0				56	16	56	16	0.0	0.0
				W3/F04	30.4	28.7	1.7	5.6				12	0	12	0	0.0	0.0
				W4/F04	20.7	19.0	1.7	8.2				10	0	10	0	0.0	0.0
	R3	RESIDENTIAL	LKD	W8/F04	28.6	27.8	0.8	2.8	99.9	99.9	0	15	0	15	0	0.0	0.0
				W9/F04	5.5	5.5	0.0	0.0				11	1	11	1	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W10/F04	24.3	23.9	0.4	1.6	97.6	96.6	1						
	R5	RESIDENTIAL	BEDROOM	W11/F04	10.5	10.5	0.0	0.0	88.3	88.3	0						
	R6	RESIDENTIAL	BEDROOM	W12/F04	24.5	23.8	0.7	2.9	98.0	97.9	0.1						
	R7	RESIDENTIAL	LKD	W13/F04	10.6	8.8	1.8	17.0	99.9	99.9	0						
				W15/F04	26.5	25.8	0.7	2.6									
	R8	RESIDENTIAL	BEDROOM	W14/F04	11.6	10.9	0.7	6.0	88.3	87.9	0.5						
	R9	RESIDENTIAL	UNKNOWN	W16/F04	23.9	23.1	0.8	3.3	55.7	55.7	0						
	R10	RESIDENTIAL	LKD	W17/F04	22.2	21.4	0.8	3.6	77.6	77.6	0	8	0	8	0	0.0	0.0
				W18/F04	4.0	4.0	0.0	0.0				4	0	4	0	0.0	0.0
	R11	RESIDENTIAL	BEDROOM	W19/F04	4.6	4.6	0.0	0.0	70.8	70.8	0						
	R12	RESIDENTIAL	BEDROOM	W20/F04	17.0	16.7	0.3	1.8	70.9	70.3	0.8						
	R13	RESIDENTIAL	BEDROOM	W21/F04	18.1	17.5	0.6	3.3	77.9	77.9	0						
	R14	RESIDENTIAL	LKD	W22/F04	8.7	7.2	1.5	17.2	76.7	76.7	0	0	0	0	0	0.0	0.0
				W24/F04	20.6	20.0	0.6	2.9				8	0	8	0	0.0	0.0
				W25/F04	2.8	2.8	0.0	0.0				5	0	5	0	0.0	0.0
	R15	RESIDENTIAL	BEDROOM	W23/F04	6.9	6.3	0.6	8.7	86.3	86.2	0.1						
	R16	RESIDENTIAL	BEDROOM	W26/F04	9.2	9.2	0.0	0.0	85.9	85.9	0						
	R17	RESIDENTIAL	BEDROOM	W27/F04	13.3	13.3	0.0	0.0	78.5	78.5	0						
	R18	RESIDENTIAL	BEDROOM	W28/F04	19.0	19.0	0.0	0.0	85.1	85.1	0						
F05	R1	RESIDENTIAL	LKD	W1/F05	33.5	33.5	0.0	0.0	100.0	100.0	0	51	13	51	13	0.0	0.0
				W2/F05	33.6	33.6	0.0	0.0				55	16	55	16	0.0	0.0
				W3/F05	31.0	29.3	1.7	5.5				12	0	12	0	0.0	0.0
				W4/F05	21.4	19.5	1.9	8.9				10	0	10	0	0.0	0.0
	R3	RESIDENTIAL	LKD	W8/F05	29.4	28.6	0.8	2.7	99.9	99.9	0	17	1	17	1	0.0	0.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
THE NILE (CONTINUED)																	
F05	R3	RESIDENTIAL	LKD	W9/F05	5.3	5.3	0.0	0.0	99.9	99.9	0	12	1	12	1	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W10/F05	10.8	10.8	0.0	0.0	87.2	87.2	0						
	R5	RESIDENTIAL	BEDROOM	W11/F05	12.8	12.6	0.2	1.6	94.8	93.8	1						
	R6	RESIDENTIAL	BEDROOM	W12/F05	17.3	17.0	0.3	1.7	97.9	97.0	0.9						
	R7	RESIDENTIAL	LKD	W13/F05	9.9	8.2	1.7	17.2	99.9	99.9	0						
				W15/F05	28.1	27.4	0.7	2.5									
	R8	RESIDENTIAL	BEDROOM	W14/F05	11.3	11.1	0.2	1.8	89.1	87.8	1.4						
	R9	RESIDENTIAL	UNKNOWN	W16/F05	26.4	25.6	0.8	3.0	73.7	73.7	0						
	R10	RESIDENTIAL	LKD	W17/F05	25.1	24.4	0.7	2.8	87.6	87.6	0	9	0	9	0	0.0	0.0
				W18/F05	4.4	4.4	0.0	0.0				5	0	5	0	0.0	0.0
	R11	RESIDENTIAL	BEDROOM	W19/F05	6.9	6.9	0.0	0.0	85.3	85.3	0						
	R12	RESIDENTIAL	BEDROOM	W20/F05	8.6	8.4	0.2	2.3	95.1	94.4	0.7						
	R13	RESIDENTIAL	BEDROOM	W21/F05	8.7	8.4	0.3	3.4	94.4	94.4	0.1						
	R14	RESIDENTIAL	LKD	W22/F05	9.0	7.5	1.5	16.7	99.8	99.8	0	0	0	0	0	0.0	0.0
				W24/F05	23.8	23.2	0.6	2.5				9	0	9	0	0.0	0.0
				W25/F05	3.1	3.1	0.0	0.0				7	0	7	0	0.0	0.0
	R15	RESIDENTIAL	BEDROOM	W23/F05	8.5	8.2	0.3	3.5	90.4	89.7	0.8						
	R16	RESIDENTIAL	BEDROOM	W26/F05	11.2	11.2	0.0	0.0	96.3	96.3	0						
	R17	RESIDENTIAL	BEDROOM	W27/F05	14.8	14.8	0.0	0.0	83.5	83.5	0						
	R18	RESIDENTIAL	BEDROOM	W28/F05	21.7	21.7	0.0	0.0	94.8	94.8	0						
F06	R1	RESIDENTIAL	LKD	W1/F06	33.9	33.9	0.0	0.0	100.0	100.0	0	49	13	49	13	0.0	0.0
				W2/F06	31.6	31.6	0.0	0.0				47	13	47	13	0.0	0.0
				W3/F06	31.6	29.9	1.7	5.4				12	0	12	0	0.0	0.0
				W4/F06	21.9	20.1	1.8	8.2				11	0	11	0	0.0	0.0
	R3	RESIDENTIAL	LKD	W8/F06	30.2	29.4	0.8	2.6	99.9	99.9	0	18	2	18	2	0.0	0.0
				W9/F06	11.2	11.2	0.0	0.0				18	1	18	1	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W10/F06	20.9	20.9	0.0	0.0	89.9	89.9	0						
	R5	RESIDENTIAL	BEDROOM	W11/F06	25.9	25.3	0.6	2.3	96.7	96.3	0.4						
	R6	RESIDENTIAL	BEDROOM	W12/F06	26.8	26.0	0.8	3.0	98.2	97.8	0.4						
	R7	RESIDENTIAL	LKD	W13/F06	15.7	13.9	1.8	11.5	99.9	99.9	0						
				W15/F06	29.2	28.5	0.7	2.4									
	R8	RESIDENTIAL	BEDROOM	W14/F06	21.4	20.7	0.7	3.3	91.6	91.0	0.7						
	R9	RESIDENTIAL	UNKNOWN	W16/F06	28.4	27.6	0.8	2.8	87.9	87.9	0.1						
	R10	RESIDENTIAL	LKD	W17/F06	28.0	27.3	0.7	2.5	100.0	100.0	0	10	0	10	0	0.0	0.0
				W18/F06	13.9	13.9	0.0	0.0				19	2	19	2	0.0	0.0
	R11	RESIDENTIAL	BEDROOM	W19/F06	20.9	20.9	0.0	0.0	89.5	89.5	0						
	R12	RESIDENTIAL	BEDROOM	W20/F06	27.1	26.6	0.5	1.8	98.5	98.5	0						
	R13	RESIDENTIAL	BEDROOM	W21/F06	27.4	26.7	0.7	2.6	97.8	97.8	0						
	R14	RESIDENTIAL	LKD	W22/F06	20.9	19.5	1.4	6.7	100.0	100.0	0	0	0	0	0	0.0	0.0
				W24/F06	26.8	26.2	0.6	2.2				12	1	12	1	0.0	0.0
				W25/F06	9.6	9.6	0.0	0.0				14	0	14	0	0.0	0.0
	R15	RESIDENTIAL	BEDROOM	W23/F06	24.9	24.3	0.6	2.4	94.2	94.1	0						
	R16	RESIDENTIAL	BEDROOM	W26/F06	20.0	20.0	0.0	0.0	96.8	96.8	0						
	R17	RESIDENTIAL	BEDROOM	W27/F06	16.1	16.1	0.0	0.0	84.2	84.2	0						
	R18	RESIDENTIAL	BEDROOM	W28/F06	24.0	24.0	0.0	0.0	94.9	94.9	0						

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
THE NILE (CONTINUED)																	
F07	R1	RESIDENTIAL	LKD	W1/F07	33.8	33.8	0.0	0.0	100.0	100.0	0	47	14	47	14	0.0	0.0
				W2/F07	31.9	31.9	0.0	0.0				48	15	48	15	0.0	0.0
				W3/F07	32.2	30.5	1.7	5.3				13	0	13	0	0.0	0.0
				W4/F07	33.3	31.4	1.9	5.7				12	0	12	0	0.0	0.0
	R3	RESIDENTIAL	UNKNOWN	W8/F07	24.3	24.3	0.0	0.0	81.0	81.0	0						
	R4	RESIDENTIAL	UNKNOWN	W9/F07	24.2	23.5	0.7	2.9	71.6	71.6	0						
	R5	RESIDENTIAL	UNKNOWN	W10/F07	29.8	29.0	0.8	2.7	89.5	89.5	0						
	R6	RESIDENTIAL	UNKNOWN	W11/F07	23.8	23.8	0.0	0.0	91.2	91.2	0						
	R7	RESIDENTIAL	UNKNOWN	W12/F07	26.9	26.3	0.6	2.2	83.7	83.7	0						
	R8	RESIDENTIAL	BEDROOM	W13/F07	17.7	17.7	0.0	0.0	85.0	85.0	0						
	R9	RESIDENTIAL	BEDROOM	W14/F07	26.0	26.0	0.0	0.0	97.0	97.0	0						
30 CITY ROAD EAST																	
F01	R1	RESIDENTIAL	LKD	W1/F01	8.5	8.5	0.0	0.0	27.1	27.1	0						
	R2	RESIDENTIAL	BEDROOM	W2/F01	15.4	15.4	0.0	0.0	32.5	32.4	0						
	R3	RESIDENTIAL	BEDROOM	W3/F01	16.3	16.3	0.0	0.0	23.7	23.7	0						
	R4	RESIDENTIAL	BEDROOM	W4/F01	8.6	8.0	0.6	7.0	38.0	27.6	27.5						
	R5	RESIDENTIAL	BEDROOM	W5/F01	9.8	9.3	0.5	5.1	35.4	34.9	1.5						
F02	R1	RESIDENTIAL	LKD	W1/F02	11.1	10.9	0.2	1.8	36.2	36.2	0						
	R2	RESIDENTIAL	BEDROOM	W2/F02	18.4	18.2	0.2	1.1	41.4	41.3	0.2						
	R3	RESIDENTIAL	BEDROOM	W3/F02	19.4	19.1	0.3	1.5	32.1	32.0	0.2						
	R4	RESIDENTIAL	BEDROOM	W4/F02	9.9	9.2	0.7	7.1	47.4	37.9	20.1						
	R5	RESIDENTIAL	BEDROOM	W5/F02	11.4	10.8	0.6	5.3	47.4	47.4	0						
F03	R1	RESIDENTIAL	LKD	W1/F03	14.0	13.5	0.5	3.6	50.7	50.7	0						
	R2	RESIDENTIAL	BEDROOM	W2/F03	21.9	21.3	0.6	2.7	58.2	57.8	0.6						
	R3	RESIDENTIAL	BEDROOM	W3/F03	22.9	22.4	0.5	2.2	45.5	45.4	0.3						
	R4	RESIDENTIAL	BEDROOM	W4/F03	11.1	10.4	0.7	6.3	65.6	57.8	12						
	R5	RESIDENTIAL	BEDROOM	W5/F03	12.8	12.2	0.6	4.7	70.9	70.9	0						
F04	R1	RESIDENTIAL	LKD	W1/F04	16.5	15.8	0.7	4.2	69.3	69.3	0						
	R2	RESIDENTIAL	BEDROOM	W2/F04	25.0	24.2	0.8	3.2	92.0	92.0	0						
	R3	RESIDENTIAL	BEDROOM	W3/F04	26.2	25.4	0.8	3.1	73.0	73.0	0						
	R4	RESIDENTIAL	BEDROOM	W4/F04	12.5	11.6	0.9	7.2	84.4	79.8	5.5						
	R5	RESIDENTIAL	BEDROOM	W5/F04	14.6	13.8	0.8	5.5	84.6	84.6	0						
F05	R1	RESIDENTIAL	LKD	W1/F05	19.1	18.2	0.9	4.7	87.5	87.4	0						
	R2	RESIDENTIAL	BEDROOM	W2/F05	28.0	27.1	0.9	3.2	98.6	98.6	0						
	R3	RESIDENTIAL	BEDROOM	W3/F05	29.3	28.4	0.9	3.1	97.8	97.8	0						
	R4	RESIDENTIAL	BEDROOM	W4/F05	14.0	13.1	0.9	6.4	87.4	84.2	3.6						
	R5	RESIDENTIAL	BEDROOM	W5/F05	16.7	15.8	0.9	5.4	85.2	85.2	0						
F06	R1	RESIDENTIAL	LKD	W1/F06	21.4	20.5	0.9	4.2	91.8	91.8	0						
	R2	RESIDENTIAL	BEDROOM	W2/F06	29.7	28.8	0.9	3.0	98.1	98.2	0						
	R3	RESIDENTIAL	BEDROOM	W3/F06	30.9	29.9	1.0	3.2	98.3	98.3	0						
	R4	RESIDENTIAL	LKD	W4/F06	15.6	14.6	1.0	6.4	71.0	70.2	1.1						
				W5/F06	19.8	18.8	1.0	5.1									
F07	R1	RESIDENTIAL	LKD	W1/F07	24.8	23.9	0.9	3.6	91.7	91.7	0						
	R2	RESIDENTIAL	BEDROOM	W2/F07	27.1	26.2	0.9	3.3	98.1	98.1	0						
	R3	RESIDENTIAL	BEDROOM	W3/F07	28.3	27.3	1.0	3.5	98.6	98.6	0						

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
30 CITY ROAD EAST (CONTINUED)																	
F07	R4	RESIDENTIAL	LKD	W4/F07	16.0	15.1	0.9	5.6	94.3	94.2	0						
				W5/F07	11.0	10.4	0.6	5.5									
				W6/F07	27.3	26.3	1.0	3.7									
14 ALBION STREET																	
F01	R1	RESIDENTIAL	UNKNOWN	W1/F01	12.0	6.6	5.4	45.0	87.4	62.9	28						
	R2	RESIDENTIAL	UNKNOWN	W2/F01	27.6	5.5	22.1	80.1	83.2	33.2	60.2						
	R3	RESIDENTIAL	UNKNOWN	W3/F01	28.0	2.5	25.5	91.1	97.6	26.7	72.7						
				W4/F01	28.1	1.7	26.4	94.0									
	R4	RESIDENTIAL	UNKNOWN	W5/F01	17.5	9.1	8.4	48.0	60.9	49.1	19.4						
F02	R1	RESIDENTIAL	UNKNOWN	W1/F02	26.4	15.0	11.4	43.2	92.3	62.3	32.5						
F03	R1	RESIDENTIAL	UNKNOWN	W1/F03	17.8	9.3	8.5	47.8	55.7	43.6	21.7						
THE HACIENDA																	
F01	R1	RESIDENTIAL	UNKNOWN	W1/F01	4.5	4.5	0.0	0.0	67.8	67.8	0	10	3	10	3	0.0	0.0
	R2	RESIDENTIAL	UNKNOWN	W2/F01	18.7	18.7	0.0	0.0	100.0	98.9	1						
				W3/F01	14.7	9.6	5.1	34.7									
				W4/F01	25.6	20.0	5.6	21.9									
	R3	RESIDENTIAL	UNKNOWN	W5/F01	26.9	20.9	6.0	22.3	92.2	91.0	1.3	44	9	37	9	15.9	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F01	27.8	22.0	5.8	20.9	95.1	93.5	1.7	48	9	41	9	14.6	0.0
	R5	RESIDENTIAL	BEDROOM	W7/F01	28.6	22.9	5.7	19.9	92.5	90.0	2.7	53	10	44	10	17.0	0.0
	R6	RESIDENTIAL	LKD	W8/F01	29.0	24.1	4.9	16.9	100.0	99.7	0.3	58	12	49	12	15.5	0.0
				W9/F01	28.8	25.1	3.7	12.8				62	12	54	12	12.9	0.0
				W10/F01	28.6	25.3	3.3	11.5				64	13	57	13	10.9	0.0
				W11/F01	28.4	25.4	3.0	10.6				65	13	58	13	10.8	0.0
				W12/F01	18.0	18.0	0.0	0.0				43	14	43	14	0.0	0.0
				W14/F01	2.5	2.5	0.0	0.0				10	4	10	4	0.0	0.0
F02	R1	RESIDENTIAL	UNKNOWN	W1/F02	4.9	4.9	0.0	0.0	71.0	71.0	0	10	3	10	3	0.0	0.0
	R2	RESIDENTIAL	UNKNOWN	W2/F02	22.4	22.4	0.0	0.0	100.0	98.9	1						
				W3/F02	15.1	9.9	5.2	34.4									
				W4/F02	26.2	20.5	5.7	21.8									
	R3	RESIDENTIAL	UNKNOWN	W5/F02	27.4	21.4	6.0	21.9	92.2	91.1	1.2	44	9	37	9	15.9	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F02	28.4	22.5	5.9	20.8	95.2	93.6	1.7	49	10	42	10	14.3	0.0
	R5	RESIDENTIAL	BEDROOM	W7/F02	29.3	23.5	5.8	19.8	92.4	89.9	2.7	54	11	45	11	16.7	0.0
	R6	RESIDENTIAL	LKD	W8/F02	29.8	24.7	5.1	17.1	100.0	99.9	0.1	59	13	50	13	15.3	0.0
				W9/F02	29.7	25.9	3.8	12.8				63	13	55	13	12.7	0.0
				W10/F02	29.6	26.2	3.4	11.5				65	14	58	14	10.8	0.0
				W11/F02	29.4	26.3	3.1	10.5				66	14	59	14	10.6	0.0
				W12/F02	19.0	19.0	0.0	0.0				44	14	44	14	0.0	0.0
				W14/F02	2.6	2.6	0.0	0.0				10	4	10	4	0.0	0.0
F03	R1	RESIDENTIAL	UNKNOWN	W1/F03	5.3	5.3	0.0	0.0	75.4	75.4	0	10	3	10	3	0.0	0.0
	R2	RESIDENTIAL	UNKNOWN	W2/F03	25.9	25.9	0.0	0.0	100.0	98.9	1						
				W3/F03	15.4	10.2	5.2	33.8									
				W4/F03	26.7	20.9	5.8	21.7									
	R3	RESIDENTIAL	UNKNOWN	W5/F03	27.8	21.7	6.1	21.9	92.3	91.1	1.3	45	10	38	10	15.6	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F03	28.9	22.9	6.0	20.8	95.3	93.7	1.6	49	10	42	10	14.3	0.0
	R5	RESIDENTIAL	BEDROOM	W7/F03	29.8	24.0	5.8	19.5	92.8	90.3	2.7	55	12	46	12	16.4	0.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
THE HACIENDA (CONTINUED)																	
F03	R6	RESIDENTIAL	LKD	W8/F03	30.5	25.3	5.2	17.0	100.0	99.9	0	60	14	51	14	15.0	0.0
				W9/F03	30.5	26.7	3.8	12.5				63	13	55	13	12.7	0.0
				W10/F03	30.4	27.0	3.4	11.2				65	14	58	14	10.8	0.0
				W11/F03	30.3	27.1	3.2	10.6				66	14	59	14	10.6	0.0
				W12/F03	19.9	19.9	0.0	0.0				45	15	45	15	0.0	0.0
				W14/F03	2.7	2.7	0.0	0.0				10	4	10	4	0.0	0.0
F04	R1	RESIDENTIAL	UNKNOWN	W1/F04	5.7	5.7	0.0	0.0	81.2	81.2	0	11	4	11	4	0.0	0.0
	R2	RESIDENTIAL	UNKNOWN	W2/F04	29.5	29.5	0.0	0.0	100.0	98.9	1						
				W3/F04	15.7	10.5	5.2	33.1									
				W4/F04	27.1	21.3	5.8	21.4									
	R3	RESIDENTIAL	UNKNOWN	W5/F04	28.2	22.0	6.2	22.0	92.3	91.2	1.3	45	10	38	10	15.6	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F04	29.3	23.3	6.0	20.5	95.3	93.7	1.6	50	11	43	11	14.0	0.0
	R5	RESIDENTIAL	BEDROOM	W7/F04	30.4	24.5	5.9	19.4	92.7	90.3	2.6	55	12	46	12	16.4	0.0
	R6	RESIDENTIAL	LKD	W8/F04	31.1	25.9	5.2	16.7	100.0	99.9	0	60	14	51	14	15.0	0.0
				W9/F04	31.3	27.4	3.9	12.5				64	14	56	14	12.5	0.0
				W10/F04	31.3	27.7	3.6	11.5				65	14	58	14	10.8	0.0
				W11/F04	31.1	27.9	3.2	10.3				66	14	59	14	10.6	0.0
				W12/F04	20.8	20.8	0.0	0.0				45	15	45	15	0.0	0.0
				W14/F04	2.7	2.7	0.0	0.0				10	4	10	4	0.0	0.0
F05	R1	RESIDENTIAL	UNKNOWN	W1/F05	6.1	6.1	0.0	0.0	88.6	88.6	0	11	4	11	4	0.0	0.0
	R2	RESIDENTIAL	UNKNOWN	W2/F05	31.7	31.7	0.0	0.0	100.0	98.9	1.1						
				W3/F05	15.8	10.6	5.2	32.9									
				W4/F05	27.5	21.7	5.8	21.1									
	R3	RESIDENTIAL	UNKNOWN	W5/F05	28.5	22.4	6.1	21.4	92.4	91.3	1.2	46	11	39	11	15.2	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F05	29.8	23.6	6.2	20.8	95.6	94.0	1.6	50	11	43	11	14.0	0.0
	R5	RESIDENTIAL	BEDROOM	W7/F05	30.8	24.9	5.9	19.2	92.9	90.5	2.5	56	13	47	13	16.1	0.0
	R6	RESIDENTIAL	LKD	W8/F05	31.7	26.4	5.3	16.7	100.0	99.9	0	61	15	52	15	14.8	0.0
				W9/F05	32.0	28.1	3.9	12.2				64	14	56	14	12.5	0.0
				W10/F05	32.0	28.5	3.5	10.9				66	15	59	15	10.6	0.0
				W11/F05	31.9	28.7	3.2	10.0				67	15	60	15	10.4	0.0
				W12/F05	21.7	21.7	0.0	0.0				46	16	46	16	0.0	0.0
				W14/F05	2.8	2.8	0.0	0.0				11	5	11	5	0.0	0.0
F06	R1	RESIDENTIAL	UNKNOWN	W1/F06	6.7	6.7	0.0	0.0	94.8	94.8	0	12	5	12	5	0.0	0.0
	R2	RESIDENTIAL	UNKNOWN	W2/F06	32.6	32.6	0.0	0.0	100.0	99.0	1						
				W3/F06	16.0	10.7	5.3	33.1									
				W4/F06	27.8	21.9	5.9	21.2									
	R3	RESIDENTIAL	UNKNOWN	W5/F06	28.8	22.7	6.1	21.2	92.7	91.6	1.2	46	11	39	11	15.2	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F06	30.1	24.0	6.1	20.3	95.3	93.7	1.7	51	12	44	12	13.7	0.0
	R5	RESIDENTIAL	BEDROOM	W7/F06	31.2	25.4	5.8	18.6	92.8	90.5	2.4	57	14	48	14	15.8	0.0
	R6	RESIDENTIAL	LKD	W8/F06	32.2	27.0	5.2	16.1	100.0	99.9	0	61	15	52	15	14.8	0.0
				W9/F06	32.7	28.8	3.9	11.9				66	15	58	15	12.1	0.0
				W10/F06	32.8	29.2	3.6	11.0				69	17	62	17	10.1	0.0
				W11/F06	32.7	29.5	3.2	9.8				70	17	63	17	10.0	0.0
				W12/F06	22.6	22.6	0.0	0.0				47	17	47	17	0.0	0.0
				W14/F06	2.9	2.9	0.0	0.0				12	6	12	6	0.0	0.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
THE HACIENDA (CONTINUED)																	
F07	R1	RESIDENTIAL	UNKNOWN	W1/F07	7.4	7.4	0.0	0.0	95.4	95.4	0	13	6	13	6	0.0	0.0
	R2	RESIDENTIAL	UNKNOWN	W2/F07	33.2	33.2	0.0	0.0	100.0	99.0	1						
				W3/F07	16.1	10.8	5.3	32.9									
				W4/F07	28.0	22.2	5.8	20.7									
	R3	RESIDENTIAL	UNKNOWN	W5/F07	29.1	22.9	6.2	21.3	93.0	91.9	1.2	47	12	40	12	14.9	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F07	30.4	24.3	6.1	20.1	95.4	93.9	1.6	53	13	46	13	13.2	0.0
	R5	RESIDENTIAL	BEDROOM	W7/F07	31.6	25.8	5.8	18.4	93.0	90.6	2.5	58	14	49	14	15.5	0.0
	R6	RESIDENTIAL	LKD	W8/F07	32.7	27.5	5.2	15.9	100.0	99.9	0	63	16	54	16	14.3	0.0
				W9/F07	33.4	29.4	4.0	12.0				69	18	61	18	11.6	0.0
				W10/F07	33.5	29.9	3.6	10.7				71	19	64	19	9.9	0.0
				W11/F07	33.5	30.3	3.2	9.6				72	19	65	19	9.7	0.0
				W12/F07	23.5	23.5	0.0	0.0				50	20	50	20	0.0	0.0
				W14/F07	3.0	3.0	0.0	0.0				13	7	13	7	0.0	0.0
F08	R1	RESIDENTIAL	UNKNOWN	W1/F08	9.1	9.1	0.0	0.0	97.7	97.7	0	16	7	16	7	0.0	0.0
	R2	RESIDENTIAL	UNKNOWN	W2/F08	33.7	33.7	0.0	0.0	100.0	98.9	1						
				W3/F08	14.5	9.6	4.9	33.8									
				W4/F08	28.3	22.5	5.8	20.5									
	R3	RESIDENTIAL	UNKNOWN	W5/F08	29.4	23.2	6.2	21.1	91.1	90.0	1.3	47	12	40	12	14.9	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F08	30.7	24.7	6.0	19.5	94.3	92.7	1.7	54	14	47	14	13.0	0.0
	R5	RESIDENTIAL	BEDROOM	W7/F08	32.0	26.2	5.8	18.1	93.0	90.7	2.4	60	16	51	16	15.0	0.0
	R6	RESIDENTIAL	LKD	W8/F08	33.2	28.0	5.2	15.7	100.0	99.9	0.1	66	19	57	19	13.6	0.0
				W9/F08	34.0	30.1	3.9	11.5				71	19	63	19	11.3	0.0
				W10/F08	34.2	30.6	3.6	10.5				73	20	66	20	9.6	0.0
				W11/F08	34.2	31.0	3.2	9.4				74	20	67	20	9.5	0.0
				W12/F08	25.7	25.7	0.0	0.0				55	21	55	21	0.0	0.0
				W14/F08	3.3	3.3	0.0	0.0				18	9	18	9	0.0	0.0
F09	R1	RESIDENTIAL	UNKNOWN	W1/F09	34.2	34.2	0.0	0.0	99.9	99.7	0.2						
				W2/F09	16.3	11.2	5.1	31.3									
	R2	RESIDENTIAL	UNKNOWN	W3/F09	20.1	14.7	5.4	26.9	89.7	89.7	0	27	6	18	5	33.3	16.7
				W4/F09	21.1	15.4	5.7	27.0				27	6	20	6	25.9	0.0
	R3	RESIDENTIAL	UNKNOWN	W5/F09	22.5	16.9	5.6	24.9	75.8	75.8	0	39	13	32	13	17.9	0.0
	R4	RESIDENTIAL	UNKNOWN	W6/F09	24.1	18.8	5.3	22.0	95.4	95.4	0	43	9	34	9	20.9	0.0
				W7/F09	31.7	30.6	1.1	3.5				67	20	58	20	13.4	0.0
				W8/F09	4.9	4.9	0.0	0.0				24	11	24	11	0.0	0.0
	R6	RESIDENTIAL	UNKNOWN	W10/F09	18.9	18.9	0.0	0.0	91.2	91.2	0	35	15	35	15	0.0	0.0
F10	R1	RESIDENTIAL	UNKNOWN	W1/F10	31.7	31.7	0.0	0.0	100.0	100.0	0						
				W2/F10	27.8	22.8	5.0	18.0									
	R2	RESIDENTIAL	UNKNOWN	W3/F10	23.5	18.5	5.0	21.3	94.4	94.4	0						
	R3	RESIDENTIAL	UNKNOWN	W4/F10	23.8	18.6	5.2	21.8	98.7	98.7	0	43	9	34	9	20.9	0.0
				W5/F10	32.0	30.8	1.2	3.8				68	21	59	21	13.2	0.0
				W6/F10	4.9	4.9	0.0	0.0				25	12	25	12	0.0	0.0
	R5	RESIDENTIAL	UNKNOWN	W8/F10	19.4	19.4	0.0	0.0	91.2	91.2	0	35	15	35	15	0.0	0.0
F11	R3	RESIDENTIAL	UNKNOWN	W8/F11	20.2	20.2	0.0	0.0	91.3	91.3	0	35	15	35	15	0.0	0.0
	R4	RESIDENTIAL	UNKNOWN	W4/F11	19.7	14.6	5.1	25.9	98.7	98.7	0	37	9	28	9	24.3	0.0
				W5/F11	28.4	27.7	0.7	2.5				67	21	59	21	11.9	0.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
THE HACIENDA (CONTINUED)																	
F11	R4	RESIDENTIAL	UNKNOWN	W6/F11	3.9	3.9	0.0	0.0	98.7	98.7	0	21	12	21	12	0.0	0.0
	R5	RESIDENTIAL	UNKNOWN	W3/F11	24.0	18.8	5.2	21.7	94.9	94.9	0						
	R18	RESIDENTIAL	UNKNOWN	W1/F11	26.8	26.8	0.0	0.0	100.0	100.0	0						
				W2/F11	15.4	11.8	3.6	23.4									
326-330 DEANSGATE																	
F00	R1	RESIDENTIAL	EDUCATIONAL	W3/F00	15.3	14.9	0.4	2.6	100.0	100.0	0	34	5	34	5	0.0	0.0
				W6/F00	8.8	8.6	0.2	2.3				24	5	24	5	0.0	0.0
				W7/F00	7.8	7.5	0.3	3.8				22	2	22	2	0.0	0.0
				W8/F00	15.5	15.0	0.5	3.2				33	4	33	4	0.0	0.0
				W22/F00	20.7	20.5	0.2	1.0				49	4	49	4	0.0	0.0
				W23/F00	20.6	20.3	0.3	1.5				49	5	49	5	0.0	0.0
				W24/F00	3.9	3.4	0.5	12.8				5	3	5	3	0.0	0.0
				W25/F00	13.2	12.7	0.5	3.8				30	4	30	4	0.0	0.0
				W26/F00	12.9	12.4	0.5	3.9				30	5	30	5	0.0	0.0
				W27/F00	17.4	17.0	0.4	2.3				20	2	20	2	0.0	0.0
				W28/F00	18.5	18.4	0.1	0.5				25	5	23	3	8.0	40.0
	R2	RESIDENTIAL	UNKNOWN	W20/F00	5.5	5.5	0.0	0.0	36.2	36.2	0	18	1	18	1	0.0	0.0
				W21/F00	21.7	21.5	0.2	0.9				53	5	53	5	0.0	0.0
F01	R1	RESIDENTIAL	UNKNOWN	W1/F01	20.0	19.5	0.5	2.5	100.0	100.0	0	20	4	19	3	5.0	25.0
				W2/F01	13.1	12.5	0.6	4.6				20	4	19	3	5.0	25.0
				W3/F01	16.6	16.1	0.5	3.0				35	8	34	7	2.9	12.5
				W4/F01	19.0	18.3	0.7	3.7				39	9	38	8	2.6	11.1
				W5/F01	25.1	24.8	0.3	1.2				53	10	53	10	0.0	0.0
				W7/F01	25.4	25.0	0.4	1.6				54	10	54	10	0.0	0.0
	R2**	RESIDENTIAL	UNKNOWN	W6/F01	22.4	22.4	0.0	0.0	85.7	85.3	0.4	45	8	45	8	0.0	0.0
				W8/F01	20.8	20.8	0.0	0.0				41	8	41	8	0.0	0.0
				W9/F01	25.6	25.3	0.3	1.2				55	11	55	11	0.0	0.0
THE ROPEWORKS																	
F01	R1	RESIDENTIAL	LKD	W1/F01	12.2	6.3	5.9	48.4	84.4	62.2	26.3	14	6	14	6	0.0	0.0
				W2/F01	15.6	9.5	6.1	39.1				17	6	17	6	0.0	0.0
				W3/F01	18.4	13.3	5.1	27.7				8	0	8	0	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W4/F01	18.8	14.1	4.7	25.0	80.6	79.7	1	6	0	6	0	0.0	0.0
				W5/F01	8.2	8.2	0.0	0.0				4	0	4	0	0.0	0.0
F02	R1	RESIDENTIAL	LKD	W1/F02	14.2	7.6	6.6	46.5	97.9	95.9	2.1	14	6	14	6	0.0	0.0
				W2/F02	17.8	10.8	7.0	39.3				18	6	18	6	0.0	0.0
				W3/F02	22.9	16.9	6.0	26.2				10	0	10	0	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W4/F02	23.6	18.2	5.4	22.9	99.2	98.7	0.5	10	0	10	0	0.0	0.0
				W5/F02	26.3	26.3	0.0	0.0				30	0	30	0	0.0	0.0
F03	R1	RESIDENTIAL	LKD	W1/F03	16.0	9.3	6.7	41.9	99.1	98.9	0.2	17	6	17	6	0.0	0.0
				W2/F03	19.6	12.3	7.3	37.2				21	6	20	6	4.8	0.0
				W3/F03	25.0	18.6	6.4	25.6				12	0	11	0	8.3	0.0
	R2	RESIDENTIAL	BEDROOM	W4/F03	25.2	19.6	5.6	22.2	99.6	99.2	0.4	12	0	11	0	8.3	0.0
				W5/F03	29.7	29.7	0.0	0.0				37	2	37	2	0.0	0.0
F04	R1	RESIDENTIAL	LKD	W1/F04	17.4	11.0	6.4	36.8	98.0	97.7	0.4	18	6	17	6	5.6	0.0
				W2/F04	20.9	13.7	7.2	34.4				22	6	21	6	4.5	0.0

* Inclined Windows, ** Rooms deeper than 5m, *** Kitchens less than 13sqm

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
THE ROPEWORKS (CONTINUED)																	
F04	R1	RESIDENTIAL	LKD	W3/F04	24.7	18.1	6.6	26.7	98.0	97.7	0.4	9	0	8	0	11.1	0.0
	R2	RESIDENTIAL	BEDROOM	W4/F04	23.4	18.0	5.4	23.1	97.6	96.5	1.1	11	0	10	0	9.1	0.0
				W5/F04	29.9	29.9	0.0	0.0				37	6	37	6	0.0	0.0
21 LITTLE PETER STREET																	
F01	R1	RESIDENTIAL	UNKNOWN	W1/F01	12.6	12.6	0.0	0.0	97.9	97.9	0	18	2	18	2	0.0	0.0
				W12/F01	21.4	21.4	0.0	0.0				49	7	49	7	0.0	0.0
	R2	RESIDENTIAL	UNKNOWN	W2/F01	12.1	11.9	0.2	1.7	79.5	56.8	28.5						
				W3/F01	14.4	11.9	2.5	17.4									
	R3	RESIDENTIAL	UNKNOWN	W4/F01	18.2	14.9	3.3	18.1	95.2	95.2	0						
				W5/F01	19.7	16.8	2.9	14.7									
	R4	RESIDENTIAL	UNKNOWN	W6/F01	20.4	18.0	2.4	11.8	99.6	99.6	0						
				W7/F01	21.5	18.7	2.8	13.0									
	R5	RESIDENTIAL	UNKNOWN	W8/F01	19.8	19.0	0.8	4.0	45.8	45.8	0						
	R6	RESIDENTIAL	UNKNOWN	W9/F01	20.0	19.4	0.6	3.0	46.1	46.1	0						
	R7	RESIDENTIAL	UNKNOWN	W10/F01	20.0	19.3	0.7	3.5	59.4	59.2	0.4						
				W11/F01	19.8	19.2	0.6	3.0									
F02	R1	RESIDENTIAL	UNKNOWN	W1/F02	14.4	14.3	0.1	0.7	90.8	90.8	0	20	2	20	2	0.0	0.0
				W16/F02	22.2	22.2	0.0	0.0				51	7	51	7	0.0	0.0
	R2	RESIDENTIAL	UNKNOWN	W2/F02	13.9	13.7	0.2	1.4	75.5	49.6	34.4						
				W3/F02	16.4	13.9	2.5	15.2									
	R3	RESIDENTIAL	UNKNOWN	W4/F02	20.2	16.7	3.5	17.3	91.7	91.4	0.3						
				W5/F02	22.2	18.6	3.6	16.2									
	R4	RESIDENTIAL	UNKNOWN	W6/F02	24.4	20.8	3.6	14.8	99.7	98.1	1.6						
				W7/F02	25.9	22.2	3.7	14.3									
	R5	RESIDENTIAL	UNKNOWN	W8/F02	26.5	22.8	3.7	14.0	94.3	91.1	3.4						
				W9/F02	27.2	23.5	3.7	13.6									
				W10/F02	22.7	21.9	0.8	3.5									
	R6	RESIDENTIAL	UNKNOWN	W11/F02	22.5	22.0	0.5	2.2	20.0	20.0	0						
	R7	RESIDENTIAL	UNKNOWN	W12/F02	23.8	23.1	0.7	2.9	52.6	52.6	0						
				W13/F02	23.7	23.0	0.7	3.0									
				W14/F02	23.6	22.9	0.7	3.0									
				W15/F02	23.2	22.6	0.6	2.6									
F03	R1	RESIDENTIAL	UNKNOWN	W1/F03	17.5	16.7	0.8	4.6	95.8	95.8	0	18	3	18	3	0.0	0.0
				W11/F03	24.3	24.3	0.0	0.0				56	11	56	11	0.0	0.0
	R2	RESIDENTIAL	UNKNOWN	W2/F03	20.3	18.6	1.7	8.4	98.2	95.2	3.1						
	R3	RESIDENTIAL	UNKNOWN	W3/F03	24.8	21.2	3.6	14.5	98.2	97.9	0.3						
	R4	RESIDENTIAL	UNKNOWN	W4/F03	28.3	24.5	3.8	13.4	98.7	98.3	0.4						
	R5	RESIDENTIAL	UNKNOWN	W5/F03	26.3	25.6	0.7	2.7	78.5	78.5	0						
				W6/F03	26.3	25.4	0.9	3.4									
	R6	RESIDENTIAL	UNKNOWN	W7/F03	26.2	25.8	0.4	1.5	78.3	78.3	0						
				W8/F03	26.4	25.7	0.7	2.7									
	R7	RESIDENTIAL	UNKNOWN	W9/F03	27.1	26.5	0.6	2.2	96.4	96.4	0						
				W10/F03	26.8	26.1	0.7	2.6									
F04	R1	RESIDENTIAL	UNKNOWN	W1/F04	28.3	27.5	0.8	2.8	69.4	69.4	0						
				W2/F04	25.3	24.5	0.8	3.2									

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
21 LITTLE PETER STREET (CONTINUED)																	
F04	R1	RESIDENTIAL	UNKNOWN	W3/F04	26.6	26.6	0.0	0.0	69.4	69.4	0						
				W4/F04	28.5	28.4	0.1	0.4									
8-16 BRIDGEWATER ST																	
F00	R1	RESIDENTIAL	LIVING ROOM	W1/F00	8.0	8.0	0.0	0.0	78.5	78.5	0	21	6	21	6	0.0	0.0
				W2/F00	6.8	6.8	0.0	0.0				24	1	24	1	0.0	0.0
				W3/F00	0.0	0.0	0.0	0.0				0	0	0	0	0.0	0.0
				W4/F00	17.9	17.9	0.0	0.0				28	6	28	6	0.0	0.0
F01	R1	RESIDENTIAL	LIVING ROOM	W1/F01	24.3	24.3	0.0	0.0	91.9	91.9	0	56	8	56	8	0.0	0.0
				W2/F01	19.1	19.1	0.0	0.0				30	8	30	8	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F01	19.1	19.1	0.0	0.0	88.8	88.8	0	35	10	35	10	0.0	0.0
F02	R1	RESIDENTIAL	LIVING ROOM	W1/F02	28.1	28.1	0.0	0.0	96.5	96.5	0	66	14	66	14	0.0	0.0
				W2/F02	20.6	20.6	0.0	0.0				33	10	33	10	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F02	20.3	20.3	0.0	0.0	88.3	88.3	0	35	10	35	10	0.0	0.0
F03	R1	RESIDENTIAL	LIVING ROOM	W1/F03	25.4	25.4	0.0	0.0	87.1	87.1	0	53	18	53	18	0.0	0.0
	R2	RESIDENTIAL	KITCHEN***	W2/F03	20.1	20.1	0.0	0.0	88.6	88.6	0	28	9	28	9	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W3/F03	20.5	20.5	0.0	0.0	99.4	99.4	0	29	9	29	9	0.0	0.0
20 SOUTHERN ST																	
F00	R1	RESIDENTIAL	UNKNOWN	W3/F00	17.1	17.1	0.0	0.0	73.0	73.0	0	29	9	29	9	0.0	0.0
	R2	RESIDENTIAL	UNKNOWN	W1/F00	17.4	17.4	0.0	0.0	91.3	91.3	0	31	10	31	10	0.0	0.0
				W2/F00	17.7	17.7	0.0	0.0				32	9	32	9	0.0	0.0
F01	R1	RESIDENTIAL	UNKNOWN	W1/F01	18.9	18.9	0.0	0.0	81.0	81.0	0	33	10	33	10	0.0	0.0
	R2	RESIDENTIAL	UNKNOWN	W2/F01	18.5	18.5	0.0	0.0	88.6	88.6	0	30	10	30	10	0.0	0.0
F02	R1**	RESIDENTIAL	UNKNOWN	W1/F02	20.2	20.2	0.0	0.0	60.7	60.7	0	34	10	34	10	0.0	0.0
	R2**	RESIDENTIAL	UNKNOWN	W2/F02	19.8	19.8	0.0	0.0	63.1	63.1	0	30	10	30	10	0.0	0.0
F03	R1	RESIDENTIAL	UNKNOWN	W1/F03*	80.9	80.9	0.0	0.0	99.2	99.2	0	60	6	60	6	0.0	0.0
				W2/F03*	83.9	83.9	0.0	0.0				76	20	76	20	0.0	0.0
	R2	RESIDENTIAL	UNKNOWN	W3/F03	18.6	18.6	0.0	0.0	76.3	76.3	0	25	9	25	9	0.0	0.0
	R3	RESIDENTIAL	UNKNOWN	W4/F03	18.5	18.5	0.0	0.0	75.3	75.3	0	24	9	24	9	0.0	0.0
18-12 SOUTHERN ST																	
F01	R1**	RESIDENTIAL	LIVING ROOM	W1/F01	17.9	17.9	0.0	0.0	49.6	49.6	0	25	7	25	7	0.0	0.0
				W2/F01	17.3	17.3	0.0	0.0				29	7	29	7	0.0	0.0
	R2	RESIDENTIAL	UNKNOWN	W4/F01	16.9	16.9	0.0	0.0	71.4	71.4	0	29	7	29	7	0.0	0.0
	R3	RESIDENTIAL	UNKNOWN	W3/F01	14.6	14.6	0.0	0.0	41.5	41.5	0	24	6	24	6	0.0	0.0
F02	R1	RESIDENTIAL	BEDROOM	W1/F02	19.8	19.8	0.0	0.0	49.5	49.5	0	29	7	29	7	0.0	0.0
	R2	RESIDENTIAL	UNKNOWN	W2/F02	19.6	19.6	0.0	0.0	71.7	71.7	0	31	7	31	7	0.0	0.0
				W5/F02	19.3	19.3	0.0	0.0				30	7	30	7	0.0	0.0
	R3	RESIDENTIAL	UNKNOWN	W3/F02	18.4	18.4	0.0	0.0	40.6	40.6	0	29	7	29	7	0.0	0.0
8-10 SOUTHERN ST																	
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	11.1	11.1	0.0	0.0	23.0	23.0	0	20	3	20	3	0.0	0.0
	R2**	RESIDENTIAL	BEDROOM	W2/F01	13.2	13.2	0.0	0.0	43.9	43.9	0	23	6	23	6	0.0	0.0
F02	R1	RESIDENTIAL	BEDROOM	W1/F02	14.7	14.7	0.0	0.0	45.4	45.4	0	26	4	26	4	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W2/F02	17.2	17.2	0.0	0.0	65.7	65.7	0	29	7	29	7	0.0	0.0
F03	R1	RESIDENTIAL	LKD	W1/F03	18.5	18.5	0.0	0.0	98.7	98.7	0	33	9	33	9	0.0	0.0
				W4/F03	9.9	9.9	0.0	0.0				11	3	11	3	0.0	0.0

* Inclined Windows, ** Rooms deeper than 5m, *** Kitchens less than 13sqm

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
8-10 SOUTHERN ST (CONTINUED)																	
F03	R1	RESIDENTIAL	LKD	W7/F03*	91.8	91.8	0.0	0.0	98.7	98.7	0	81	18	81	18	0.0	0.0
				W8/F03	33.7	33.7	0.0	0.0				74	17	74	17	0.0	0.0
	R2	RESIDENTIAL	LKD	W2/F03	19.6	19.6	0.0	0.0	96.9	96.9	0	32	9	32	9	0.0	0.0
				W3/F03	3.4	3.4	0.0	0.0				10	2	10	2	0.0	0.0
				W5/F03	31.5	31.5	0.0	0.0				7	0	7	0	0.0	0.0
				W6/F03*	91.4	91.4	0.0	0.0				79	14	79	14	0.0	0.0
DEANSGATE QUAY																	
B01	R1	RESIDENTIAL	UNKNOWN	W1/B01	12.4	12.2	0.2	1.6	97.5	97.4	0.1	18	0	18	0	0.0	0.0
				W2/B01	11.7	11.6	0.1	0.9				17	1	17	1	0.0	0.0
				W3/B01	11.6	11.5	0.1	0.9				18	1	18	1	0.0	0.0
				W4/B01	12.2	12.2	0.0	0.0				16	0	16	0	0.0	0.0
				W5/B01	19.8	19.5	0.3	1.5				6	0	6	0	0.0	0.0
				W5/F00	15.8	15.8	0.0	0.0				21	0	21	0	0.0	0.0
				W6/B01	16.8	16.8	0.0	0.0				10	0	10	0	0.0	0.0
				W7/B01	19.2	19.2	0.0	0.0				18	0	18	0	0.0	0.0
				W8/B01	30.6	30.6	0.0	0.0				17	0	17	0	0.0	0.0
F00	R1	RESIDENTIAL	LKD	W1/F00	7.0	6.9	0.1	1.4	47.9	47.9	0	16	1	16	1	0.0	0.0
	R2**	RESIDENTIAL	LKD	W2/F00	8.1	8.0	0.1	1.2	87.0	86.8	0.1	16	2	16	2	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W3/F00	9.8	9.7	0.1	1.0	89.3	89.3	0	14	3	14	3	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W4/F00	19.1	19.0	0.1	0.5	88.5	88.5	0	27	3	27	3	0.0	0.0
	R5	RESIDENTIAL	LOBBY	W5/B01 (dup)	19.8	19.5	0.3	1.5	96.4	96.3	0	6	0	6	0	0.0	0.0
				W5/F00 (dup)	15.8	15.8	0.0	0.0				21	0	21	0	0.0	0.0
				W6/F00	5.2	5.2	0.0	0.0				0	0	0	0	0.0	0.0
	R7	RESIDENTIAL	LKD	W10/F00	23.6	23.0	0.6	2.5	97.7	97.7	0						
				W11/F00	24.0	23.4	0.6	2.5									
				W12/F00	31.3	31.3	0.0	0.0									
F01	R1	RESIDENTIAL	LKD	W1/F01	2.5	2.5	0.0	0.0	84.3	84.3	0	15	2	15	2	0.0	0.0
				W2/F01	20.2	19.8	0.4	2.0				33	4	33	4	0.0	0.0
	R2	RESIDENTIAL	LKD	W3/F01	21.5	21.2	0.3	1.4	90.5	90.5	0	31	2	31	2	0.0	0.0
				W4/F01	7.8	7.3	0.5	6.4				17	2	17	2	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W5/F01	13.5	13.3	0.2	1.5	97.9	97.9	0	24	3	24	3	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F01	21.9	21.7	0.2	0.9	95.5	95.5	0	34	4	34	4	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W7/F01	22.0	21.8	0.2	0.9	92.6	92.6	0	33	3	33	3	0.0	0.0
	R6	RESIDENTIAL	LKD	W8/F01	20.4	20.3	0.1	0.5	96.2	96.2	0	29	2	29	2	0.0	0.0
				W9/F01	23.4	23.2	0.2	0.9				9	0	9	0	0.0	0.0
				W10/F01	22.6	21.7	0.9	4.0				14	0	13	0	7.1	0.0
	R7	RESIDENTIAL	UNKNOWN	W11/F01	5.7	5.7	0.0	0.0	79.0	79.0	0						
	R9	RESIDENTIAL	LKD	W13/F01	26.1	25.5	0.6	2.3	99.1	99.1	0						
				W14/F01	26.6	26.0	0.6	2.3									
				W15/F01	33.2	33.2	0.0	0.0									
F02	R1	RESIDENTIAL	LKD	W1/F02	2.7	2.7	0.0	0.0	84.8	84.8	0	17	2	17	2	0.0	0.0
				W2/F02	22.1	21.7	0.4	1.8				37	4	36	4	2.7	0.0
	R2	RESIDENTIAL	LKD	W3/F02	23.5	23.1	0.4	1.7	90.6	90.6	0	38	4	38	4	0.0	0.0
				W4/F02	9.4	8.6	0.8	8.5				19	2	19	2	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W5/F02	15.7	15.4	0.3	1.9	98.0	98.0	0	29	5	29	5	0.0	0.0

* Inclined Windows, ** Rooms deeper than 5m, *** Kitchens less than 13sqm

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
DEANSGATE QUAY (CONTINUED)																	
F02	R4	RESIDENTIAL	BEDROOM	W6/F02	24.3	23.9	0.4	1.6	98.4	98.4	0	36	5	36	5	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W7/F02	24.9	24.6	0.3	1.2	94.6	94.6	0	38	5	38	5	0.0	0.0
	R6	RESIDENTIAL	LKD	W8/F02	24.4	24.1	0.3	1.2	96.9	96.9	0	37	3	37	3	0.0	0.0
				W9/F02	26.7	26.1	0.6	2.2				14	0	14	0	0.0	0.0
				W10/F02	24.9	24.0	0.9	3.6				18	2	17	2	5.6	0.0
	R7	RESIDENTIAL	UNKNOWN	W11/F02	6.1	6.1	0.0	0.0	90.7	90.7	0						
	R9	RESIDENTIAL	LKD	W13/F02	28.6	27.9	0.7	2.4	99.8	99.8	0						
				W14/F02	29.1	28.5	0.6	2.1									
				W15/F02	34.9	34.9	0.0	0.0									
F03	R1	RESIDENTIAL	LKD	W1/F03	3.0	3.0	0.0	0.0	86.5	86.5	0	17	2	17	2	0.0	0.0
				W2/F03	23.9	23.4	0.5	2.1				41	4	40	4	2.4	0.0
	R2	RESIDENTIAL	LKD	W3/F03	25.4	24.9	0.5	2.0	90.7	90.7	0	42	5	42	5	0.0	0.0
				W4/F03	10.7	9.8	0.9	8.4				22	2	22	2	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W5/F03	17.6	17.1	0.5	2.8	98.0	98.0	0	32	5	32	5	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F03	26.4	25.8	0.6	2.3	98.5	98.5	0	42	6	42	6	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W7/F03	27.1	26.5	0.6	2.2	96.7	96.7	0	43	5	43	5	0.0	0.0
	R6	RESIDENTIAL	LKD	W8/F03	27.5	26.9	0.6	2.2	97.0	97.0	0	43	6	42	6	2.3	0.0
				W9/F03	29.7	28.7	1.0	3.4				21	2	20	2	4.8	0.0
				W10/F03	27.1	26.1	1.0	3.7				21	2	20	2	4.8	0.0
	R7	RESIDENTIAL	UNKNOWN	W11/F03	6.6	6.6	0.0	0.0	94.2	94.2	0						
	R10	RESIDENTIAL	LKD	W15/F03	30.6	29.9	0.7	2.3	100.0	100.0	0						
				W16/F03	31.0	30.4	0.6	1.9									
				W17/F03	35.9	35.9	0.0	0.0									
F04	R1	RESIDENTIAL	LKD	W1/F04	8.3	8.3	0.0	0.0	85.5	85.5	0	20	3	20	3	0.0	0.0
				W2/F04	25.4	24.8	0.6	2.4				44	6	43	6	2.3	0.0
	R2	RESIDENTIAL	LKD	W3/F04	26.7	26.1	0.6	2.2	90.4	90.4	0	44	6	44	6	0.0	0.0
				W4/F04	16.0	15.0	1.0	6.3				23	2	23	2	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W5/F04	26.2	25.7	0.5	1.9	98.0	98.0	0	46	7	46	7	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F04	27.0	26.4	0.6	2.2	98.5	98.5	0	47	7	47	7	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W7/F04	27.6	27.0	0.6	2.2	97.0	97.0	0	46	7	46	7	0.0	0.0
	R6	RESIDENTIAL	LKD	W8/F04	28.6	28.0	0.6	2.1	96.7	96.7	0	46	7	45	7	2.2	0.0
				W9/F04	31.0	29.9	1.1	3.5				22	2	21	2	4.5	0.0
				W10/F04	28.2	27.2	1.0	3.5				23	3	22	3	4.3	0.0
	R7	RESIDENTIAL	UNKNOWN	W11/F04	7.5	7.5	0.0	0.0	94.6	94.6	0						
	R9	RESIDENTIAL	LKD	W13/F04	31.2	30.6	0.6	1.9	100.0	100.0	0						
				W14/F04	31.3	30.7	0.6	1.9									
				W15/F04	35.6	35.6	0.0	0.0									
F05	R1**	RESIDENTIAL	UNKNOWN	W1/F05	21.8	21.2	0.6	2.8	99.7	99.7	0	42	9	42	9	0.0	0.0
	R2	RESIDENTIAL	UNKNOWN	W2/F05	22.2	21.6	0.6	2.7	99.7	99.7	0	39	7	39	7	0.0	0.0
				W3/F05	23.7	23.1	0.6	2.5				42	7	42	7	0.0	0.0
				W4/F05	20.7	19.6	1.1	5.3				17	3	16	3	5.9	0.0
	R3	RESIDENTIAL	UNKNOWN	W5/F05	10.4	9.4	1.0	9.6	92.6	92.6	0						
	R5	RESIDENTIAL	LKD	W7/F05	28.2	27.6	0.6	2.1	100.0	100.0	0						
				W8/F05	24.6	23.9	0.7	2.8									
				W9/F05	31.4	31.4	0.0	0.0									

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					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
357-361 DEANSGATE																	
F01	R1	RESIDENTIAL	UNKNOWN	W1/F01	7.6	7.6	0.0	0.0	32.8	32.8	0						
	R2	RESIDENTIAL	UNKNOWN	W2/F01	5.4	5.1	0.3	5.6	3.3	3.3	0						
	R3	RESIDENTIAL	UNKNOWN	W3/F01	0.2	0.2	0.0	0.0	1.2	1.2	0						
	R4	RESIDENTIAL	UNKNOWN	W4/F01	7.2	7.0	0.2	2.8	91.9	91.6	0.3	3	0	3	0	0.0	0.0
				W5/F01	1.3	1.3	0.0	0.0				6	0	6	0	0.0	0.0
	R5	RESIDENTIAL	UNKNOWN	W6/F01	23.1	22.9	0.2	0.9	61.3	61.3	0						
	R6	RESIDENTIAL	UNKNOWN	W7/F01	23.4	23.2	0.2	0.9	39.7	39.7	0						
	R7	RESIDENTIAL	UNKNOWN	W8/F01	24.5	24.3	0.2	0.8	77.9	77.9	0						
	R8	RESIDENTIAL	UNKNOWN	W9/F01	25.0	24.8	0.2	0.8	46.7	46.7	0						
	R9	RESIDENTIAL	UNKNOWN	W10/F01	26.3	26.2	0.1	0.4	82.1	82.1	0						
				W11/F01	24.4	24.4	0.0	0.0									
F02	R1	RESIDENTIAL	UNKNOWN	W1/F02	8.9	8.6	0.3	3.4	7.8	7.8	0						
	R2	RESIDENTIAL	UNKNOWN	W2/F02	14.0	13.6	0.4	2.9	44.3	43.9	0.8						
	R3	RESIDENTIAL	UNKNOWN	W3/F02	0.2	0.2	0.0	0.0	1.2	1.2	0						
	R4	RESIDENTIAL	UNKNOWN	W4/F02	9.3	9.0	0.3	3.2	94.2	94.1	0	5	0	5	0	0.0	0.0
				W5/F02	1.6	1.6	0.0	0.0				7	0	7	0	0.0	0.0
	R5	RESIDENTIAL	UNKNOWN	W6/F02	29.3	27.9	1.4	4.8	81.1	78.0	3.8						
	R6	RESIDENTIAL	UNKNOWN	W7/F02	29.3	27.8	1.5	5.1	88.4	86.8	1.8						
	R7	RESIDENTIAL	UNKNOWN	W8/F02	25.7	25.4	0.3	1.2	78.3	78.3	0						
	R8	RESIDENTIAL	UNKNOWN	W9/F02	25.9	25.7	0.2	0.8	55.4	55.4	0						
	R9	RESIDENTIAL	UNKNOWN	W10/F02	26.9	26.7	0.2	0.7	89.5	89.5	0						
	R10	RESIDENTIAL	UNKNOWN	W11/F02	27.5	27.2	0.3	1.1	59.8	59.8	0						
	R11	RESIDENTIAL	UNKNOWN	W12/F02	28.6	28.4	0.2	0.7	82.9	82.9	0						
				W13/F02	27.0	27.0	0.0	0.0									
F03	R1	RESIDENTIAL	UNKNOWN	W1/F03	17.2	16.8	0.4	2.3	30.3	30.3	0						
	R2	RESIDENTIAL	UNKNOWN	W2/F03	21.7	21.3	0.4	1.8	58.4	58.1	0.6						
	R3	RESIDENTIAL	UNKNOWN	W3/F03	4.8	4.8	0.0	0.0	24.7	24.7	0						
	R4	RESIDENTIAL	UNKNOWN	W4/F03	13.7	12.9	0.8	5.8	97.4	97.4	0	7	0	7	0	0.0	0.0
				W5/F03	2.5	2.5	0.0	0.0				7	0	7	0	0.0	0.0
	R5	RESIDENTIAL	UNKNOWN	W6/F03	31.1	29.4	1.7	5.5	93.6	92.7	1						
	R6	RESIDENTIAL	UNKNOWN	W7/F03	31.1	29.4	1.7	5.5	95.8	95.5	0.4						
	R7	RESIDENTIAL	UNKNOWN	W8/F03	28.2	27.9	0.3	1.1	95.4	95.4	0						
	R8	RESIDENTIAL	UNKNOWN	W9/F03	28.4	28.1	0.3	1.1	68.6	68.6	0						
	R9	RESIDENTIAL	UNKNOWN	W10/F03	29.2	29.0	0.2	0.7	94.4	94.4	0						
	R10	RESIDENTIAL	UNKNOWN	W11/F03	29.7	29.5	0.2	0.7	68.1	68.1	0						
	R11	RESIDENTIAL	UNKNOWN	W12/F03	30.6	30.4	0.2	0.7	84.7	84.7	0						
				W13/F03	29.3	29.3	0.0	0.0									
F04	R1	RESIDENTIAL	UNKNOWN	W1/F04	29.0	28.6	0.4	1.4	80.8	80.8	0						
	R2	RESIDENTIAL	UNKNOWN	W2/F04	30.9	30.4	0.5	1.6	86.7	86.4	0.4						
	R3	RESIDENTIAL	UNKNOWN	W3/F04	28.1	27.7	0.4	1.4	84.8	84.8	0						
	R4	RESIDENTIAL	UNKNOWN	W4/F04	20.6	20.2	0.4	1.9	84.7	84.7	0						
	R5	RESIDENTIAL	UNKNOWN	W5/F04	24.4	23.0	1.4	5.7	100.0	100.0	0	28	0	27	0	3.6	0.0
				W6/F04	16.8	16.0	0.8	4.8				10	0	9	0	10.0	0.0
LUMIERE BUILDING																	
F00	R1	RESIDENTIAL	UNKNOWN	W1/F00	0.3	0.3	0.0	0.0	6.5	6.5	0						

* Inclined Windows, ** Rooms deeper than 5m, *** Kitchens less than 13sqm

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
LUMIERE BUILDING (CONTINUED)																	
F00	R2	RESIDENTIAL	UNKNOWN	W2/F00	7.3	7.3	0.0	0.0	19.5	19.5	0						
	R3	RESIDENTIAL	UNKNOWN	W3/F00	1.6	1.6	0.0	0.0	12.7	12.7	0						
	R4	RESIDENTIAL	UNKNOWN	W4/F00	0.2	0.2	0.0	0.0	6.0	6.0	0						
	R5	RESIDENTIAL	UNKNOWN	W5/F00	4.5	4.5	0.0	0.0	10.2	10.2	0						
F01	R1	RESIDENTIAL	LKD	W1/F01	10.3	10.3	0.0	0.0	28.6	28.6	0						
				W2/F01	9.7	9.7	0.0	0.0									
	R2	RESIDENTIAL	BEDROOM	W3/F01	2.1	2.1	0.0	0.0	16.8	16.8	0						
	R3	RESIDENTIAL	BEDROOM	W4/F01	0.3	0.3	0.0	0.0	6.4	6.4	0						
	R4	RESIDENTIAL	LKD	W5/F01	5.7	5.7	0.0	0.0	20.0	20.0	0						
				W6/F01	6.2	6.2	0.0	0.0									
	R5	RESIDENTIAL	LKD	W7/F01	0.0	0.0	0.0	0.0	6.1	6.1	0						
				W8/F01	4.3	4.3	0.0	0.0									
	R6	RESIDENTIAL	BEDROOM	W9/F01	4.8	4.8	0.0	0.0	10.2	10.2	0						
	R7	RESIDENTIAL	BEDROOM	W10/F01	4.8	4.8	0.0	0.0	10.6	10.6	0						
	R8	RESIDENTIAL	LKD	W11/F01	4.8	4.8	0.0	0.0	48.6	48.6	0	0	0	0	0	0.0	0.0
				W12/F01	1.3	1.3	0.0	0.0				0	0	0	0	0.0	0.0
				W13/F01	4.3	4.3	0.0	0.0				15	6	15	6	0.0	0.0
F02	R1	RESIDENTIAL	LKD	W1/F02	13.7	13.7	0.0	0.0	42.0	42.0	0						
				W2/F02	12.8	12.8	0.0	0.0									
	R2	RESIDENTIAL	BEDROOM	W3/F02	3.5	3.5	0.0	0.0	23.1	23.1	0						
	R3	RESIDENTIAL	BEDROOM	W4/F02	1.0	1.0	0.0	0.0	14.4	14.1	2.4						
	R4	RESIDENTIAL	LKD	W5/F02	8.1	8.0	0.1	1.2	26.6	25.0	5.9						
				W6/F02	8.6	8.6	0.0	0.0									
	R5	RESIDENTIAL	LKD	W7/F02	0.0	0.0	0.0	0.0	9.4	9.4	0						
				W8/F02	6.3	6.3	0.0	0.0									
	R6	RESIDENTIAL	BEDROOM	W9/F02	7.0	7.0	0.0	0.0	13.8	13.8	0						
	R7	RESIDENTIAL	BEDROOM	W10/F02	7.0	7.0	0.0	0.0	14.2	14.2	0						
	R8	RESIDENTIAL	LKD	W11/F02	6.8	6.8	0.0	0.0	48.6	48.6	0	0	0	0	0	0.0	0.0
				W12/F02	2.4	2.4	0.0	0.0				0	0	0	0	0.0	0.0
				W13/F02	4.6	4.6	0.0	0.0				17	7	17	7	0.0	0.0
F03	R1	RESIDENTIAL	LKD	W1/F03	18.1	18.0	0.1	0.6	70.4	70.2	0.2						
				W2/F03	17.1	16.9	0.2	1.2									
	R2	RESIDENTIAL	BEDROOM	W3/F03	6.3	6.1	0.2	3.2	32.5	32.5	0						
	R3	RESIDENTIAL	BEDROOM	W4/F03	3.3	3.2	0.1	3.0	27.6	24.0	13.2						
	R4	RESIDENTIAL	LKD	W5/F03	11.8	11.6	0.2	1.7	36.8	33.3	9.5						
				W6/F03	12.4	12.4	0.0	0.0									
	R5	RESIDENTIAL	LKD	W7/F03	1.1	1.1	0.0	0.0	15.5	15.5	0						
				W8/F03	9.9	9.9	0.0	0.0									
	R6	RESIDENTIAL	BEDROOM	W9/F03	10.5	10.5	0.0	0.0	22.5	22.5	0						
	R7	RESIDENTIAL	BEDROOM	W10/F03	10.5	10.5	0.0	0.0	23.0	23.0	0						
	R8	RESIDENTIAL	LKD	W11/F03	10.3	10.3	0.0	0.0	48.7	48.7	0	0	0	0	0	0.0	0.0
				W12/F03	5.3	5.3	0.0	0.0				0	0	0	0	0.0	0.0
				W13/F03	5.0	5.0	0.0	0.0				18	7	18	7	0.0	0.0
F04	R1	RESIDENTIAL	LKD	W1/F04	23.3	22.7	0.6	2.6	89.5	89.5	0						
				W2/F04	21.8	21.2	0.6	2.8									

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
LUMIERE BUILDING (CONTINUED)																	
F04	R2	RESIDENTIAL	BEDROOM	W3/F04	10.8	10.3	0.5	4.6	47.0	47.0	0						
	R3	RESIDENTIAL	BEDROOM	W4/F04	7.6	7.2	0.4	5.3	41.5	41.4	0						
	R4	RESIDENTIAL	LKD	W5/F04	16.8	16.4	0.4	2.4	51.9	49.9	3.8						
				W6/F04	17.5	17.4	0.1	0.6									
	R5	RESIDENTIAL	LKD	W7/F04	5.5	5.5	0.0	0.0	28.5	28.2	0.8						
				W8/F04	15.1	15.0	0.1	0.7									
	R6	RESIDENTIAL	BEDROOM	W9/F04	15.7	15.7	0.0	0.0	35.4	35.4	0						
	R7	RESIDENTIAL	BEDROOM	W10/F04	15.8	15.7	0.1	0.6	38.6	38.6	0						
	R8	RESIDENTIAL	LKD	W11/F04	15.5	15.5	0.0	0.0	48.6	48.6	0	0	0	0	0	0.0	0.0
				W12/F04	10.0	10.0	0.0	0.0				0	0	0	0	0.0	0.0
				W13/F04	5.7	5.7	0.0	0.0				19	7	19	7	0.0	0.0
F05	R1	RESIDENTIAL	LKD	W1/F05	27.4	26.7	0.7	2.6	99.2	99.2	0						
				W2/F05	26.5	25.7	0.8	3.0									
	R2	RESIDENTIAL	BEDROOM	W3/F05	15.9	15.2	0.7	4.4	95.0	95.0	0						
	R3	RESIDENTIAL	BEDROOM	W4/F05	12.8	12.3	0.5	3.9	89.4	89.4	0						
	R4	RESIDENTIAL	LKD	W5/F05	23.1	22.5	0.6	2.6	92.0	91.5	0.5						
				W6/F05	23.9	23.4	0.5	2.1									
	R5	RESIDENTIAL	LKD	W7/F05	11.3	11.2	0.1	0.9	81.2	80.9	0.3						
				W8/F05	21.9	21.4	0.5	2.3									
	R6	RESIDENTIAL	BEDROOM	W9/F05	22.5	22.0	0.5	2.2	79.1	79.1	0						
	R7	RESIDENTIAL	BEDROOM	W10/F05	22.3	21.9	0.4	1.8	80.6	80.6	0						
	R8	RESIDENTIAL	LKD	W11/F05	22.0	21.6	0.4	1.8	86.9	86.9	0	0	0	0	0	0.0	0.0
				W12/F05	16.4	16.0	0.4	2.4				0	0	0	0	0.0	0.0
				W13/F05	6.8	6.8	0.0	0.0				21	9	21	9	0.0	0.0
F06	R1	RESIDENTIAL	LKD	W1/F06	30.9	30.0	0.9	2.9	99.2	99.2	0						
				W2/F06	30.6	29.8	0.8	2.6									
	R2	RESIDENTIAL	BEDROOM	W3/F06	21.0	20.2	0.8	3.8	97.5	97.5	0						
	R3	RESIDENTIAL	BEDROOM	W4/F06	18.2	17.6	0.6	3.3	98.1	98.1	0						
	R4	RESIDENTIAL	LKD	W5/F06	28.4	27.7	0.7	2.5	99.2	99.2	0						
				W6/F06	29.1	28.5	0.6	2.1									
	R5	RESIDENTIAL	LKD	W7/F06	17.1	17.0	0.1	0.6	97.8	97.7	0						
				W8/F06	27.8	27.2	0.6	2.2									
	R6	RESIDENTIAL	BEDROOM	W9/F06	28.2	27.5	0.7	2.5	97.3	97.3	0						
	R7	RESIDENTIAL	BEDROOM	W10/F06	27.9	27.3	0.6	2.2	98.0	98.0	0						
	R8	RESIDENTIAL	LKD	W11/F06	27.5	26.9	0.6	2.2	100.0	100.0	0	0	0	0	0	0.0	0.0
				W12/F06	22.5	22.0	0.5	2.2				0	0	0	0	0.0	0.0
				W13/F06	8.2	8.2	0.0	0.0				26	14	26	14	0.0	0.0
F07	R1	RESIDENTIAL	LKD	W1/F07	31.8	31.0	0.8	2.5	99.2	99.2	0						
				W2/F07	31.6	30.8	0.8	2.5									
	R2	RESIDENTIAL	BEDROOM	W3/F07	30.4	29.6	0.8	2.6	98.3	98.3	0						
	R3	RESIDENTIAL	BEDROOM	W4/F07	27.4	26.9	0.5	1.8	99.4	99.4	0						
	R4	RESIDENTIAL	LKD	W5/F07	30.6	29.9	0.7	2.3	99.5	99.5	0						
				W6/F07	30.4	29.7	0.7	2.3									
	R5	RESIDENTIAL	LKD	W7/F07	25.8	25.6	0.2	0.8	98.7	98.7	0						
				W8/F07	29.5	28.9	0.6	2.0									

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
LUMIERE BUILDING (CONTINUED)																	
F07	R6	RESIDENTIAL	BEDROOM	W9/F07	29.3	28.6	0.7	2.4	97.4	97.4	0						
	R7	RESIDENTIAL	BEDROOM	W10/F07	28.9	28.3	0.6	2.1	98.1	98.1	0						
	R8	RESIDENTIAL	LKD	W11/F07	28.5	27.9	0.6	2.1	100.0	100.0	0	1	0	1	0	0.0	0.0
				W12/F07	27.6	27.1	0.5	1.8				1	0	1	0	0.0	0.0
				W13/F07	13.7	13.7	0.0	0.0				32	15	32	15	0.0	0.0
F08	R1	RESIDENTIAL	UNKNOWN	W1/F08	33.9	33.2	0.7	2.1	100.0	100.0	0						
				W2/F08	31.9	31.1	0.8	2.5									
	R2	RESIDENTIAL	UNKNOWN	W3/F08	31.6	30.9	0.7	2.2	100.0	100.0	0						
	R3	RESIDENTIAL	UNKNOWN	W4/F08	31.4	30.6	0.8	2.5	100.0	100.0	0						
	R4	RESIDENTIAL	UNKNOWN	W5/F08	31.1	30.4	0.7	2.3	100.0	100.0	0						
	R5	RESIDENTIAL	UNKNOWN	W6/F08	30.8	30.1	0.7	2.3	100.0	100.0	0						
	R6	RESIDENTIAL	UNKNOWN	W7/F08	28.9	28.4	0.5	1.7	99.9	99.9	0						
	R7	RESIDENTIAL	UNKNOWN	W8/F08	29.4	28.8	0.6	2.0	100.0	100.0	0						
	R8	RESIDENTIAL	UNKNOWN	W9/F08	29.8	29.1	0.7	2.3	100.0	100.0	0						
	R9	RESIDENTIAL	UNKNOWN	W10/F08	30.1	29.5	0.6	2.0	100.0	100.0	0						
	R10	RESIDENTIAL	UNKNOWN	W11/F08	30.5	29.8	0.7	2.3	100.0	100.0	0						
F09	R1	RESIDENTIAL	UNKNOWN	W1/F09	36.6	35.9	0.7	1.9	100.0	100.0	0						
				W2/F09	32.2	31.4	0.8	2.5									
	R2	RESIDENTIAL	UNKNOWN	W3/F09	31.9	31.2	0.7	2.2	100.0	100.0	0						
	R3	RESIDENTIAL	UNKNOWN	W4/F09	31.7	30.9	0.8	2.5	100.0	100.0	0						
	R4	RESIDENTIAL	UNKNOWN	W5/F09	31.4	30.7	0.7	2.2	100.0	100.0	0						
	R5	RESIDENTIAL	UNKNOWN	W6/F09	31.1	30.4	0.7	2.3	100.0	100.0	0						
	R6	RESIDENTIAL	UNKNOWN	W7/F09	15.7	15.7	0.0	0.0	100.0	100.0	0	36	16	36	16	0.0	0.0
				W8/F09	29.2	28.7	0.5	1.7				1	0	1	0	0.0	0.0
	R7	RESIDENTIAL	UNKNOWN	W9/F09	29.7	29.1	0.6	2.0	100.0	100.0	0						
	R8	RESIDENTIAL	UNKNOWN	W10/F09	30.1	29.4	0.7	2.3	100.0	100.0	0						
	R9	RESIDENTIAL	UNKNOWN	W11/F09	30.4	29.8	0.6	2.0	100.0	100.0	0						
	R10	RESIDENTIAL	UNKNOWN	W12/F09	30.8	30.1	0.7	2.3	100.0	100.0	0						
F10	R1	RESIDENTIAL	UNKNOWN	W1/F10	31.6	30.9	0.7	2.2	100.0	100.0	0						
	R2	RESIDENTIAL	UNKNOWN	W2/F10	31.3	30.6	0.7	2.2	100.0	100.0	0						
	R3	RESIDENTIAL	UNKNOWN	W3/F10	16.0	16.0	0.0	0.0	100.0	100.0	0	36	16	36	16	0.0	0.0
				W4/F10	29.4	28.8	0.6	2.0				1	0	1	0	0.0	0.0
	R4	RESIDENTIAL	UNKNOWN	W5/F10	29.9	29.3	0.6	2.0	100.0	100.0	0						
	R5	RESIDENTIAL	UNKNOWN	W6/F10	30.3	29.7	0.6	2.0	100.0	100.0	0						
	R6	RESIDENTIAL	UNKNOWN	W7/F10	30.6	30.0	0.6	2.0	100.0	100.0	0						
	R7	RESIDENTIAL	UNKNOWN	W8/F10	31.0	30.3	0.7	2.3	100.0	100.0	0						
	R8	RESIDENTIAL	UNKNOWN	W9/F10	34.9	34.9	0.0	0.0	100.0	100.0	0	64	20	64	20	0.0	0.0
				W10/F10	31.8	31.1	0.7	2.2				1	0	1	0	0.0	0.0
				W11/F10	36.9	36.3	0.6	1.6				32	6	32	6	0.0	0.0
THE DANUBE																	
F00	R1	RESIDENTIAL	LKD	W1/F00	14.1	13.8	0.3	2.1	62.4	56.0	10.3						
				W2/F00	6.6	5.9	0.7	10.6									
	R2	RESIDENTIAL	BEDROOM	W3/F00	2.2	1.6	0.6	27.3	23.0	21.2	8						
	R3	RESIDENTIAL	BEDROOM	W4/F00	14.1	13.5	0.6	4.3	35.5	35.5	0						
	R4	RESIDENTIAL	BEDROOM	W5/F00	13.2	12.7	0.5	3.8	35.2	35.2	0						

* Inclined Windows, ** Rooms deeper than 5m, *** Kitchens less than 13sqm

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
THE DANUBE (CONTINUED)																	
F00	R5	RESIDENTIAL	BEDROOM	W6/F00	0.1	0.1	0.0	0.0	11.0	11.0	0						
	R6	RESIDENTIAL	LKD	W7/F00	2.3	2.3	0.0	0.0	34.7	34.7	0	1	0	1	0	0.0	0.0
				W8/F00	15.0	14.2	0.8	5.3				0	0	0	0	0.0	0.0
	R7	RESIDENTIAL	BEDROOM	W9/F00	18.4	17.4	1.0	5.4	36.2	36.2	0						
	R8**	RESIDENTIAL	LKD	W10/F00	19.6	18.6	1.0	5.1	64.9	64.9	0						
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	13.7	13.7	0.0	0.0	42.5	42.5	0						
	R2	RESIDENTIAL	BEDROOM	W2/F01	1.3	1.3	0.0	0.0	25.6	25.6	0						
	R3	RESIDENTIAL	LKD	W3/F01	1.8	1.8	0.0	0.0	67.6	67.6	0	0	0	0	0	0.0	0.0
				W4/F01	15.0	14.9	0.1	0.7				1	0	1	0	0.0	0.0
	R4	RESIDENTIAL	LKD	W5/F01	15.7	15.3	0.4	2.5	64.1	58.8	8.2						
				W6/F01	7.6	6.9	0.7	9.2									
	R5	RESIDENTIAL	BEDROOM	W7/F01	3.0	2.4	0.6	20.0	34.2	34.2	0						
	R6	RESIDENTIAL	BEDROOM	W8/F01	15.7	15.0	0.7	4.5	40.2	40.2	0						
	R7	RESIDENTIAL	BEDROOM	W9/F01	14.7	14.2	0.5	3.4	39.6	39.6	0						
	R8	RESIDENTIAL	BEDROOM	W10/F01	0.7	0.7	0.0	0.0	21.6	21.6	0						
	R9	RESIDENTIAL	LKD	W11/F01	2.9	2.9	0.0	0.0	35.3	35.3	0	1	0	1	0	0.0	0.0
				W12/F01	16.4	15.7	0.7	4.3				0	0	0	0	0.0	0.0
	R10	RESIDENTIAL	BEDROOM	W13/F01	19.8	18.8	1.0	5.1	38.4	38.4	0						
	R11**	RESIDENTIAL	LKD	W14/F01	21.0	19.9	1.1	5.2	66.5	66.5	0						
F02	R1	RESIDENTIAL	BEDROOM	W1/F02	15.1	15.0	0.1	0.7	47.9	47.9	0						
	R2	RESIDENTIAL	BEDROOM	W2/F02	2.6	2.6	0.0	0.0	36.5	36.5	0						
	R3	RESIDENTIAL	LKD	W3/F02	2.1	2.1	0.0	0.0	70.9	70.9	0	0	0	0	0	0.0	0.0
				W4/F02	16.8	16.6	0.2	1.2				1	0	1	0	0.0	0.0
	R4	RESIDENTIAL	LKD	W5/F02	17.6	17.2	0.4	2.3	68.7	65.1	5.2						
				W6/F02	8.4	7.7	0.7	8.3									
	R5	RESIDENTIAL	BEDROOM	W7/F02	5.0	4.3	0.7	14.0	45.5	45.5	0						
	R6	RESIDENTIAL	BEDROOM	W8/F02	17.5	16.9	0.6	3.4	46.8	46.8	0						
	R7	RESIDENTIAL	BEDROOM	W9/F02	16.3	15.6	0.7	4.3	45.9	45.9	0						
	R8	RESIDENTIAL	BEDROOM	W10/F02	2.2	2.2	0.0	0.0	34.1	34.1	0						
	R9	RESIDENTIAL	LKD	W11/F02	3.4	3.4	0.0	0.0	36.9	36.9	0	1	0	1	0	0.0	0.0
				W12/F02	18.2	17.4	0.8	4.4				0	0	0	0	0.0	0.0
	R10	RESIDENTIAL	BEDROOM	W13/F02	21.4	20.4	1.0	4.7	42.4	42.4	0						
	R11**	RESIDENTIAL	LKD	W14/F02	22.5	21.5	1.0	4.4	68.5	68.5	0						
F03	R1	RESIDENTIAL	BEDROOM	W1/F03	17.2	17.0	0.2	1.2	51.8	51.8	0						
	R2	RESIDENTIAL	BEDROOM	W2/F03	3.6	3.6	0.0	0.0	46.9	46.9	0						
	R3	RESIDENTIAL	LKD	W3/F03	2.3	2.3	0.0	0.0	73.5	73.5	0	0	0	0	0	0.0	0.0
				W4/F03	18.8	18.5	0.3	1.6				1	0	1	0	0.0	0.0
	R4	RESIDENTIAL	LKD	W5/F03	19.8	19.4	0.4	2.0	79.2	77.5	2.1						
				W6/F03	9.0	8.2	0.8	8.9									
	R5	RESIDENTIAL	BEDROOM	W7/F03	6.6	6.0	0.6	9.1	54.3	54.3	0						
	R6	RESIDENTIAL	BEDROOM	W8/F03	19.0	18.3	0.7	3.7	58.1	58.1	0						
	R7	RESIDENTIAL	BEDROOM	W9/F03	18.2	17.5	0.7	3.8	53.9	53.9	0						
	R8	RESIDENTIAL	BEDROOM	W10/F03	3.8	3.8	0.0	0.0	46.9	46.9	0						
	R9	RESIDENTIAL	LKD	W11/F03	3.8	3.8	0.0	0.0	39.6	39.6	0	2	0	2	0	0.0	0.0
				W12/F03	20.3	19.6	0.7	3.4				1	0	1	0	0.0	0.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
THE DANUBE (CONTINUED)																	
F03	R10	RESIDENTIAL	BEDROOM	W13/F03	23.3	22.3	1.0	4.3	49.4	49.4	0						
	R11**	RESIDENTIAL	LKD	W14/F03	24.3	23.3	1.0	4.1	72.0	72.0	0						
F04	R1	RESIDENTIAL	BEDROOM	W1/F04	19.3	18.9	0.4	2.1	61.8	61.8	0						
	R2	RESIDENTIAL	BEDROOM	W2/F04	5.5	5.5	0.0	0.0	66.5	66.5	0						
	R3	RESIDENTIAL	LKD	W3/F04	2.6	2.6	0.0	0.0	74.7	74.7	0	0	0	0	0	0.0	0.0
				W4/F04	20.9	20.6	0.3	1.4				1	0	1	0	0.0	0.0
	R4	RESIDENTIAL	LKD	W5/F04	22.3	21.8	0.5	2.2	93.3	93.1	0.2						
				W6/F04	9.9	9.1	0.8	8.1									
	R5	RESIDENTIAL	BEDROOM	W7/F04	9.3	8.6	0.7	7.5	75.3	75.3	0						
	R6	RESIDENTIAL	BEDROOM	W8/F04	20.6	19.9	0.7	3.4	73.8	73.8	0						
	R7	RESIDENTIAL	BEDROOM	W9/F04	19.9	19.2	0.7	3.5	67.6	67.6	0						
	R8	RESIDENTIAL	BEDROOM	W10/F04	6.5	6.5	0.0	0.0	71.9	71.9	0						
	R9	RESIDENTIAL	LKD	W11/F04	4.4	4.4	0.0	0.0	45.1	45.1	0	2	0	2	0	0.0	0.0
				W12/F04	22.7	21.9	0.8	3.5				1	0	1	0	0.0	0.0
	R10	RESIDENTIAL	BEDROOM	W13/F04	25.4	24.4	1.0	3.9	61.0	61.0	0						
	R11**	RESIDENTIAL	LKD	W14/F04	26.2	25.2	1.0	3.8	78.0	78.0	0						
F05	R1	RESIDENTIAL	BEDROOM	W1/F05	21.3	20.9	0.4	1.9	79.7	79.7	0						
	R2	RESIDENTIAL	BEDROOM	W2/F05	7.2	7.2	0.0	0.0	85.1	85.1	0						
	R3	RESIDENTIAL	LKD	W3/F05	2.9	2.9	0.0	0.0	76.4	76.4	0	0	0	0	0	0.0	0.0
				W4/F05	23.2	22.7	0.5	2.2				1	0	1	0	0.0	0.0
	R4	RESIDENTIAL	LKD	W5/F05	24.7	24.2	0.5	2.0	97.8	97.7	0.1						
				W6/F05	9.6	8.8	0.8	8.3									
	R5	RESIDENTIAL	BEDROOM	W7/F05	9.9	9.4	0.5	5.1	87.7	87.7	0						
	R6	RESIDENTIAL	BEDROOM	W8/F05	10.3	9.7	0.6	5.8	96.6	96.6	0						
	R7	RESIDENTIAL	BEDROOM	W9/F05	14.6	13.9	0.7	4.8	93.9	93.9	0						
	R8	RESIDENTIAL	BEDROOM	W10/F05	8.3	8.3	0.0	0.0	89.2	89.2	0						
	R9	RESIDENTIAL	LKD	W11/F05	4.9	4.9	0.0	0.0	61.3	61.3	0	2	0	2	0	0.0	0.0
				W12/F05	25.3	24.6	0.7	2.8				1	0	1	0	0.0	0.0
	R10	RESIDENTIAL	BEDROOM	W13/F05	27.5	26.6	0.9	3.3	84.1	84.1	0						
	R11**	RESIDENTIAL	LKD	W14/F05	28.2	27.2	1.0	3.5	86.6	86.6	0						
F06	R1	RESIDENTIAL	BEDROOM	W1/F06	23.6	23.2	0.4	1.7	98.7	98.7	0						
	R2	RESIDENTIAL	BEDROOM	W2/F06	20.0	20.0	0.0	0.0	94.2	94.2	0						
	R3	RESIDENTIAL	LKD	W3/F06	4.9	4.9	0.0	0.0	87.9	87.9	0	0	0	0	0	0.0	0.0
				W4/F06	25.5	25.0	0.5	2.0				1	0	1	0	0.0	0.0
	R4	RESIDENTIAL	LKD	W5/F06	27.0	26.5	0.5	1.9	99.8	99.8	0						
				W6/F06	12.1	11.2	0.9	7.4									
	R5	RESIDENTIAL	BEDROOM	W7/F06	20.5	19.9	0.6	2.9	93.3	93.3	0						
	R6	RESIDENTIAL	BEDROOM	W8/F06	21.6	20.9	0.7	3.2	98.2	98.2	0						
	R7	RESIDENTIAL	BEDROOM	W9/F06	22.6	21.9	0.7	3.1	98.6	98.6	0						
	R8	RESIDENTIAL	BEDROOM	W10/F06	18.4	18.4	0.0	0.0	93.7	93.7	0						
	R9	RESIDENTIAL	LKD	W11/F06	6.7	6.7	0.0	0.0	90.9	90.9	0	3	0	3	0	0.0	0.0
				W12/F06	28.0	27.3	0.7	2.5				2	0	2	0	0.0	0.0
	R10	RESIDENTIAL	BEDROOM	W13/F06	27.8	26.9	0.9	3.2	96.9	96.9	0						
	R11**	RESIDENTIAL	LKD	W14/F06	29.0	28.0	1.0	3.4	99.0	99.0	0						

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
AXIS TOWER																	
B01	R1	RESIDENTIAL	LKD	W1/B01	26.7	16.5	10.2	38.2	93.3	80.6	13.6	62	16	40	10	35.5	37.5
				W2/B01	26.3	16.7	9.6	36.5				61	17	42	12	31.1	29.4
	R2	RESIDENTIAL	BEDROOM	W3/B01	26.6	17.6	9.0	33.8	89.7	76.1	15.1	62	15	43	10	30.6	33.3
F00	R1	RESIDENTIAL	BEDROOM	W1/F00	24.7	13.2	11.5	46.6	92.1	73.8	19.9	59	19	36	13	39.0	31.6
	R2	RESIDENTIAL	LIVING ROOM	W2/F00	22.8	11.8	11.0	48.2	96.6	39.3	59.4	53	16	31	10	41.5	37.5
	R3	RESIDENTIAL	KITCHEN***	W3/F00	24.7	14.6	10.1	40.9	94.7	65.8	30.6	58	18	35	11	39.7	38.9
F01	R1	RESIDENTIAL	LKD	W1/F01	4.6	2.2	2.4	52.2	82.6	41.9	49.3	12	8	9	5	25.0	37.5
				W2/F01	3.4	1.1	2.3	67.6				7	7	4	4	42.9	42.9
	R2	RESIDENTIAL	BEDROOM	W3/F01	3.6	1.6	2.0	55.6	76.0	38.9	48.8	8	8	5	5	37.5	37.5
	R3	RESIDENTIAL	BEDROOM	W4/F01	3.2	1.4	1.8	56.3	67.5	39.1	42.1	7	7	4	4	42.9	42.9
	R4	RESIDENTIAL	LKD	W5/F01	3.6	2.2	1.4	38.9	74.3	55.4	25.4	8	8	5	5	37.5	37.5
				W6/F01	3.3	2.0	1.3	39.4				9	9	6	6	33.3	33.3
	R5	RESIDENTIAL	BEDROOM	W7/F01	3.8	2.6	1.2	31.6	72.2	55.9	22.6	9	9	6	6	33.3	33.3
				W8/F01	3.4	2.4	1.0	29.4				8	8	5	5	37.5	37.5
	R6	RESIDENTIAL	LIVING ROOM	W9/F01	3.9	3.2	0.7	17.9	79.0	59.4	24.8	7	7	4	4	42.9	42.9
				W10/F01	3.5	2.8	0.7	20.0				6	6	3	3	50.0	50.0
	R7	RESIDENTIAL	BEDROOM	W11/F01	3.9	3.7	0.2	5.1	100.0	100.0	0	7	7	6	6	14.3	14.3
				W12/F01	2.1	2.1	0.0	0.0				4	4	4	4	0.0	0.0
F02	R1	RESIDENTIAL	LKD	W1/F02	26.9	26.5	0.4	1.5	100.0	94.6	5.4	35	6	28	5	20.0	16.7
				W2/F02	32.9	17.9	15.0	45.6				81	24	51	12	37.0	50.0
	R2	RESIDENTIAL	LKD	W3/F02	32.9	18.7	14.2	43.2	85.3	42.0	50.8	81	24	53	14	34.6	41.7
	R3	RESIDENTIAL	BEDROOM	W4/F02	32.9	19.5	13.4	40.7	85.3	35.6	58.2	79	22	54	14	31.6	36.4
	R4	RESIDENTIAL	LKD	W5/F02	32.8	20.3	12.5	38.1	84.8	36.7	56.8	78	22	53	13	32.1	40.9
	R5	RESIDENTIAL	BEDROOM	W6/F02	32.9	21.4	11.5	35.0	83.7	36.9	55.9	79	23	53	14	32.9	39.1
	R6	RESIDENTIAL	LKD	W7/F02	32.9	22.1	10.8	32.8	88.5	51.7	41.6	76	21	56	15	26.3	28.6
	R7	RESIDENTIAL	BEDROOM	W8/F02	32.8	22.8	10.0	30.5	72.2	36.9	48.9	77	22	58	16	24.7	27.3
	R8	RESIDENTIAL	BEDROOM	W9/F02	32.8	23.7	9.1	27.7	61.6	31.1	49.5	76	20	57	15	25.0	25.0
	R9	RESIDENTIAL	BEDROOM	W10/F02	32.6	24.6	8.0	24.5	85.5	55.5	35.1	76	20	56	15	26.3	25.0
	R10	RESIDENTIAL	LKD	W11/F02	32.3	25.2	7.1	22.0	99.0	98.9	0.1	73	18	58	15	20.5	16.7
				W12/F02	30.4	30.4	0.0	0.0				33	7	33	7	0.0	0.0
F03	R1	RESIDENTIAL	LKD	W1/F03	28.0	27.6	0.4	1.4	100.0	95.0	5	35	6	28	5	20.0	16.7
				W2/F03	33.6	18.3	15.3	45.5				81	24	51	12	37.0	50.0
	R2**	RESIDENTIAL	LKD	W3/F03	33.6	19.1	14.5	43.2	88.7	40.3	54.5	81	24	53	14	34.6	41.7
	R3	RESIDENTIAL	BEDROOM	W4/F03	33.6	20.0	13.6	40.5	88.8	41.5	53.2	80	23	54	14	32.5	39.1
	R4**	RESIDENTIAL	LKD	W5/F03	33.5	20.8	12.7	37.9	92.8	41.2	55.6	80	23	54	13	32.5	43.5
	R5	RESIDENTIAL	BEDROOM	W6/F03	33.6	22.0	11.6	34.5	88.3	45.2	48.8	80	23	54	14	32.5	39.1
	R6**	RESIDENTIAL	LKD	W7/F03	33.5	22.6	10.9	32.5	88.2	58.6	33.5	78	21	58	15	25.6	28.6
	R7	RESIDENTIAL	BEDROOM	W8/F03	33.5	23.4	10.1	30.1	78.6	46.1	41.4	78	22	59	16	24.4	27.3
	R8	RESIDENTIAL	BEDROOM	W9/F03	33.5	24.3	9.2	27.5	68.8	40.7	40.8	77	21	58	16	24.7	23.8
	R9	RESIDENTIAL	BEDROOM	W10/F03	33.2	25.2	8.0	24.1	88.2	64.4	26.9	77	21	56	15	27.3	28.6
	R10	RESIDENTIAL	LKD	W11/F03	33.0	25.9	7.1	21.5	99.6	98.9	0.7	75	19	60	16	20.0	15.8
				W12/F03	31.8	31.8	0.0	0.0				36	7	36	7	0.0	0.0
F04	R1	RESIDENTIAL	LKD	W1/F04	28.3	27.9	0.4	1.4	100.0	96.2	3.8	35	6	28	5	20.0	16.7
				W2/F04	34.1	18.6	15.5	45.5				81	24	52	12	35.8	50.0
	R2**	RESIDENTIAL	LKD	W3/F04	34.1	19.5	14.6	42.8	91.3	41.0	55.1	80	23	53	13	33.8	43.5

* Inclined Windows, ** Rooms deeper than 5m, *** Kitchens less than 13sqm

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
AXIS TOWER (CONTINUED)																	
F04	R3	RESIDENTIAL	BEDROOM	W4/F04	34.1	20.3	13.8	40.5	86.0	35.4	58.8	80	23	54	14	32.5	39.1
	R4**	RESIDENTIAL	LKD	W5/F04	34.1	21.4	12.7	37.2	96.1	46.6	51.5	80	23	54	13	32.5	43.5
	R5	RESIDENTIAL	BEDROOM	W6/F04	34.1	22.3	11.8	34.6	84.9	36.9	56.5	81	24	54	14	33.3	41.7
	R6**	RESIDENTIAL	LKD	W7/F04	34.1	23.1	11.0	32.3	87.6	65.4	25.4	78	21	59	16	24.4	23.8
	R7	RESIDENTIAL	BEDROOM	W8/F04	34.1	23.7	10.4	30.5	71.9	36.7	49	80	23	60	16	25.0	30.4
	R8	RESIDENTIAL	BEDROOM	W9/F04	34.0	24.9	9.1	26.8	75.2	50.0	33.5	80	23	61	17	23.8	26.1
	R9	RESIDENTIAL	BEDROOM	W10/F04	33.9	25.9	8.0	23.6	89.1	72.6	18.5	77	21	57	15	26.0	28.6
	R10	RESIDENTIAL	LKD	W11/F04	33.6	26.5	7.1	21.1	99.8	98.9	0.9	76	20	61	17	19.7	15.0
				W12/F04	33.0	33.0	0.0	0.0				38	7	38	7	0.0	0.0
F05	R1	RESIDENTIAL	LKD	W1/F05	28.6	28.2	0.4	1.4	100.0	97.3	2.7	35	6	28	5	20.0	16.7
				W2/F05	34.6	19.0	15.6	45.1				81	24	52	12	35.8	50.0
	R2**	RESIDENTIAL	LKD	W3/F05	34.6	19.9	14.7	42.5	94.0	43.1	54.2	80	23	54	14	32.5	39.1
	R3	RESIDENTIAL	BEDROOM	W4/F05	34.6	20.7	13.9	40.2	89.1	41.5	53.4	80	23	54	14	32.5	39.1
	R4**	RESIDENTIAL	LKD	W5/F05	34.6	21.9	12.7	36.7	97.6	55.3	43.3	81	24	54	13	33.3	45.8
	R5	RESIDENTIAL	BEDROOM	W6/F05	34.6	22.7	11.9	34.4	89.0	44.9	49.6	81	24	54	14	33.3	41.7
	R6	RESIDENTIAL	LKD	W7/F05	34.6	23.6	11.0	31.8	89.1	73.2	17.8	80	23	60	17	25.0	26.1
	R7	RESIDENTIAL	BEDROOM	W8/F05	34.6	24.2	10.4	30.1	78.4	45.8	41.6	80	23	60	16	25.0	30.4
	R8	RESIDENTIAL	BEDROOM	W9/F05	34.6	25.4	9.2	26.6	79.5	56.6	28.8	80	23	60	17	25.0	26.1
	R9	RESIDENTIAL	BEDROOM	W10/F05	34.4	26.4	8.0	23.3	87.0	79.8	8.2	79	22	59	16	25.3	27.3
	R10	RESIDENTIAL	LKD	W11/F05	34.2	27.2	7.0	20.5	100.0	98.9	1.1	76	20	61	17	19.7	15.0
				W12/F05	34.0	34.0	0.0	0.0				38	7	38	7	0.0	0.0
F06	R1	RESIDENTIAL	LKD	W1/F06	28.8	28.5	0.3	1.0	100.0	94.6	5.4	35	6	28	5	20.0	16.7
				W2/F06	35.0	18.8	16.2	46.3				81	24	49	11	39.5	54.2
	R2	RESIDENTIAL	LKD	W3/F06	35.1	19.9	15.2	43.3	88.1	43.2	51	81	24	53	14	34.6	41.7
	R3	RESIDENTIAL	BEDROOM	W4/F06	35.1	20.9	14.2	40.5	86.9	36.3	58.3	81	24	54	14	33.3	41.7
	R4	RESIDENTIAL	LKD	W5/F06	35.1	21.9	13.2	37.6	87.8	37.1	57.7	81	24	54	13	33.3	45.8
	R5	RESIDENTIAL	BEDROOM	W6/F06	35.1	23.0	12.1	34.5	86.1	37.6	56.4	81	24	54	14	33.3	41.7
	R6	RESIDENTIAL	LKD	W7/F06	35.1	23.7	11.4	32.5	89.5	52.8	40.9	80	23	59	16	26.2	30.4
	R7	RESIDENTIAL	BEDROOM	W8/F06	35.1	24.5	10.6	30.2	72.8	37.6	48.3	81	24	61	17	24.7	29.2
	R8	RESIDENTIAL	BEDROOM	W9/F06	35.1	25.8	9.3	26.5	75.4	50.4	33.2	81	24	62	18	23.5	25.0
	R9	RESIDENTIAL	BEDROOM	W10/F06	35.0	26.7	8.3	23.7	85.6	56.1	34.4	79	22	58	16	26.6	27.3
	R10	RESIDENTIAL	LKD	W11/F06	34.8	27.7	7.1	20.4	99.8	98.9	0.9	77	20	62	17	19.5	15.0
				W12/F06	35.1	35.1	0.0	0.0				40	8	40	8	0.0	0.0
F07	R1	RESIDENTIAL	LKD	W1/F07	29.0	28.7	0.3	1.0	100.0	94.6	5.4	35	6	28	5	20.0	16.7
				W2/F07	35.4	19.1	16.3	46.0				81	24	49	11	39.5	54.2
	R2**	RESIDENTIAL	LKD	W3/F07	35.4	20.2	15.2	42.9	90.3	40.6	55.1	82	25	53	14	35.4	44.0
	R3	RESIDENTIAL	BEDROOM	W4/F07	35.5	21.3	14.2	40.0	89.6	42.3	52.8	81	24	54	14	33.3	41.7
	R4**	RESIDENTIAL	LKD	W5/F07	35.5	22.3	13.2	37.2	94.0	41.3	56	81	24	54	13	33.3	45.8
	R5	RESIDENTIAL	BEDROOM	W6/F07	35.5	23.5	12.0	33.8	90.2	46.1	48.9	81	24	54	14	33.3	41.7
	R6**	RESIDENTIAL	LKD	W7/F07	35.5	24.2	11.3	31.8	90.0	59.4	34	80	23	59	16	26.2	30.4
	R7	RESIDENTIAL	BEDROOM	W8/F07	35.5	25.0	10.5	29.6	79.4	46.9	40.9	81	24	61	17	24.7	29.2
	R8	RESIDENTIAL	BEDROOM	W9/F07	35.5	26.2	9.3	26.2	79.7	57.4	28	81	24	61	18	24.7	25.0
	R9	RESIDENTIAL	BEDROOM	W10/F07	35.4	27.2	8.2	23.2	88.5	65.0	26.6	81	24	60	18	25.9	25.0
	R10	RESIDENTIAL	LKD	W11/F07	35.3	28.2	7.1	20.1	100.0	98.9	1.1	79	22	64	19	19.0	13.6
				W12/F07	36.0	36.0	0.0	0.0				41	9	41	9	0.0	0.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
AXIS TOWER (CONTINUED)																	
F08	R1	RESIDENTIAL	LKD	W1/F08	29.2	28.9	0.3	1.0	100.0	94.6	5.4	35	6	28	5	20.0	16.7
				W2/F08	35.6	19.4	16.2	45.5				81	24	50	11	38.3	54.2
	R2**	RESIDENTIAL	LKD	W3/F08	35.7	20.5	15.2	42.6	93.3	41.4	55.6	81	24	53	13	34.6	45.8
	R3	RESIDENTIAL	BEDROOM	W4/F08	35.8	21.6	14.2	39.7	90.6	46.9	48.2	81	24	55	14	32.1	41.7
	R4**	RESIDENTIAL	LKD	W5/F08	35.8	22.7	13.1	36.6	96.6	47.7	50.6	81	24	54	13	33.3	45.8
	R5	RESIDENTIAL	BEDROOM	W6/F08	35.9	23.8	12.1	33.7	91.6	56.8	37.9	82	25	56	15	31.7	40.0
	R6**	RESIDENTIAL	LKD	W7/F08	35.9	24.6	11.3	31.5	89.3	65.9	26.2	80	23	60	17	25.0	26.1
	R7	RESIDENTIAL	BEDROOM	W8/F08	35.9	25.4	10.5	29.2	82.7	55.0	33.5	81	24	61	17	24.7	29.2
	R8	RESIDENTIAL	BEDROOM	W9/F08	35.8	26.7	9.1	25.4	81.1	62.7	22.7	81	24	61	18	24.7	25.0
	R9	RESIDENTIAL	BEDROOM	W10/F08	35.8	27.7	8.1	22.6	88.9	73.0	17.9	81	24	61	18	24.7	25.0
	R10	RESIDENTIAL	LKD	W11/F08	35.7	28.7	7.0	19.6	99.9	98.9	1	80	23	65	19	18.8	17.4
				W12/F08	36.8	36.8	0.0	0.0				42	10	42	10	0.0	0.0
F09	R1	RESIDENTIAL	LKD	W1/F09	29.4	29.1	0.3	1.0	100.0	94.6	5.4	35	6	28	5	20.0	16.7
				W2/F09	35.9	19.7	16.2	45.1				82	25	51	12	37.8	52.0
	R2**	RESIDENTIAL	LKD	W3/F09	35.9	20.8	15.1	42.1	95.5	43.3	54.6	81	24	54	14	33.3	41.7
	R3	RESIDENTIAL	BEDROOM	W4/F09	36.0	22.0	14.0	38.9	88.8	55.0	38	81	24	54	14	33.3	41.7
	R4**	RESIDENTIAL	LKD	W5/F09	36.0	23.0	13.0	36.1	98.0	55.9	43	81	24	54	13	33.3	45.8
	R5	RESIDENTIAL	BEDROOM	W6/F09	36.1	24.2	11.9	33.0	89.8	66.7	25.7	82	25	58	15	29.3	40.0
	R6	RESIDENTIAL	LKD	W7/F09	36.1	24.9	11.2	31.0	89.6	73.8	17.6	81	24	60	17	25.9	29.2
	R7	RESIDENTIAL	BEDROOM	W8/F09	36.1	25.8	10.3	28.5	84.2	61.6	26.8	82	25	61	17	25.6	32.0
	R8	RESIDENTIAL	BEDROOM	W9/F09	36.1	27.1	9.0	24.9	80.1	66.6	16.9	81	24	60	17	25.9	29.2
	R9	RESIDENTIAL	BEDROOM	W10/F09	36.1	28.0	8.1	22.4	86.6	80.0	7.7	81	24	60	17	25.9	29.2
	R10	RESIDENTIAL	LKD	W11/F09	36.1	29.1	7.0	19.4	99.5	98.9	0.6	80	23	65	19	18.8	17.4
				W12/F09	37.4	37.4	0.0	0.0				42	10	42	10	0.0	0.0
F10	R1	RESIDENTIAL	LKD	W1/F10	29.6	29.3	0.3	1.0	100.0	93.7	6.3	36	7	28	5	22.2	28.6
				W2/F10	36.1	20.0	16.1	44.6				83	26	53	13	36.1	50.0
	R2	RESIDENTIAL	LKD	W3/F10	36.1	20.9	15.2	42.1	84.9	32.8	61.3	83	26	54	15	34.9	42.3
	R3	RESIDENTIAL	BEDROOM	W4/F10	36.2	21.8	14.4	39.8	88.9	36.6	58.8	82	25	55	15	32.9	40.0
	R4	RESIDENTIAL	LKD	W5/F10	36.2	22.8	13.4	37.0	88.4	33.4	62.2	82	25	55	14	32.9	44.0
	R5	RESIDENTIAL	BEDROOM	W6/F10	36.3	23.8	12.5	34.4	82.1	33.2	59.6	83	26	54	14	34.9	46.2
	R6	RESIDENTIAL	LKD	W7/F10	36.3	24.9	11.4	31.4	86.5	56.9	34.2	82	25	60	17	26.8	32.0
	R7	RESIDENTIAL	BEDROOM	W8/F10	36.3	25.8	10.5	28.9	97.9	67.1	31.5	83	26	62	18	25.3	30.8
	R8	RESIDENTIAL	BEDROOM	W9/F10	36.3	26.9	9.4	25.9	81.1	41.8	48.5	83	26	63	19	24.1	26.9
	R9	RESIDENTIAL	BEDROOM	W10/F10	36.4	28.0	8.4	23.1	89.8	62.5	30.4	83	26	61	19	26.5	26.9
	R10	RESIDENTIAL	LKD	W11/F10	36.4	29.5	6.9	19.0	99.7	98.6	1.1	81	24	66	20	18.5	16.7
				W12/F10	37.9	37.9	0.0	0.0				43	11	43	11	0.0	0.0
F11	R1	RESIDENTIAL	LKD	W1/F11	29.4	29.0	0.4	1.4	100.0	95.0	5	33	6	28	5	15.2	16.7
				W2/F11	36.3	20.3	16.0	44.1				83	26	53	13	36.1	50.0
	R2	RESIDENTIAL	LKD	W3/F11	36.3	21.1	15.2	41.9	88.5	32.6	63.1	83	26	56	16	32.5	38.5
	R3	RESIDENTIAL	BEDROOM	W4/F11	36.4	22.1	14.3	39.3	91.1	41.0	55	82	25	55	15	32.9	40.0
	R4**	RESIDENTIAL	LKD	W5/F11	36.4	23.1	13.3	36.5	97.4	38.1	60.9	82	25	55	14	32.9	44.0
	R5	RESIDENTIAL	BEDROOM	W6/F11	36.4	24.1	12.3	33.8	86.1	37.9	56	83	26	54	14	34.9	46.2
	R6	RESIDENTIAL	LKD	W7/F11	36.5	25.2	11.3	31.0	88.7	63.9	28	82	25	61	18	25.6	28.0
	R7	RESIDENTIAL	BEDROOM	W8/F11	36.5	26.1	10.4	28.5	98.4	74.3	24.5	83	26	62	18	25.3	30.8
	R8	RESIDENTIAL	BEDROOM	W9/F11	36.5	27.2	9.3	25.5	85.6	48.1	43.8	83	26	63	19	24.1	26.9

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
AXIS TOWER (CONTINUED)																	
F11	R9	RESIDENTIAL	BEDROOM	W10/F11	36.6	28.3	8.3	22.7	90.9	71.6	21.2	84	27	61	19	27.4	29.6
	R10	RESIDENTIAL	LKD	W11/F11	36.6	29.8	6.8	18.6	100.0	99.0	1	83	26	67	21	19.3	19.2
				W12/F11	38.2	38.2	0.0	0.0				44	12	44	12	0.0	0.0
F12	R1	RESIDENTIAL	LKD	W1/F12	29.6	29.3	0.3	1.0	100.0	96.9	3.1	34	6	29	5	14.7	16.7
				W2/F12	36.4	20.5	15.9	43.7				83	26	54	13	34.9	50.0
	R2	RESIDENTIAL	LKD	W3/F12	36.5	21.4	15.1	41.4	90.3	34.6	61.6	83	26	56	16	32.5	38.5
	R3	RESIDENTIAL	BEDROOM	W4/F12	36.5	22.3	14.2	38.9	92.7	48.6	47.5	82	25	56	15	31.7	40.0
	R4**	RESIDENTIAL	LKD	W5/F12	36.5	23.3	13.2	36.2	99.1	45.3	54.3	82	25	55	14	32.9	44.0
	R5	RESIDENTIAL	BEDROOM	W6/F12	36.6	24.3	12.3	33.6	89.7	45.6	49.2	83	26	55	15	33.7	42.3
	R6	RESIDENTIAL	LKD	W7/F12	36.6	25.4	11.2	30.6	88.7	68.5	22.8	84	27	62	19	26.2	29.6
	R7	RESIDENTIAL	BEDROOM	W8/F12	36.6	26.3	10.3	28.1	98.4	82.9	15.7	85	28	63	19	25.9	32.1
	R8	RESIDENTIAL	BEDROOM	W9/F12	36.7	27.5	9.2	25.1	87.6	57.3	34.6	85	28	63	20	25.9	28.6
	R9	RESIDENTIAL	BEDROOM	W10/F12	36.7	28.6	8.1	22.1	89.6	79.6	11.2	85	28	62	19	27.1	32.1
	R10	RESIDENTIAL	LKD	W11/F12	36.8	30.1	6.7	18.2	100.0	99.9	0.1	83	26	67	21	19.3	19.2
				W12/F12	38.4	38.4	0.0	0.0				44	12	44	12	0.0	0.0
F13	R1	RESIDENTIAL	LKD	W1/F13	29.8	29.5	0.3	1.0	100.0	98.7	1.3	35	6	30	5	14.3	16.7
				W2/F13	36.5	20.7	15.8	43.3				83	26	54	13	34.9	50.0
	R2	RESIDENTIAL	LKD	W3/F13	36.6	21.6	15.0	41.0	92.3	39.6	57.1	83	26	57	17	31.3	34.6
	R3	RESIDENTIAL	BEDROOM	W4/F13	36.6	22.6	14.0	38.3	91.5	56.8	37.9	83	26	56	16	32.5	38.5
	R4**	RESIDENTIAL	LKD	W5/F13	36.7	23.6	13.1	35.7	98.9	54.2	45.2	83	26	56	15	32.5	42.3
	R5	RESIDENTIAL	BEDROOM	W6/F13	36.7	24.6	12.1	33.0	91.1	53.4	41.4	84	27	56	16	33.3	40.7
	R6	RESIDENTIAL	LKD	W7/F13	36.7	25.7	11.0	30.0	86.4	74.0	14.4	84	27	62	19	26.2	29.6
	R7	RESIDENTIAL	BEDROOM	W8/F13	36.8	26.6	10.2	27.7	97.6	90.0	7.7	85	28	62	19	27.1	32.1
	R8	RESIDENTIAL	BEDROOM	W9/F13	36.8	27.8	9.0	24.5	86.0	66.3	22.9	85	28	63	20	25.9	28.6
	R9	RESIDENTIAL	BEDROOM	W10/F13	36.8	28.8	8.0	21.7	86.5	86.1	0.5	85	28	62	19	27.1	32.1
	R10	RESIDENTIAL	LKD	W11/F13	36.9	30.3	6.6	17.9	100.0	100.0	0	83	26	67	21	19.3	19.2
				W12/F13	38.5	38.5	0.0	0.0				44	12	44	12	0.0	0.0
F14	R1	RESIDENTIAL	LKD	W1/F14	30.0	29.7	0.3	1.0	100.0	92.8	7.2	35	6	30	5	14.3	16.7
				W2/F14	36.6	20.5	16.1	44.0				83	26	50	12	39.8	53.8
	R2	RESIDENTIAL	LKD	W3/F14	36.7	21.4	15.3	41.7	95.7	58.1	39.3	83	26	54	15	34.9	42.3
	R3	RESIDENTIAL	BEDROOM	W4/F14	36.7	22.4	14.3	39.0	89.6	37.0	58.7	83	26	56	16	32.5	38.5
	R4	RESIDENTIAL	LKD	W5/F14	36.8	23.4	13.4	36.4	91.3	33.8	62.9	83	26	56	15	32.5	42.3
	R5	RESIDENTIAL	BEDROOM	W6/F14	36.8	24.4	12.4	33.7	81.6	32.6	60	84	27	55	15	34.5	44.4
	R6	RESIDENTIAL	LKD	W7/F14	36.9	25.5	11.4	30.9	86.2	55.1	36	84	27	61	18	27.4	33.3
	R7	RESIDENTIAL	BEDROOM	W8/F14	36.9	26.4	10.5	28.5	97.9	67.6	31	85	28	63	19	25.9	32.1
	R8	RESIDENTIAL	BEDROOM	W9/F14	36.9	27.6	9.3	25.2	81.5	42.2	48.2	85	28	64	20	24.7	28.6
	R9	RESIDENTIAL	BEDROOM	W10/F14	36.9	28.6	8.3	22.5	89.4	62.1	30.6	85	28	61	19	28.2	32.1
	R10	RESIDENTIAL	LKD	W11/F14	37.0	29.6	7.4	20.0	98.9	98.6	0.3	85	28	67	21	21.2	25.0
				W12/F14	38.6	38.6	0.0	0.0				44	12	44	12	0.0	0.0
F15	R1	RESIDENTIAL	LKD	W1/F15	30.3	29.9	0.4	1.3	100.0	92.8	7.2	35	6	30	5	14.3	16.7
				W2/F15	36.8	20.7	16.1	43.8				83	26	51	12	38.6	53.8
	R2	RESIDENTIAL	LKD	W3/F15	36.8	21.7	15.1	41.0	97.1	55.7	42.7	83	26	54	15	34.9	42.3
	R3	RESIDENTIAL	BEDROOM	W4/F15	36.9	22.7	14.2	38.5	91.6	42.6	53.5	83	26	56	16	32.5	38.5
	R4**	RESIDENTIAL	LKD	W5/F15	36.9	23.7	13.2	35.8	98.4	38.4	61	83	26	56	15	32.5	42.3
	R5	RESIDENTIAL	BEDROOM	W6/F15	36.9	24.7	12.2	33.1	86.5	37.7	56.4	84	27	55	15	34.5	44.4

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
AXIS TOWER (CONTINUED)																	
F15	R6	RESIDENTIAL	LKD	W7/F15	37.0	25.8	11.2	30.3	88.5	63.4	28.3	84	27	62	19	26.2	29.6
	R7	RESIDENTIAL	BEDROOM	W8/F15	37.0	26.7	10.3	27.8	98.4	74.7	24.1	85	28	63	19	25.9	32.1
	R8	RESIDENTIAL	BEDROOM	W9/F15	37.0	27.9	9.1	24.6	85.9	48.1	44.1	85	28	64	20	24.7	28.6
	R9	RESIDENTIAL	BEDROOM	W10/F15	37.1	28.9	8.2	22.1	90.7	71.2	21.5	85	28	61	19	28.2	32.1
	R10	RESIDENTIAL	LKD	W11/F15	37.1	29.9	7.2	19.4	99.5	98.7	0.8	85	28	68	22	20.0	21.4
				W12/F15	38.6	38.6	0.0	0.0				45	13	45	13	0.0	0.0
F16	R1	RESIDENTIAL	LKD	W1/F16	30.5	30.1	0.4	1.3	100.0	92.8	7.2	35	6	30	5	14.3	16.7
				W2/F16	36.9	21.0	15.9	43.1				83	26	52	13	37.3	50.0
	R2	RESIDENTIAL	LKD	W3/F16	36.9	21.9	15.0	40.7	97.9	55.0	43.8	83	26	55	15	33.7	42.3
	R3	RESIDENTIAL	BEDROOM	W4/F16	37.0	22.7	14.3	38.6	89.5	36.8	58.8	83	26	56	16	32.5	38.5
	R4**	RESIDENTIAL	LKD	W5/F16	37.0	24.0	13.0	35.1	99.1	45.9	53.7	83	26	56	15	32.5	42.3
	R5	RESIDENTIAL	BEDROOM	W6/F16	37.1	25.0	12.1	32.6	89.3	44.3	50.4	85	28	56	16	34.1	42.9
	R6	RESIDENTIAL	LKD	W7/F16	37.1	26.1	11.0	29.6	88.7	69.0	22.1	85	28	62	19	27.1	32.1
	R7	RESIDENTIAL	BEDROOM	W8/F16	37.1	27.0	10.1	27.2	98.3	83.3	15.2	85	28	63	19	25.9	32.1
	R8	RESIDENTIAL	BEDROOM	W9/F16	37.2	28.1	9.1	24.5	87.2	56.3	35.4	85	28	63	20	25.9	28.6
	R9	RESIDENTIAL	BEDROOM	W10/F16	37.2	29.0	8.2	22.0	89.4	62.1	30.5	85	28	61	19	28.2	32.1
	R10	RESIDENTIAL	LKD	W11/F16	37.2	30.2	7.0	18.8	99.8	98.7	1.2	85	28	68	22	20.0	21.4
				W12/F16	38.7	38.7	0.0	0.0				45	13	45	13	0.0	0.0
F17	R1	RESIDENTIAL	LKD	W1/F17	30.7	30.4	0.3	1.0	100.0	93.1	6.9	37	7	31	5	16.2	28.6
				W2/F17	37.0	21.2	15.8	42.7				83	26	53	14	36.1	46.2
	R2	RESIDENTIAL	LKD	W3/F17	37.1	22.2	14.9	40.2	98.2	56.5	42.5	84	27	56	16	33.3	40.7
	R3	RESIDENTIAL	BEDROOM	W4/F17	37.1	23.0	14.1	38.0	91.7	42.1	54.1	84	27	56	16	33.3	40.7
	R4**	RESIDENTIAL	LKD	W5/F17	37.1	24.3	12.8	34.5	98.9	54.7	44.7	84	27	56	15	33.3	44.4
	R5	RESIDENTIAL	BEDROOM	W6/F17	37.2	25.3	11.9	32.0	91.2	51.5	43.5	85	28	56	16	34.1	42.9
	R6	RESIDENTIAL	LKD	W7/F17	37.2	26.4	10.8	29.0	86.9	74.5	14.2	85	28	62	19	27.1	32.1
	R7	RESIDENTIAL	BEDROOM	W8/F17	37.2	27.3	9.9	26.6	97.5	90.4	7.2	85	28	62	19	27.1	32.1
	R8	RESIDENTIAL	BEDROOM	W9/F17	37.3	28.4	8.9	23.9	86.5	66.1	23.5	85	28	63	20	25.9	28.6
	R9	RESIDENTIAL	BEDROOM	W10/F17	37.3	29.3	8.0	21.4	90.8	71.2	21.5	85	28	61	19	28.2	32.1
	R10	RESIDENTIAL	LKD	W11/F17	37.3	30.5	6.8	18.2	100.0	98.7	1.3	85	28	68	22	20.0	21.4
				W12/F17	38.7	38.7	0.0	0.0				45	13	45	13	0.0	0.0
F18	R1	RESIDENTIAL	LKD	W1/F18	31.0	30.6	0.4	1.3	100.0	93.8	6.2	37	7	32	5	13.5	28.6
				W2/F18	37.1	21.5	15.6	42.0				84	27	53	13	36.9	51.9
	R2	RESIDENTIAL	LKD	W3/F18	37.2	22.3	14.9	40.1	96.9	56.5	41.7	84	27	54	15	35.7	44.4
	R3	RESIDENTIAL	BEDROOM	W4/F18	37.2	23.2	14.0	37.6	89.6	37.1	58.6	84	27	56	16	33.3	40.7
	R4	RESIDENTIAL	LKD	W5/F18	37.2	24.1	13.1	35.2	93.3	32.9	64.7	84	27	56	15	33.3	44.4
	R5	RESIDENTIAL	BEDROOM	W6/F18	37.3	25.2	12.1	32.4	84.2	15.7	81.3	85	28	56	15	34.1	46.4
	R6	RESIDENTIAL	LKD	W7/F18	37.3	26.3	11.0	29.5	86.2	56.6	34.4	85	28	62	18	27.1	35.7
	R7	RESIDENTIAL	BEDROOM	W8/F18	37.4	27.2	10.2	27.3	97.9	67.1	31.5	85	28	64	19	24.7	32.1
	R8	RESIDENTIAL	BEDROOM	W9/F18	37.4	28.3	9.1	24.3	82.9	44.3	46.5	85	28	65	20	23.5	28.6
	R9	RESIDENTIAL	BEDROOM	W10/F18	37.4	29.4	8.0	21.4	89.7	64.1	28.5	85	28	63	19	25.9	32.1
	R10	RESIDENTIAL	LKD	W11/F18	37.5	31.1	6.4	17.1	100.0	99.8	0.2	85	28	69	22	18.8	21.4
				W12/F18	38.8	38.8	0.0	0.0				45	13	45	13	0.0	0.0
F19	R1	RESIDENTIAL	LKD	W1/F19	31.2	30.9	0.3	1.0	100.0	95.0	5	38	8	34	6	10.5	25.0
				W2/F19	37.3	21.9	15.4	41.3				85	28	54	14	36.5	50.0
	R2	RESIDENTIAL	LKD	W3/F19	37.3	22.6	14.7	39.4	97.7	54.9	43.8	85	28	55	15	35.3	46.4

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
AXIS TOWER (CONTINUED)																	
F19	R3	RESIDENTIAL	BEDROOM	W4/F19	37.3	23.5	13.8	37.0	91.8	41.9	54.3	84	27	56	16	33.3	40.7
	R4	RESIDENTIAL	LKD	W5/F19	37.4	24.5	12.9	34.5	98.5	37.5	62	84	27	56	15	33.3	44.4
	R5	RESIDENTIAL	BEDROOM	W6/F19	37.4	25.5	11.9	31.8	88.3	40.0	54.6	85	28	57	16	32.9	42.9
	R6	RESIDENTIAL	LKD	W7/F19	37.4	26.7	10.7	28.6	88.6	65.0	26.6	85	28	63	19	25.9	32.1
	R7	RESIDENTIAL	BEDROOM	W8/F19	37.5	27.5	10.0	26.7	98.5	74.2	24.7	85	28	65	19	23.5	32.1
	R8	RESIDENTIAL	BEDROOM	W9/F19	37.5	28.7	8.8	23.5	87.1	50.4	42.1	85	28	67	20	21.2	28.6
	R9	RESIDENTIAL	BEDROOM	W10/F19	37.5	29.7	7.8	20.8	90.9	73.8	18.7	85	28	64	19	24.7	32.1
	R10	RESIDENTIAL	LKD	W11/F19	37.6	31.4	6.2	16.5	100.0	100.0	0	85	28	71	22	16.5	21.4
				W12/F19	38.8	38.8	0.0	0.0				45	13	45	13	0.0	0.0
F20	R1	RESIDENTIAL	LKD	W1/F20	31.5	31.1	0.4	1.3	100.0	96.9	3.1	38	8	34	6	10.5	25.0
				W2/F20	37.4	22.2	15.2	40.6				85	28	56	14	34.1	50.0
	R2	RESIDENTIAL	LKD	W3/F20	37.4	23.0	14.4	38.5	98.3	55.8	43.2	85	28	57	16	32.9	42.9
	R3	RESIDENTIAL	BEDROOM	W4/F20	37.5	23.7	13.8	36.8	89.1	36.6	58.9	85	28	58	16	31.8	42.9
	R4**	RESIDENTIAL	LKD	W5/F20	37.5	24.8	12.7	33.9	99.1	43.8	55.8	84	27	57	15	32.1	44.4
	R5	RESIDENTIAL	BEDROOM	W6/F20	37.5	25.6	11.9	31.7	84.1	14.8	82.4	85	28	57	15	32.9	46.4
	R6	RESIDENTIAL	LKD	W7/F20	37.6	26.8	10.8	28.7	86.1	56.5	34.4	85	28	63	18	25.9	35.7
	R7	RESIDENTIAL	BEDROOM	W8/F20	37.6	27.7	9.9	26.3	97.7	65.9	32.5	85	28	66	19	22.4	32.1
	R8	RESIDENTIAL	BEDROOM	W9/F20	37.6	28.8	8.8	23.4	82.4	44.7	45.8	85	28	67	20	21.2	28.6
	R9	RESIDENTIAL	BEDROOM	W10/F20	37.6	29.8	7.8	20.7	89.4	64.3	28.1	85	28	64	19	24.7	32.1
	R10	RESIDENTIAL	LKD	W11/F20	37.7	31.5	6.2	16.4	100.0	99.8	0.2	85	28	71	22	16.5	21.4
				W12/F20	38.8	38.8	0.0	0.0				45	13	45	13	0.0	0.0
F21	R1	RESIDENTIAL	LKD	W1/F21	31.8	31.4	0.4	1.3	100.0	98.7	1.3	38	8	34	6	10.5	25.0
				W2/F21	37.5	22.6	14.9	39.7				85	28	58	14	31.8	50.0
	R2	RESIDENTIAL	LKD	W3/F21	37.5	23.4	14.1	37.6	98.1	60.3	38.6	85	28	60	17	29.4	39.3
	R3	RESIDENTIAL	BEDROOM	W4/F21	37.6	24.1	13.5	35.9	91.7	42.2	53.9	84	27	59	16	29.8	40.7
	R4**	RESIDENTIAL	LKD	W5/F21	37.6	25.2	12.4	33.0	98.9	52.9	46.5	84	27	58	15	31.0	44.4
	R5	RESIDENTIAL	BEDROOM	W6/F21	37.6	26.0	11.6	30.9	88.3	39.9	54.8	85	28	60	16	29.4	42.9
	R6	RESIDENTIAL	LKD	W7/F21	37.7	27.2	10.5	27.9	88.5	65.8	25.6	85	28	65	19	23.5	32.1
	R7	RESIDENTIAL	BEDROOM	W8/F21	37.7	28.1	9.6	25.5	98.3	73.5	25.3	85	28	68	19	20.0	32.1
	R8	RESIDENTIAL	BEDROOM	W9/F21	37.7	29.2	8.5	22.5	86.6	50.9	41.2	85	28	68	20	20.0	28.6
	R9	RESIDENTIAL	BEDROOM	W10/F21	37.8	30.2	7.6	20.1	90.6	74.3	18	85	28	67	19	21.2	32.1
	R10	RESIDENTIAL	LKD	W11/F21	37.8	31.8	6.0	15.9	100.0	100.0	0	85	28	72	22	15.3	21.4
				W12/F21	38.9	38.9	0.0	0.0				45	13	45	13	0.0	0.0
F22	R1	RESIDENTIAL	LKD	W1/F22	32.0	31.7	0.3	0.9	100.0	93.0	7	38	8	34	6	10.5	25.0
				W2/F22	37.6	22.6	15.0	39.9				85	28	56	13	34.1	53.6
	R2	RESIDENTIAL	LKD	W3/F22	37.6	23.6	14.0	37.2	98.1	55.5	43.4	85	28	62	16	27.1	42.9
	R3	RESIDENTIAL	BEDROOM	W4/F22	37.7	24.3	13.4	35.5	89.8	38.4	57.3	85	28	62	16	27.1	42.9
	R4	RESIDENTIAL	LKD	W5/F22	37.7	25.2	12.5	33.2	97.4	32.9	66.2	84	27	61	15	27.4	44.4
	R5	RESIDENTIAL	BEDROOM	W6/F22	37.7	26.2	11.5	30.5	84.8	34.9	58.9	85	28	61	15	28.2	46.4
	R6	RESIDENTIAL	LKD	W7/F22	37.8	27.4	10.4	27.5	86.4	59.1	31.5	85	28	66	18	22.4	35.7
	R7	RESIDENTIAL	BEDROOM	W8/F22	37.8	28.5	9.3	24.6	98.4	81.5	17.2	85	28	69	19	18.8	32.1
	R8	RESIDENTIAL	BEDROOM	W9/F22	37.8	29.4	8.4	22.2	83.1	46.2	44.4	85	28	69	20	18.8	28.6
	R9	RESIDENTIAL	BEDROOM	W10/F22	37.8	30.4	7.4	19.6	89.9	66.8	25.6	85	28	68	19	20.0	32.1
	R10	RESIDENTIAL	LKD	W11/F22	37.9	31.3	6.6	17.4	99.1	98.7	0.4	85	28	72	21	15.3	25.0
				W12/F22	38.9	38.9	0.0	0.0				45	13	45	13	0.0	0.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
AXIS TOWER (CONTINUED)																	
F23	R1	RESIDENTIAL	LKD	W1/F23	32.2	31.9	0.3	0.9	100.0	93.0	7	38	8	34	6	10.5	25.0
				W2/F23	37.7	23.0	14.7	39.0				85	28	59	13	30.6	53.6
	R2	RESIDENTIAL	LKD	W3/F23	37.8	24.1	13.7	36.2	98.2	57.6	41.4	85	28	62	16	27.1	42.9
	R3	RESIDENTIAL	BEDROOM	W4/F23	37.8	24.8	13.0	34.4	91.8	43.5	52.6	85	28	62	16	27.1	42.9
	R4	RESIDENTIAL	LKD	W5/F23	37.8	25.7	12.1	32.0	98.8	37.4	62.1	85	28	61	15	28.2	46.4
	R5	RESIDENTIAL	BEDROOM	W6/F23	37.8	26.7	11.1	29.4	88.6	41.5	53.1	85	28	62	16	27.1	42.9
	R6	RESIDENTIAL	LKD	W7/F23	37.9	27.9	10.0	26.4	88.8	67.6	23.8	85	28	67	19	21.2	32.1
	R7	RESIDENTIAL	BEDROOM	W8/F23	37.9	28.9	9.0	23.7	97.7	89.3	8.6	85	28	68	19	20.0	32.1
	R8	RESIDENTIAL	BEDROOM	W9/F23	37.9	29.8	8.1	21.4	87.3	53.2	39.1	85	28	69	20	18.8	28.6
	R9	RESIDENTIAL	BEDROOM	W10/F23	38.0	30.8	7.2	18.9	91.1	77.1	15.4	85	28	68	19	20.0	32.1
	R10	RESIDENTIAL	LKD	W11/F23	38.0	31.7	6.3	16.6	99.5	98.7	0.8	85	28	73	22	14.1	21.4
				W12/F23	38.9	38.9	0.0	0.0				45	13	45	13	0.0	0.0
F24	R1	RESIDENTIAL	LKD	W1/F24	32.5	32.2	0.3	0.9	100.0	93.0	7	38	8	34	6	10.5	25.0
				W2/F24	37.8	23.6	14.2	37.6				85	28	60	14	29.4	50.0
	R2	RESIDENTIAL	LKD	W3/F24	37.9	24.3	13.6	35.9	96.2	57.7	40	85	28	60	15	29.4	46.4
	R3	RESIDENTIAL	BEDROOM	W4/F24	37.9	25.1	12.8	33.8	89.9	38.9	56.7	85	28	62	16	27.1	42.9
	R4	RESIDENTIAL	LKD	W5/F24	37.9	26.0	11.9	31.4	97.3	32.4	66.7	85	28	61	15	28.2	46.4
	R5	RESIDENTIAL	BEDROOM	W6/F24	37.9	27.1	10.8	28.5	97.4	63.8	34.5	85	28	62	16	27.1	42.9
	R6	RESIDENTIAL	LKD	W7/F24	38.0	28.2	9.8	25.8	86.6	61.3	29.2	85	28	66	18	22.4	35.7
	R7	RESIDENTIAL	BEDROOM	W8/F24	38.0	29.0	9.0	23.7	97.7	66.3	32.1	85	28	69	19	18.8	32.1
	R8	RESIDENTIAL	BEDROOM	W9/F24	38.0	30.1	7.9	20.8	83.4	48.5	41.9	85	28	71	20	16.5	28.6
	R9	RESIDENTIAL	BEDROOM	W10/F24	38.0	31.0	7.0	18.4	89.9	69.3	22.8	85	28	69	19	18.8	32.1
	R10	RESIDENTIAL	LKD	W11/F24	38.1	32.0	6.1	16.0	100.0	98.7	1.3	85	28	74	22	12.9	21.4
				W12/F24	38.9	38.9	0.0	0.0				45	13	45	13	0.0	0.0
F25	R1	RESIDENTIAL	LKD	W1/F25	32.7	32.4	0.3	0.9	100.0	93.3	6.7	38	8	34	6	10.5	25.0
				W2/F25	37.9	24.1	13.8	36.4				86	29	63	15	26.7	48.3
	R2	RESIDENTIAL	LKD	W3/F25	38.0	24.9	13.1	34.5	97.4	54.8	43.7	86	29	62	15	27.9	48.3
	R3	RESIDENTIAL	BEDROOM	W4/F25	38.0	25.7	12.3	32.4	91.9	44.8	51.2	85	28	63	16	25.9	42.9
	R4	RESIDENTIAL	LKD	W5/F25	38.0	26.6	11.4	30.0	98.7	36.6	62.9	85	28	62	15	27.1	46.4
	R5	RESIDENTIAL	BEDROOM	W6/F25	38.0	27.7	10.3	27.1	98.1	69.6	29	85	28	64	16	24.7	42.9
	R6	RESIDENTIAL	LKD	W7/F25	38.1	28.7	9.4	24.7	88.6	68.4	22.8	85	28	68	19	20.0	32.1
	R7	RESIDENTIAL	BEDROOM	W8/F25	38.1	29.5	8.6	22.6	98.3	73.6	25.1	85	28	70	19	17.6	32.1
	R8	RESIDENTIAL	BEDROOM	W9/F25	38.1	30.6	7.5	19.7	87.3	54.7	37.3	85	28	71	20	16.5	28.6
	R9	RESIDENTIAL	BEDROOM	W10/F25	38.1	31.5	6.6	17.3	90.7	78.4	13.6	85	28	70	19	17.6	32.1
	R10	RESIDENTIAL	LKD	W11/F25	38.2	32.5	5.7	14.9	100.0	98.6	1.4	85	28	74	22	12.9	21.4
				W12/F25	39.0	39.0	0.0	0.0				45	13	45	13	0.0	0.0
F26	R1	RESIDENTIAL	LKD	W1/F26	33.0	32.7	0.3	0.9	100.0	94.0	6	38	8	35	6	7.9	25.0
				W2/F26	38.0	24.8	13.2	34.7				86	29	64	14	25.6	51.7
	R2	RESIDENTIAL	LKD	W3/F26	38.1	25.5	12.6	33.1	98.1	55.6	43.4	86	29	66	16	23.3	44.8
	R3	RESIDENTIAL	BEDROOM	W4/F26	38.1	26.4	11.7	30.7	92.3	53.4	42.1	85	28	66	16	22.4	42.9
	R4**	RESIDENTIAL	LKD	W5/F26	38.1	27.2	10.9	28.6	99.1	42.0	57.6	85	28	65	15	23.5	46.4
	R5	RESIDENTIAL	BEDROOM	W6/F26	38.1	28.3	9.8	25.7	98.0	75.5	22.9	85	28	68	17	20.0	39.3
	R6	RESIDENTIAL	LKD	W7/F26	38.2	29.3	8.9	23.3	88.7	76.5	13.8	85	28	71	19	16.5	32.1
	R7	RESIDENTIAL	BEDROOM	W8/F26	38.2	30.1	8.1	21.2	98.3	82.2	16.4	85	28	72	19	15.3	32.1
	R8	RESIDENTIAL	BEDROOM	W9/F26	38.2	31.1	7.1	18.6	87.3	66.7	23.6	85	28	73	20	14.1	28.6

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
AXIS TOWER (CONTINUED)																	
F26	R9	RESIDENTIAL	BEDROOM	W10/F26	38.2	32.0	6.2	16.2	89.4	85.5	4.4	85	28	72	19	15.3	32.1
	R10	RESIDENTIAL	LKD	W11/F26	38.3	33.0	5.3	13.8	100.0	98.7	1.3	85	28	76	22	10.6	21.4
				W12/F26	39.0	39.0	0.0	0.0				45	13	45	13	0.0	0.0
VIADUX - PHASE 1																	
F02	R1	RESIDENTIAL	LKD	W1/F02	32.9	29.5	3.4	10.3	100.0	100.0	0	69	22	60	15	13.0	31.8
				W2/F02	32.8	29.1	3.7	11.3				68	21	59	15	13.2	28.6
				W9/F02	26.8	26.8	0.0	0.0				32	6	32	6	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F02	32.7	28.7	4.0	12.2	91.6	91.6	0	68	21	58	15	14.7	28.6
	R3	RESIDENTIAL	BEDROOM	W4/F02	32.6	28.3	4.3	13.2	98.8	98.8	0	67	20	56	13	16.4	35.0
	R4	RESIDENTIAL	LKD	W5/F02	32.4	27.8	4.6	14.2	99.9	99.9	0	67	21	57	15	14.9	28.6
				W6/F02	31.8	28.1	3.7	11.6				47	15	37	9	21.3	40.0
				W7/F02	31.8	28.4	3.4	10.7				46	14	37	8	19.6	42.9
				W8/F02	31.9	28.6	3.3	10.3				47	14	39	8	17.0	42.9
F03	R1	RESIDENTIAL	LKD	W1/F03	33.2	29.8	3.4	10.2	100.0	100.0	0	71	22	62	15	12.7	31.8
				W2/F03	33.1	29.5	3.6	10.9				68	21	60	15	11.8	28.6
				W9/F03	27.3	27.3	0.0	0.0				33	6	33	6	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F03	33.0	29.1	3.9	11.8	91.7	91.7	0	69	21	59	15	14.5	28.6
	R3	RESIDENTIAL	BEDROOM	W4/F03	32.9	28.7	4.2	12.8	98.7	98.7	0	69	21	58	14	15.9	33.3
	R4	RESIDENTIAL	LKD	W5/F03	32.7	28.1	4.6	14.1	99.9	99.9	0	69	22	59	16	14.5	27.3
				W6/F03	32.3	28.7	3.6	11.1				49	16	39	10	20.4	37.5
				W7/F03	32.4	29.0	3.4	10.5				47	14	39	8	17.0	42.9
				W8/F03	32.4	29.2	3.2	9.9				48	14	40	8	16.7	42.9
F04	R1	RESIDENTIAL	LKD	W1/F04	33.5	30.1	3.4	10.1	100.0	100.0	0	71	22	62	15	12.7	31.8
				W2/F04	33.4	29.8	3.6	10.8				70	21	62	15	11.4	28.6
				W9/F04	27.6	27.6	0.0	0.0				33	6	33	6	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F04	33.3	29.4	3.9	11.7	91.7	91.7	0	69	21	60	15	13.0	28.6
	R3	RESIDENTIAL	BEDROOM	W4/F04	33.2	29.0	4.2	12.7	98.8	98.8	0	70	22	60	15	14.3	31.8
	R4	RESIDENTIAL	LKD	W5/F04	33.0	28.4	4.6	13.9	99.9	99.9	0	69	22	60	16	13.0	27.3
				W6/F04	32.7	29.1	3.6	11.0				49	16	40	10	18.4	37.5
				W7/F04	32.8	29.5	3.3	10.1				47	14	39	8	17.0	42.9
				W8/F04	32.9	29.7	3.2	9.7				49	14	41	8	16.3	42.9
F05	R1	RESIDENTIAL	LKD	W1/F05	33.7	30.4	3.3	9.8	100.0	100.0	0	72	22	63	15	12.5	31.8
				W2/F05	33.7	30.1	3.6	10.7				70	21	62	15	11.4	28.6
				W9/F05	27.9	27.9	0.0	0.0				34	6	34	6	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F05	33.6	29.7	3.9	11.6	91.8	91.8	0	71	22	62	16	12.7	27.3
	R3	RESIDENTIAL	BEDROOM	W4/F05	33.5	29.3	4.2	12.5	98.8	98.8	0	71	22	61	15	14.1	31.8
	R4	RESIDENTIAL	LKD	W5/F05	33.2	28.8	4.4	13.3	100.0	100.0	0	70	22	61	16	12.9	27.3
				W6/F05	33.1	29.6	3.5	10.6				50	16	41	10	18.0	37.5
				W7/F05	33.2	29.9	3.3	9.9				47	14	39	8	17.0	42.9
				W8/F05	33.3	30.1	3.2	9.6				50	14	42	8	16.0	42.9
F06	R1	RESIDENTIAL	LKD	W1/F06	34.0	30.8	3.2	9.4	100.0	100.0	0	72	22	63	15	12.5	31.8
				W2/F06	33.9	30.4	3.5	10.3				70	21	62	15	11.4	28.6
				W9/F06	28.1	28.1	0.0	0.0				34	6	34	6	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F06	33.8	30.0	3.8	11.2	91.7	91.7	0	72	22	63	16	12.5	27.3
	R3	RESIDENTIAL	BEDROOM	W4/F06	33.7	29.7	4.0	11.9	98.8	98.8	0	72	22	62	15	13.9	31.8

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
VIADUX – PHASE 1 (CONTINUED)																	
F06	R4	RESIDENTIAL	LKD	W5/F06	33.5	29.1	4.4	13.1	99.9	99.9	0	72	22	63	16	12.5	27.3
				W6/F06	33.5	30.0	3.5	10.4				50	16	41	10	18.0	37.5
				W7/F06	33.6	30.4	3.2	9.5				49	14	41	8	16.3	42.9
				W8/F06	33.7	30.6	3.1	9.2				51	14	43	8	15.7	42.9
F07	R1	RESIDENTIAL	LKD	W1/F07	34.2	31.1	3.1	9.1	100.0	100.0	0	74	22	65	15	12.2	31.8
				W2/F07	34.2	30.7	3.5	10.2				74	23	66	17	10.8	26.1
				W9/F07	28.4	28.4	0.0	0.0				35	6	35	6	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F07	34.1	30.3	3.8	11.1	91.6	91.6	0	74	22	65	16	12.2	27.3
	R3	RESIDENTIAL	BEDROOM	W4/F07	34.0	30.0	4.0	11.8	98.8	98.8	0	74	22	64	15	13.5	31.8
	R4	RESIDENTIAL	LKD	W5/F07	33.7	29.4	4.3	12.8	99.9	99.9	0	73	22	64	16	12.3	27.3
				W6/F07	33.8	30.4	3.4	10.1				50	16	41	10	18.0	37.5
				W7/F07	33.9	30.8	3.1	9.1				51	14	43	8	15.7	42.9
				W8/F07	34.0	31.0	3.0	8.8				51	14	44	8	13.7	42.9
F08	R1	RESIDENTIAL	LKD	W1/F08	34.5	31.4	3.1	9.0	100.0	100.0	0	76	23	68	16	10.5	30.4
				W2/F08	34.4	31.0	3.4	9.9				76	23	68	17	10.5	26.1
				W9/F08	28.6	28.6	0.0	0.0				37	7	37	7	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F08	34.3	30.7	3.6	10.5	91.8	91.8	0	76	23	67	17	11.8	26.1
	R3	RESIDENTIAL	BEDROOM	W4/F08	34.2	30.3	3.9	11.4	98.8	98.8	0	74	22	64	15	13.5	31.8
	R4	RESIDENTIAL	LKD	W5/F08	34.0	29.7	4.3	12.6	100.0	100.0	0	74	22	65	16	12.2	27.3
				W6/F08	34.1	30.8	3.3	9.7				51	16	42	10	17.6	37.5
				W7/F08	34.2	31.1	3.1	9.1				51	14	44	8	13.7	42.9
				W8/F08	34.3	31.4	2.9	8.5				51	14	44	8	13.7	42.9
F09	R1	RESIDENTIAL	LKD	W1/F09	34.7	31.7	3.0	8.6	100.0	100.0	0	76	23	68	16	10.5	30.4
				W2/F09	34.7	31.4	3.3	9.5				76	23	69	17	9.2	26.1
				W9/F09	28.8	28.8	0.0	0.0				37	7	37	7	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F09	34.6	31.0	3.6	10.4	91.7	91.7	0	76	23	68	17	10.5	26.1
	R3	RESIDENTIAL	BEDROOM	W4/F09	34.4	30.6	3.8	11.0	98.8	98.8	0	77	23	68	16	11.7	30.4
	R4	RESIDENTIAL	LKD	W5/F09	34.2	30.1	4.1	12.0	100.0	100.0	0	77	23	68	17	11.7	26.1
				W6/F09	34.4	31.1	3.3	9.6				52	16	44	10	15.4	37.5
				W7/F09	34.5	31.5	3.0	8.7				52	14	45	8	13.5	42.9
				W8/F09	34.6	31.7	2.9	8.4				52	14	45	8	13.5	42.9
F10	R1	RESIDENTIAL	LKD	W1/F10	35.0	32.0	3.0	8.6	100.0	100.0	0	78	23	70	16	10.3	30.4
				W2/F10	34.9	31.7	3.2	9.2				78	23	71	17	9.0	26.1
				W9/F10	29.1	29.1	0.0	0.0				37	7	37	7	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F10	34.8	31.3	3.5	10.1	91.8	91.8	0	77	23	69	17	10.4	26.1
	R3	RESIDENTIAL	BEDROOM	W4/F10	34.7	31.0	3.7	10.7	98.8	98.8	0	77	23	68	16	11.7	30.4
	R4	RESIDENTIAL	LKD	W5/F10	34.5	30.4	4.1	11.9	100.0	100.0	0	77	23	69	17	10.4	26.1
				W6/F10	34.7	31.5	3.2	9.2				53	16	45	10	15.1	37.5
				W7/F10	34.8	31.9	2.9	8.3				52	14	45	8	13.5	42.9
				W8/F10	34.9	32.1	2.8	8.0				52	14	45	8	13.5	42.9
F11	R1	RESIDENTIAL	LKD	W1/F11	35.2	32.4	2.8	8.0	100.0	100.0	0	79	23	72	16	8.9	30.4
				W2/F11	35.2	32.0	3.2	9.1				79	23	72	17	8.9	26.1
				W9/F11	29.3	29.3	0.0	0.0				39	7	39	7	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F11	35.1	31.7	3.4	9.7	91.7	91.7	0	79	23	71	17	10.1	26.1
	R3	RESIDENTIAL	BEDROOM	W4/F11	34.9	31.3	3.6	10.3	98.8	98.8	0	78	23	69	16	11.5	30.4

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
VIADUX – PHASE 1 (CONTINUED)																	
F11	R4	RESIDENTIAL	LKD	W5/F11	34.7	30.8	3.9	11.2	100.0	100.0	0	78	23	70	17	10.3	26.1
				W6/F11	35.0	31.9	3.1	8.9				54	16	46	10	14.8	37.5
				W7/F11	35.1	32.3	2.8	8.0				52	14	45	8	13.5	42.9
				W8/F11	35.2	32.5	2.7	7.7				52	14	45	8	13.5	42.9
F12	R1	RESIDENTIAL	LKD	W1/F12	35.5	32.7	2.8	7.9	100.0	100.0	0	80	23	73	16	8.8	30.4
				W2/F12	35.4	32.4	3.0	8.5				80	23	74	17	7.5	26.1
				W9/F12	29.5	29.5	0.0	0.0				39	7	39	7	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F12	35.3	32.0	3.3	9.3	91.6	91.6	0	80	23	74	17	7.5	26.1
	R3	RESIDENTIAL	BEDROOM	W4/F12	35.2	31.7	3.5	9.9	98.8	98.8	0	80	23	72	16	10.0	30.4
	R4	RESIDENTIAL	LKD	W5/F12	35.0	31.2	3.8	10.9	100.0	100.0	0	79	23	72	17	8.9	26.1
				W6/F12	35.3	32.3	3.0	8.5				54	16	47	10	13.0	37.5
				W7/F12	35.5	32.7	2.8	7.9				52	14	45	8	13.5	42.9
				W8/F12	35.5	32.9	2.6	7.3				52	14	46	8	11.5	42.9
F13	R1	RESIDENTIAL	LKD	W1/F13	35.7	33.1	2.6	7.3	100.0	100.0	0	80	23	73	16	8.8	30.4
				W2/F13	35.7	32.7	3.0	8.4				80	23	74	17	7.5	26.1
				W9/F13	29.8	29.8	0.0	0.0				39	7	39	7	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F13	35.6	32.4	3.2	9.0	91.6	91.6	0	80	23	74	17	7.5	26.1
	R3	RESIDENTIAL	BEDROOM	W4/F13	35.5	32.1	3.4	9.6	98.8	98.8	0	80	23	73	16	8.8	30.4
	R4	RESIDENTIAL	LKD	W5/F13	35.3	31.6	3.7	10.5	100.0	100.0	0	80	23	73	17	8.8	26.1
				W6/F13	35.7	32.7	3.0	8.4				55	16	48	10	12.7	37.5
				W7/F13	35.8	33.1	2.7	7.5				54	15	48	9	11.1	40.0
				W8/F13	35.9	33.3	2.6	7.2				54	15	48	9	11.1	40.0
F14	R1	RESIDENTIAL	LKD	W1/F14	36.0	33.4	2.6	7.2	100.0	100.0	0	80	23	73	16	8.8	30.4
				W2/F14	35.9	33.1	2.8	7.8				80	23	74	17	7.5	26.1
				W9/F14	30.1	30.1	0.0	0.0				39	7	39	7	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F14	35.8	32.8	3.0	8.4	91.6	91.6	0	80	23	74	17	7.5	26.1
	R3	RESIDENTIAL	BEDROOM	W4/F14	35.7	32.4	3.3	9.2	98.8	98.8	0	80	23	73	16	8.8	30.4
	R4	RESIDENTIAL	LKD	W5/F14	35.5	32.0	3.5	9.9	100.0	100.0	0	80	23	74	17	7.5	26.1
				W6/F14	36.0	33.2	2.8	7.8				55	16	49	10	10.9	37.5
				W7/F14	36.1	33.5	2.6	7.2				54	15	48	9	11.1	40.0
				W8/F14	36.2	33.7	2.5	6.9				54	15	48	9	11.1	40.0
F15	R1	RESIDENTIAL	LKD	W1/F15	36.2	33.8	2.4	6.6	100.0	100.0	0	80	23	73	16	8.8	30.4
				W2/F15	36.2	33.5	2.7	7.5				80	23	74	17	7.5	26.1
				W9/F15	30.3	30.3	0.0	0.0				39	7	39	7	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F15	36.1	33.1	3.0	8.3	91.7	91.7	0	80	23	74	17	7.5	26.1
	R3	RESIDENTIAL	BEDROOM	W4/F15	36.0	32.8	3.2	8.9	98.9	98.9	0	80	23	73	16	8.8	30.4
	R4	RESIDENTIAL	LKD	W5/F15	35.8	32.4	3.4	9.5	100.0	100.0	0	80	23	74	17	7.5	26.1
				W6/F15	36.4	33.7	2.7	7.4				55	16	49	10	10.9	37.5
				W7/F15	36.5	34.0	2.5	6.8				54	15	48	9	11.1	40.0
				W8/F15	36.5	34.2	2.3	6.3				54	15	49	10	9.3	33.3
F16	R1	RESIDENTIAL	LKD	W1/F16	36.5	34.1	2.4	6.6	100.0	100.0	0	80	23	74	17	7.5	26.1
				W2/F16	36.4	33.8	2.6	7.1				80	23	74	17	7.5	26.1
				W9/F16	30.6	30.6	0.0	0.0				39	7	39	7	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F16	36.3	33.5	2.8	7.7	91.8	91.8	0	80	23	74	17	7.5	26.1
	R3	RESIDENTIAL	BEDROOM	W4/F16	36.2	33.2	3.0	8.3	98.8	98.8	0	80	23	74	17	7.5	26.1

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
VIADUX – PHASE 1 (CONTINUED)																	
F16	R4	RESIDENTIAL	LKD	W5/F16	36.1	32.8	3.3	9.1	100.0	100.0	0	80	23	74	17	7.5	26.1
				W6/F16	36.7	34.1	2.6	7.1				55	16	49	10	10.9	37.5
				W7/F16	36.8	34.4	2.4	6.5				55	16	50	11	9.1	31.2
				W8/F16	36.9	34.6	2.3	6.2				55	16	50	11	9.1	31.2
F17	R1	RESIDENTIAL	LKD	W1/F17	36.7	34.5	2.2	6.0	100.0	100.0	0	81	24	75	18	7.4	25.0
				W2/F17	36.7	34.2	2.5	6.8				80	23	74	17	7.5	26.1
				W9/F17	30.8	30.8	0.0	0.0				39	7	39	7	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F17	36.6	33.9	2.7	7.4	91.7	91.7	0	80	23	74	17	7.5	26.1
	R3	RESIDENTIAL	BEDROOM	W4/F17	36.5	33.6	2.9	7.9	98.8	98.8	0	80	23	74	17	7.5	26.1
	R4	RESIDENTIAL	LKD	W5/F17	36.4	33.2	3.2	8.8	100.0	100.0	0	80	23	75	18	6.2	21.7
				W6/F17	37.1	34.6	2.5	6.7				55	16	50	11	9.1	31.2
				W7/F17	37.2	34.9	2.3	6.2				55	16	50	11	9.1	31.2
				W8/F17	37.2	35.1	2.1	5.6				55	16	50	11	9.1	31.2
F18	R1	RESIDENTIAL	LKD	W1/F18	36.9	34.8	2.1	5.7	100.0	100.0	0	82	25	77	20	6.1	20.0
				W2/F18	36.9	34.6	2.3	6.2				82	25	76	19	7.3	24.0
				W9/F18	31.0	31.0	0.0	0.0				39	7	39	7	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F18	36.8	34.3	2.5	6.8	91.6	91.6	0	82	25	76	19	7.3	24.0
	R3	RESIDENTIAL	BEDROOM	W4/F18	36.8	34.0	2.8	7.6	98.9	98.9	0	81	24	75	18	7.4	25.0
	R4	RESIDENTIAL	LKD	W5/F18	36.7	33.7	3.0	8.2	100.0	100.0	0	81	24	76	19	6.2	20.8
				W6/F18	37.5	35.1	2.4	6.4				56	17	51	12	8.9	29.4
				W7/F18	37.5	35.4	2.1	5.6				55	16	50	11	9.1	31.2
				W8/F18	37.6	35.5	2.1	5.6				56	17	51	12	8.9	29.4
F19	R1	RESIDENTIAL	LKD	W1/F19	37.2	35.2	2.0	5.4	100.0	100.0	0	82	25	77	20	6.1	20.0
				W2/F19	37.1	34.9	2.2	5.9				82	25	77	20	6.1	20.0
				W9/F19	31.3	31.3	0.0	0.0				39	7	39	7	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F19	37.1	34.7	2.4	6.5	91.9	91.9	0	82	25	76	19	7.3	24.0
	R3	RESIDENTIAL	BEDROOM	W4/F19	37.0	34.4	2.6	7.0	98.9	98.9	0	82	25	76	19	7.3	24.0
	R4	RESIDENTIAL	LKD	W5/F19	36.9	34.1	2.8	7.6	100.0	100.0	0	82	25	77	20	6.1	20.0
				W6/F19	37.8	35.6	2.2	5.8				57	18	52	13	8.8	27.8
				W7/F19	37.9	35.8	2.1	5.5				57	18	53	14	7.0	22.2
				W8/F19	37.9	36.0	1.9	5.0				57	18	53	14	7.0	22.2
F20	R1	RESIDENTIAL	LKD	W1/F20	37.4	35.5	1.9	5.1	100.0	100.0	0	82	25	77	20	6.1	20.0
				W2/F20	37.3	35.2	2.1	5.6				82	25	77	20	6.1	20.0
				W9/F20	31.3	31.3	0.0	0.0				39	7	39	7	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F20	37.3	35.0	2.3	6.2	91.8	91.8	0	82	25	77	20	6.1	20.0
	R3	RESIDENTIAL	BEDROOM	W4/F20	37.2	34.8	2.4	6.5	98.8	98.8	0	82	25	77	20	6.1	20.0
	R4	RESIDENTIAL	LKD	W5/F20	37.2	34.5	2.7	7.3	100.0	100.0	0	82	25	78	21	4.9	16.0
				W6/F20	38.2	36.1	2.1	5.5				57	18	53	14	7.0	22.2
				W7/F20	38.2	36.3	1.9	5.0				57	18	53	14	7.0	22.2
				W8/F20	38.2	36.4	1.8	4.7				57	18	53	14	7.0	22.2
F21	R1	RESIDENTIAL	LKD	W1/F21	37.5	35.8	1.7	4.5	100.0	100.0	0	82	25	78	21	4.9	16.0
				W2/F21	37.5	35.6	1.9	5.1				82	25	78	21	4.9	16.0
				W9/F21	31.4	31.4	0.0	0.0				39	7	39	7	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F21	37.5	35.3	2.2	5.9	91.7	91.7	0	82	25	78	21	4.9	16.0
	R3	RESIDENTIAL	BEDROOM	W4/F21	37.4	35.2	2.2	5.9	98.8	98.8	0	82	25	78	21	4.9	16.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
VIADUX – PHASE 1 (CONTINUED)																	
F21	R4	RESIDENTIAL	LKD	W5/F21	37.4	34.9	2.5	6.7	100.0	100.0	0	82	25	78	21	4.9	16.0
				W6/F21	38.5	36.5	2.0	5.2				57	18	53	14	7.0	22.2
				W7/F21	38.5	36.7	1.8	4.7				57	18	53	14	7.0	22.2
				W8/F21	38.6	36.9	1.7	4.4				57	18	53	14	7.0	22.2
F22	R1	RESIDENTIAL	LKD	W1/F22	37.7	36.0	1.7	4.5	100.0	100.0	0	83	26	80	23	3.6	11.5
				W2/F22	37.7	35.9	1.8	4.8				83	26	79	22	4.8	15.4
				W9/F22	31.5	31.5	0.0	0.0				39	7	39	7	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F22	37.6	35.7	1.9	5.1	91.8	91.8	0	83	26	79	22	4.8	15.4
	R3	RESIDENTIAL	BEDROOM	W4/F22	37.6	35.5	2.1	5.6	98.8	98.8	0	82	25	78	21	4.9	16.0
	R4	RESIDENTIAL	LKD	W5/F22	37.6	35.3	2.3	6.1	100.0	100.0	0	82	25	78	21	4.9	16.0
				W6/F22	38.8	37.0	1.8	4.6				57	18	53	14	7.0	22.2
				W7/F22	38.8	37.2	1.6	4.1				57	18	53	14	7.0	22.2
				W8/F22	38.9	37.3	1.6	4.1				57	18	53	14	7.0	22.2
F23	R1	RESIDENTIAL	LKD	W1/F23	37.8	36.3	1.5	4.0	100.0	100.0	0	83	26	80	23	3.6	11.5
				W2/F23	37.8	36.2	1.6	4.2				83	26	80	23	3.6	11.5
				W9/F23	31.7	31.7	0.0	0.0				39	7	39	7	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F23	37.8	36.0	1.8	4.8	91.7	91.7	0	83	26	79	22	4.8	15.4
	R3	RESIDENTIAL	BEDROOM	W4/F23	37.8	35.9	1.9	5.0	98.9	98.9	0	83	26	79	22	4.8	15.4
	R4	RESIDENTIAL	LKD	W5/F23	37.8	35.7	2.1	5.6	100.0	100.0	0	83	26	79	22	4.8	15.4
				W6/F23	39.1	37.4	1.7	4.3				58	19	54	15	6.9	21.1
				W7/F23	39.1	37.6	1.5	3.8				58	19	54	15	6.9	21.1
				W8/F23	39.1	37.7	1.4	3.6				58	19	55	16	5.2	15.8
F24	R1	RESIDENTIAL	LKD	W1/F24	38.0	36.6	1.4	3.7	100.0	100.0	0	83	26	80	23	3.6	11.5
				W2/F24	38.0	36.5	1.5	3.9				83	26	80	23	3.6	11.5
				W9/F24	31.8	31.8	0.0	0.0				39	7	39	7	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F24	38.0	36.3	1.7	4.5	91.8	91.8	0	83	26	80	23	3.6	11.5
	R3	RESIDENTIAL	BEDROOM	W4/F24	38.0	36.2	1.8	4.7	98.9	98.9	0	83	26	80	23	3.6	11.5
	R4	RESIDENTIAL	LKD	W5/F24	38.0	36.0	2.0	5.3	100.0	100.0	0	83	26	80	23	3.6	11.5
				W6/F24	39.4	37.8	1.6	4.1				58	19	55	16	5.2	15.8
				W7/F24	39.4	38.0	1.4	3.6				58	19	55	16	5.2	15.8
				W8/F24	39.4	38.0	1.4	3.6				58	19	55	16	5.2	15.8
F25	R1	RESIDENTIAL	LKD	W1/F25	38.1	36.8	1.3	3.4	100.0	100.0	0	84	27	82	25	2.4	7.4
				W2/F25	38.1	36.7	1.4	3.7				84	27	82	25	2.4	7.4
				W9/F25	31.9	31.9	0.0	0.0				40	8	40	8	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F25	38.1	36.6	1.5	3.9	91.6	91.6	0	83	26	80	23	3.6	11.5
	R3	RESIDENTIAL	BEDROOM	W4/F25	38.1	36.5	1.6	4.2	98.8	98.8	0	84	27	81	24	3.6	11.1
	R4	RESIDENTIAL	LKD	W5/F25	38.1	36.4	1.7	4.5	100.0	100.0	0	83	26	80	23	3.6	11.5
				W6/F25	39.5	38.1	1.4	3.5				58	19	55	16	5.2	15.8
				W7/F25	39.5	38.3	1.2	3.0				58	19	55	16	5.2	15.8
				W8/F25	39.5	38.3	1.2	3.0				58	19	55	16	5.2	15.8
F26	R1	RESIDENTIAL	LKD	W1/F26	38.2	37.1	1.1	2.9	100.0	100.0	0	84	27	83	26	1.2	3.7
				W2/F26	38.2	37.0	1.2	3.1				84	27	82	25	2.4	7.4
				W9/F26	32.1	32.1	0.0	0.0				40	8	40	8	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F26	38.2	36.9	1.3	3.4	91.7	91.7	0	83	26	80	23	3.6	11.5
	R3	RESIDENTIAL	BEDROOM	W4/F26	38.2	36.8	1.4	3.7	98.9	98.9	0	84	27	81	24	3.6	11.1

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
VIADUX – PHASE 1 (CONTINUED)																	
F26	R4	RESIDENTIAL	LKD	W5/F26	38.2	36.6	1.6	4.2	100.0	100.0	0	84	27	81	24	3.6	11.1
				W6/F26	39.5	38.3	1.2	3.0				58	19	55	16	5.2	15.8
				W7/F26	39.5	38.4	1.1	2.8				58	19	56	17	3.4	10.5
				W8/F26	39.5	38.5	1.0	2.5				58	19	56	17	3.4	10.5
F27	R1	RESIDENTIAL	LKD	W1/F27	38.2	37.3	0.9	2.4	100.0	100.0	0	84	27	83	26	1.2	3.7
				W2/F27	38.3	37.2	1.1	2.9				84	27	83	26	1.2	3.7
				W9/F27	32.2	32.2	0.0	0.0				40	8	40	8	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F27	38.3	37.1	1.2	3.1	91.7	91.7	0	84	27	82	25	2.4	7.4
	R3	RESIDENTIAL	BEDROOM	W4/F27	38.3	37.0	1.3	3.4	98.8	98.8	0	84	27	82	25	2.4	7.4
	R4	RESIDENTIAL	LKD	W5/F27	38.3	36.9	1.4	3.7	100.0	100.0	0	84	27	82	25	2.4	7.4
				W6/F27	39.5	38.4	1.1	2.8				58	19	56	17	3.4	10.5
				W7/F27	39.5	38.5	1.0	2.5				58	19	56	17	3.4	10.5
				W8/F27	39.5	38.6	0.9	2.3				58	19	56	17	3.4	10.5
F28	R1	RESIDENTIAL	LKD	W1/F28	38.3	37.5	0.8	2.1	100.0	100.0	0	84	27	83	26	1.2	3.7
				W2/F28	38.3	37.4	0.9	2.3				84	27	83	26	1.2	3.7
				W9/F28	32.4	32.4	0.0	0.0				40	8	40	8	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F28	38.3	37.3	1.0	2.6	91.7	91.7	0	84	27	82	25	2.4	7.4
	R3	RESIDENTIAL	BEDROOM	W4/F28	38.3	37.3	1.0	2.6	98.9	98.9	0	84	27	82	25	2.4	7.4
	R4	RESIDENTIAL	LKD	W5/F28	38.4	37.2	1.2	3.1	100.0	100.0	0	84	27	82	25	2.4	7.4
				W6/F28	39.5	38.6	0.9	2.3				58	19	56	17	3.4	10.5
				W7/F28	39.5	38.7	0.8	2.0				58	19	56	17	3.4	10.5
				W8/F28	39.5	38.7	0.8	2.0				58	19	56	17	3.4	10.5
F29	R1	RESIDENTIAL	LKD	W1/F29	38.4	37.7	0.7	1.8	100.0	100.0	0	84	27	84	27	0.0	0.0
				W2/F29	38.4	37.6	0.8	2.1				84	27	84	27	0.0	0.0
				W9/F29	32.6	32.6	0.0	0.0				40	8	40	8	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F29	38.4	37.6	0.8	2.1	91.7	91.7	0	84	27	84	27	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W4/F29	38.4	37.5	0.9	2.3	98.9	98.9	0	84	27	84	27	0.0	0.0
	R4	RESIDENTIAL	LKD	W5/F29	38.4	37.4	1.0	2.6	100.0	100.0	0	84	27	83	26	1.2	3.7
				W6/F29	39.5	38.7	0.8	2.0				58	19	57	18	1.7	5.3
				W7/F29	39.5	38.8	0.7	1.8				58	19	58	19	0.0	0.0
				W8/F29	39.5	38.9	0.6	1.5				58	19	58	19	0.0	0.0
F30	R1	RESIDENTIAL	LKD	W1/F30	38.5	37.9	0.6	1.6	100.0	100.0	0	84	27	84	27	0.0	0.0
				W2/F30	38.5	37.8	0.7	1.8				84	27	84	27	0.0	0.0
				W9/F30	32.8	32.8	0.0	0.0				40	8	40	8	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F30	38.5	37.8	0.7	1.8	91.8	91.8	0	84	27	84	27	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W4/F30	38.5	37.7	0.8	2.1	98.9	98.9	0	84	27	84	27	0.0	0.0
	R4	RESIDENTIAL	LKD	W5/F30	38.5	37.7	0.8	2.1	100.0	100.0	0	84	27	84	27	0.0	0.0
				W6/F30	39.5	38.9	0.6	1.5				58	19	58	19	0.0	0.0
				W7/F30	39.5	39.0	0.5	1.3				58	19	58	19	0.0	0.0
				W8/F30	39.5	39.0	0.5	1.3				58	19	58	19	0.0	0.0
F31	R1	RESIDENTIAL	LKD	W1/F31	38.6	38.1	0.5	1.3	100.0	100.0	0	84	27	84	27	0.0	0.0
				W2/F31	38.6	38.1	0.5	1.3				84	27	84	27	0.0	0.0
				W9/F31	33.0	33.0	0.0	0.0				40	8	40	8	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F31	38.6	38.0	0.6	1.6	91.7	91.7	0	84	27	84	27	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W4/F31	38.6	38.0	0.6	1.6	98.8	98.8	0	84	27	84	27	0.0	0.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
VIADUX – PHASE 1 (CONTINUED)																	
F31	R4	RESIDENTIAL	LKD	W5/F31	38.6	37.9	0.7	1.8	100.0	100.0	0	84	27	84	27	0.0	0.0
				W6/F31	39.5	39.0	0.5	1.3				58	19	58	19	0.0	0.0
				W7/F31	39.6	39.1	0.5	1.3				58	19	58	19	0.0	0.0
				W8/F31	39.6	39.1	0.5	1.3				58	19	58	19	0.0	0.0
F32	R1	RESIDENTIAL	LKD	W1/F32	38.6	38.3	0.3	0.8	100.0	100.0	0	85	28	85	28	0.0	0.0
				W2/F32	38.6	38.3	0.3	0.8				85	28	85	28	0.0	0.0
				W9/F32	33.3	33.3	0.0	0.0				41	9	41	9	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F32	38.6	38.2	0.4	1.0	91.8	91.8	0	85	28	85	28	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W4/F32	38.6	38.2	0.4	1.0	98.8	98.8	0	85	28	85	28	0.0	0.0
	R4	RESIDENTIAL	LKD	W5/F32	38.7	38.2	0.5	1.3	100.0	100.0	0	85	28	85	28	0.0	0.0
				W6/F32	39.6	39.2	0.4	1.0				58	19	58	19	0.0	0.0
				W7/F32	39.6	39.2	0.4	1.0				58	19	58	19	0.0	0.0
				W8/F32	39.6	39.2	0.4	1.0				58	19	58	19	0.0	0.0
F33	R1	RESIDENTIAL	LKD	W1/F33	38.7	38.5	0.2	0.5	100.0	100.0	0	85	28	85	28	0.0	0.0
				W2/F33	38.7	38.5	0.2	0.5				86	29	86	29	0.0	0.0
				W9/F33	33.5	33.5	0.0	0.0				42	10	42	10	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F33	38.7	38.5	0.2	0.5	91.8	91.8	0	85	28	85	28	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W4/F33	38.7	38.4	0.3	0.8	98.8	98.8	0	86	29	86	29	0.0	0.0
	R4	RESIDENTIAL	LKD	W5/F33	38.7	38.4	0.3	0.8	100.0	100.0	0	86	29	86	29	0.0	0.0
				W6/F33	39.6	39.3	0.3	0.8				58	19	58	19	0.0	0.0
				W7/F33	39.6	39.4	0.2	0.5				58	19	58	19	0.0	0.0
				W8/F33	39.6	39.4	0.2	0.5				58	19	58	19	0.0	0.0
F34	R1	RESIDENTIAL	LKD	W1/F34	38.8	38.7	0.1	0.3	100.0	100.0	0	86	29	86	29	0.0	0.0
				W2/F34	38.8	38.7	0.1	0.3				86	29	86	29	0.0	0.0
				W9/F34	33.8	33.8	0.0	0.0				42	10	42	10	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F34	38.8	38.7	0.1	0.3	91.6	91.6	0	86	29	86	29	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W4/F34	38.8	38.6	0.2	0.5	98.8	98.8	0	86	29	86	29	0.0	0.0
	R4	RESIDENTIAL	LKD	W5/F34	38.8	38.6	0.2	0.5	100.0	100.0	0	86	29	86	29	0.0	0.0
				W6/F34	39.6	39.5	0.1	0.3				58	19	58	19	0.0	0.0
				W7/F34	39.6	39.5	0.1	0.3				58	19	58	19	0.0	0.0
				W8/F34	39.6	39.5	0.1	0.3				58	19	58	19	0.0	0.0
F35	R1	RESIDENTIAL	LKD	W1/F35	38.9	38.8	0.1	0.3	100.0	100.0	0	86	29	86	29	0.0	0.0
				W2/F35	38.9	38.8	0.1	0.3				86	29	86	29	0.0	0.0
				W9/F35	34.1	34.1	0.0	0.0				42	10	42	10	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F35	38.9	38.8	0.1	0.3	91.7	91.7	0	86	29	86	29	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W4/F35	38.9	38.8	0.1	0.3	98.9	98.9	0	86	29	86	29	0.0	0.0
	R4	RESIDENTIAL	LKD	W5/F35	38.9	38.8	0.1	0.3	100.0	100.0	0	86	29	86	29	0.0	0.0
				W6/F35	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
				W7/F35	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
				W8/F35	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
F36	R1	RESIDENTIAL	LKD	W1/F36	38.9	38.9	0.0	0.0	100.0	100.0	0	86	29	86	29	0.0	0.0
				W2/F36	38.9	38.9	0.0	0.0				86	29	86	29	0.0	0.0
				W9/F36	34.4	34.4	0.0	0.0				42	10	42	10	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F36	38.9	38.9	0.0	0.0	91.7	91.7	0	86	29	86	29	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W4/F36	38.9	38.9	0.0	0.0	98.8	98.8	0	86	29	86	29	0.0	0.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
VIADUX – PHASE 1 (CONTINUED)																	
F36	R4	RESIDENTIAL	LKD	W5/F36	38.9	38.9	0.0	0.0	100.0	100.0	0	86	29	86	29	0.0	0.0
				W6/F36	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
				W7/F36	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
				W8/F36	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
F37	R1	RESIDENTIAL	LKD	W1/F37	39.0	39.0	0.0	0.0	100.0	100.0	0	86	29	86	29	0.0	0.0
				W2/F37	39.0	39.0	0.0	0.0				86	29	86	29	0.0	0.0
				W9/F37	34.8	34.8	0.0	0.0				42	10	42	10	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F37	39.0	39.0	0.0	0.0	91.6	91.6	0	86	29	86	29	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W4/F37	39.0	39.0	0.0	0.0	98.9	98.9	0	86	29	86	29	0.0	0.0
	R4	RESIDENTIAL	LKD	W5/F37	39.0	39.0	0.0	0.0	100.0	100.0	0	86	29	86	29	0.0	0.0
				W6/F37	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
				W7/F37	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
				W8/F37	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
F38	R1	RESIDENTIAL	LKD	W1/F38	39.1	39.1	0.0	0.0	100.0	100.0	0	86	29	86	29	0.0	0.0
				W2/F38	39.1	39.1	0.0	0.0				86	29	86	29	0.0	0.0
				W9/F38	35.1	35.1	0.0	0.0				42	10	42	10	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F38	39.1	39.1	0.0	0.0	91.7	91.7	0	86	29	86	29	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W4/F38	39.1	39.1	0.0	0.0	98.9	98.9	0	86	29	86	29	0.0	0.0
	R4	RESIDENTIAL	LKD	W5/F38	39.1	39.1	0.0	0.0	100.0	100.0	0	86	29	86	29	0.0	0.0
				W6/F38	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
				W7/F38	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
				W8/F38	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
F39	R1	RESIDENTIAL	LKD	W1/F39	39.1	39.1	0.0	0.0	100.0	100.0	0	86	29	86	29	0.0	0.0
				W2/F39	39.1	39.1	0.0	0.0				86	29	86	29	0.0	0.0
				W9/F39	35.5	35.5	0.0	0.0				42	10	42	10	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W3/F39	39.1	39.1	0.0	0.0	91.7	91.7	0	86	29	86	29	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W4/F39	39.1	39.1	0.0	0.0	98.9	98.9	0	86	29	86	29	0.0	0.0
	R4	RESIDENTIAL	LKD	W5/F39	39.1	39.1	0.0	0.0	100.0	100.0	0	86	29	86	29	0.0	0.0
				W6/F39	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
				W7/F39	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
				W8/F39	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
BEETHAM TOWER																	
F00	R2	RESIDENTIAL	UNKNOWN	W6/F00	15.2	14.7	0.5	3.3	61.6	60.7	1.5	27	11	25	9	7.4	18.2
	R3	RESIDENTIAL	UNKNOWN	W7/F00	14.9	14.2	0.7	4.7	55.7	54.2	2.6	27	11	26	10	3.7	9.1
	R4	RESIDENTIAL	UNKNOWN	W8/F00	14.4	13.4	1.0	6.9	51.2	49.7	3	25	11	24	11	4.0	0.0
F25	R2	RESIDENTIAL	BEDROOM	W6/F25	22.6	22.3	0.3	1.3	70.2	70.1	0	32	12	32	12	0.0	0.0
				W7/F25	23.0	22.8	0.2	0.9				33	12	32	11	3.0	8.3
	R3	RESIDENTIAL	BEDROOM	W8/F25	23.9	23.7	0.2	0.8	87.3	87.3	0	34	12	33	11	2.9	8.3
	R4	RESIDENTIAL	BEDROOM	W9/F25	24.2	24.0	0.2	0.8	91.5	91.5	0	34	12	33	11	2.9	8.3
				W10/F25	24.7	24.5	0.2	0.8				35	12	34	11	2.9	8.3
	R5	RESIDENTIAL	LKD	W1/F25	35.3	34.8	0.5	1.4	100.0	100.0	0	70	24	70	24	0.0	0.0
				W2/F25	21.2	20.7	0.5	2.4				29	12	29	12	0.0	0.0
				W3/F25	21.6	21.2	0.4	1.9				29	12	29	12	0.0	0.0
				W4/F25	22.0	21.6	0.4	1.8				30	12	30	12	0.0	0.0
				W5/F25	22.4	22.0	0.4	1.8				32	12	32	12	0.0	0.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
BEETHAM TOWER (CONTINUED)																	
F25	R6	RESIDENTIAL	LKD	W11/F25	25.2	25.1	0.1	0.4	100.0	100.0	0	33	11	32	10	3.0	9.1
				W12/F25	26.4	26.3	0.1	0.4				35	10	35	10	0.0	0.0
				W13/F25	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
				W14/F25	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
F26	R1	RESIDENTIAL	LKD	W1/F26	35.4	35.0	0.4	1.1	100.0	100.0	0	71	24	71	24	0.0	0.0
				W2/F26	21.6	21.2	0.4	1.9				30	12	30	12	0.0	0.0
				W3/F26	22.0	21.7	0.3	1.4				30	12	30	12	0.0	0.0
				W4/F26	22.3	22.0	0.3	1.3				31	12	31	12	0.0	0.0
				W5/F26	22.7	22.4	0.3	1.3				33	12	33	12	0.0	0.0
	R2	RESIDENTIAL	LKD	W11/F26	25.6	25.5	0.1	0.4	100.0	100.0	0	35	11	35	11	0.0	0.0
				W12/F26	26.7	26.6	0.1	0.4				37	10	37	10	0.0	0.0
				W13/F26	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
				W14/F26	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W9/F26	24.5	24.4	0.1	0.4	91.6	91.6	0	35	12	35	12	0.0	0.0
				W10/F26	25.0	24.9	0.1	0.4				36	12	36	12	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W8/F26	24.2	24.1	0.1	0.4	87.4	87.4	0	35	12	35	12	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W6/F26	23.0	22.8	0.2	0.9	70.4	70.4	0	33	12	33	12	0.0	0.0
				W7/F26	23.4	23.2	0.2	0.9				34	12	34	12	0.0	0.0
F27	R2	RESIDENTIAL	LKD	W1/F27	35.6	35.2	0.4	1.1	100.0	100.0	0	71	24	71	24	0.0	0.0
				W2/F27	22.1	21.7	0.4	1.8				31	12	31	12	0.0	0.0
				W3/F27	22.5	22.2	0.3	1.3				31	12	31	12	0.0	0.0
				W4/F27	22.8	22.5	0.3	1.3				32	12	32	12	0.0	0.0
				W5/F27	23.2	22.9	0.3	1.3				34	12	34	12	0.0	0.0
	R3	RESIDENTIAL	LKD	W11/F27	26.0	25.9	0.1	0.4	100.0	100.0	0	36	11	36	11	0.0	0.0
				W12/F27	27.0	27.0	0.0	0.0				38	10	38	10	0.0	0.0
				W13/F27	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
				W14/F27	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F27	23.5	23.2	0.3	1.3	70.5	70.5	0	34	12	34	12	0.0	0.0
				W7/F27	23.8	23.6	0.2	0.8				35	12	35	12	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W8/F27	24.6	24.5	0.1	0.4	87.5	87.5	0	36	12	36	12	0.0	0.0
	R6	RESIDENTIAL	BEDROOM	W9/F27	24.9	24.8	0.1	0.4	91.7	91.7	0	36	12	36	12	0.0	0.0
				W10/F27	25.4	25.3	0.1	0.4				37	12	37	12	0.0	0.0
F28	R1	RESIDENTIAL	BEDROOM	W6/F28	23.9	23.7	0.2	0.8	70.9	70.9	0	34	12	34	12	0.0	0.0
				W7/F28	24.3	24.1	0.2	0.8				35	12	35	12	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W8/F28	25.1	24.9	0.2	0.8	87.7	87.7	0	36	12	36	12	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W9/F28	25.4	25.3	0.1	0.4	91.9	91.9	0	36	12	36	12	0.0	0.0
				W10/F28	25.9	25.8	0.1	0.4				37	12	37	12	0.0	0.0
	R4	RESIDENTIAL	LKD	W11/F28	26.4	26.3	0.1	0.4	100.0	100.0	0	36	11	36	11	0.0	0.0
				W12/F28	27.4	27.4	0.0	0.0				38	10	38	10	0.0	0.0
				W13/F28	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
				W14/F28	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
	R5	RESIDENTIAL	LKD	W1/F28	35.8	35.4	0.4	1.1	100.0	100.0	0	73	24	73	24	0.0	0.0
				W2/F28	22.6	22.2	0.4	1.8				31	12	31	12	0.0	0.0
				W3/F28	23.0	22.7	0.3	1.3				31	12	31	12	0.0	0.0
				W4/F28	23.3	23.0	0.3	1.3				32	12	32	12	0.0	0.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
BEETHAM TOWER (CONTINUED)																	
F28	R5	RESIDENTIAL	LKD	W5/F28	23.7	23.4	0.3	1.3	100.0	100.0	0	34	12	34	12	0.0	0.0
F29	R2	RESIDENTIAL	LKD	W1/F29	35.9	35.6	0.3	0.8	100.0	100.0	0	73	24	73	24	0.0	0.0
				W2/F29	23.2	22.9	0.3	1.3				31	12	31	12	0.0	0.0
				W3/F29	23.6	23.3	0.3	1.3				31	12	31	12	0.0	0.0
				W4/F29	23.8	23.6	0.2	0.8				32	12	32	12	0.0	0.0
				W5/F29	24.2	24.0	0.2	0.8				34	12	34	12	0.0	0.0
	R3	RESIDENTIAL	LKD	W11/F29	26.9	26.8	0.1	0.4	100.0	100.0	0	36	11	36	11	0.0	0.0
				W12/F29	27.8	27.8	0.0	0.0				38	10	38	10	0.0	0.0
				W13/F29	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
				W14/F29	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F29	24.5	24.3	0.2	0.8	70.8	70.8	0	34	12	34	12	0.0	0.0
				W7/F29	24.8	24.7	0.1	0.4				35	12	35	12	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W8/F29	25.6	25.5	0.1	0.4	88.1	88.1	0	36	12	36	12	0.0	0.0
	R6	RESIDENTIAL	BEDROOM	W9/F29	25.9	25.8	0.1	0.4	92.1	92.1	0	36	12	36	12	0.0	0.0
				W10/F29	26.3	26.3	0.0	0.0				37	12	37	12	0.0	0.0
F30	R1	RESIDENTIAL	BEDROOM	W10/F30	25.1	24.9	0.2	0.8	72.2	72.2	0	36	12	36	12	0.0	0.0
				W11/F30	25.4	25.3	0.1	0.4				37	12	37	12	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W12/F30	26.2	26.1	0.1	0.4	88.3	88.3	0	38	12	38	12	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W13/F30	26.6	26.5	0.1	0.4	93.2	93.2	0	38	12	38	12	0.0	0.0
				W14/F30	27.1	27.0	0.1	0.4				39	12	39	12	0.0	0.0
	R4	RESIDENTIAL	LKD	W5/F30	36.1	35.8	0.3	0.8	100.0	100.0	0	75	24	75	24	0.0	0.0
				W6/F30	23.8	23.5	0.3	1.3				33	12	33	12	0.0	0.0
				W7/F30	24.2	24.0	0.2	0.8				33	12	33	12	0.0	0.0
				W8/F30	24.5	24.3	0.2	0.8				34	12	34	12	0.0	0.0
				W9/F30	24.8	24.6	0.2	0.8				36	12	36	12	0.0	0.0
	R5	RESIDENTIAL	LKD	W15/F30	27.3	27.3	0.0	0.0	99.9	99.9	0	39	12	39	12	0.0	0.0
				W16/F30	28.3	28.3	0.0	0.0				40	10	40	10	0.0	0.0
				W17/F30	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
				W18/F30	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
F31	R2	RESIDENTIAL	LKD	W1/F31	36.3	36.1	0.2	0.6	100.0	100.0	0	76	24	76	24	0.0	0.0
				W2/F31	24.6	24.3	0.3	1.2				34	12	34	12	0.0	0.0
				W3/F31	24.9	24.7	0.2	0.8				34	12	34	12	0.0	0.0
				W4/F31	25.3	25.2	0.1	0.4				36	12	36	12	0.0	0.0
	R3	RESIDENTIAL	LKD	W10/F31	27.9	27.9	0.0	0.0	99.9	99.9	0	39	11	39	11	0.0	0.0
				W11/F31	28.9	28.8	0.1	0.3				41	10	41	10	0.0	0.0
				W12/F31	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
				W13/F31	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W5/F31	25.7	25.6	0.1	0.4	81.1	81.1	0	37	12	37	12	0.0	0.0
				W6/F31	26.0	25.9	0.1	0.4				38	12	38	12	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W7/F31	26.8	26.7	0.1	0.4	88.7	88.7	0	39	12	39	12	0.0	0.0
	R6	RESIDENTIAL	BEDROOM	W8/F31	27.2	27.2	0.0	0.0	93.3	93.3	0	39	12	39	12	0.0	0.0
				W9/F31	27.7	27.6	0.1	0.4				40	12	40	12	0.0	0.0
F32	R2	RESIDENTIAL	LKD	W1/F32	36.5	36.3	0.2	0.5	100.0	100.0	0	76	24	76	24	0.0	0.0
				W2/F32	25.4	25.2	0.2	0.8				36	12	36	12	0.0	0.0
				W3/F32	25.7	25.6	0.1	0.4				37	12	37	12	0.0	0.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
BEETHAM TOWER (CONTINUED)																	
F32	R2	RESIDENTIAL	LKD	W4/F32	26.1	26.0	0.1	0.4	100.0	100.0	0	39	12	39	12	0.0	0.0
	R3	RESIDENTIAL	LKD	W10/F32	28.6	28.5	0.1	0.3	99.9	99.9	0	42	11	42	11	0.0	0.0
				W11/F32	29.5	29.5	0.0	0.0				44	10	44	10	0.0	0.0
				W12/F32	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
				W13/F32	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W5/F32	26.5	26.4	0.1	0.4	81.4	81.4	0	40	12	40	12	0.0	0.0
				W6/F32	26.8	26.7	0.1	0.4				41	12	41	12	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W7/F32	27.5	27.4	0.1	0.4	90.1	90.1	0	42	12	42	12	0.0	0.0
	R6	RESIDENTIAL	BEDROOM	W8/F32	28.0	28.0	0.0	0.0	92.9	92.9	0	42	12	42	12	0.0	0.0
				W9/F32	28.4	28.3	0.1	0.4				43	12	43	12	0.0	0.0
F33	R1	RESIDENTIAL	BEDROOM	W5/F33	27.4	27.3	0.1	0.4	82.4	82.4	0	40	12	40	12	0.0	0.0
				W6/F33	27.6	27.6	0.0	0.0				41	12	41	12	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W7/F33	28.3	28.2	0.1	0.4	90.9	90.9	0	42	12	42	12	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W8/F33	28.8	28.7	0.1	0.3	93.4	93.4	0	42	12	42	12	0.0	0.0
				W9/F33	29.1	29.1	0.0	0.0				43	12	43	12	0.0	0.0
	R4	RESIDENTIAL	LKD	W1/F33	36.7	36.6	0.1	0.3	100.0	100.0	0	78	24	78	24	0.0	0.0
				W2/F33	26.3	26.2	0.1	0.4				36	12	36	12	0.0	0.0
				W3/F33	26.6	26.5	0.1	0.4				37	12	37	12	0.0	0.0
				W4/F33	27.0	26.9	0.1	0.4				39	12	39	12	0.0	0.0
	R5	RESIDENTIAL	LKD	W10/F33	29.3	29.3	0.0	0.0	99.9	99.9	0	42	11	42	11	0.0	0.0
				W11/F33	30.2	30.2	0.0	0.0				44	10	44	10	0.0	0.0
				W12/F33	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
				W13/F33	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
F34	R2	RESIDENTIAL	LKD	W1/F34	37.0	36.8	0.2	0.5	100.0	100.0	0	80	25	80	25	0.0	0.0
				W2/F34	27.3	27.2	0.1	0.4				39	12	39	12	0.0	0.0
				W3/F34	27.6	27.5	0.1	0.4				40	12	40	12	0.0	0.0
				W4/F34	28.0	27.9	0.1	0.4				42	12	42	12	0.0	0.0
	R3	RESIDENTIAL	LKD	W10/F34	30.1	30.1	0.0	0.0	99.9	99.9	0	45	11	45	11	0.0	0.0
				W11/F34	30.9	30.9	0.0	0.0				46	10	46	10	0.0	0.0
				W12/F34	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
				W13/F34	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W5/F34	28.3	28.2	0.1	0.4	84.7	84.7	0	43	12	43	12	0.0	0.0
				W6/F34	28.6	28.5	0.1	0.3				44	12	44	12	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W7/F34	29.2	29.1	0.1	0.3	91.9	91.9	0	45	12	45	12	0.0	0.0
	R6	RESIDENTIAL	BEDROOM	W8/F34	29.6	29.6	0.0	0.0	94.3	94.3	0	45	12	45	12	0.0	0.0
				W9/F34	30.0	29.9	0.1	0.3				46	12	46	12	0.0	0.0
F35	R1	RESIDENTIAL	BEDROOM	W5/F35	29.4	29.3	0.1	0.3	88.0	88.0	0	45	13	45	13	0.0	0.0
				W6/F35	29.6	29.5	0.1	0.3				46	13	46	13	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W7/F35	30.1	30.1	0.0	0.0	93.4	93.4	0	47	13	47	13	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W8/F35	30.6	30.5	0.1	0.3	95.3	95.3	0	47	13	47	13	0.0	0.0
				W9/F35	30.9	30.8	0.1	0.3				48	13	48	13	0.0	0.0
	R4	RESIDENTIAL	LKD	W1/F35	37.2	37.1	0.1	0.3	100.0	100.0	0	81	25	81	25	0.0	0.0
				W2/F35	28.5	28.4	0.1	0.4				41	13	41	13	0.0	0.0
				W3/F35	28.7	28.7	0.0	0.0				42	13	42	13	0.0	0.0
				W4/F35	29.1	29.0	0.1	0.3				44	13	44	13	0.0	0.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
BEETHAM TOWER (CONTINUED)																	
F35	R5	RESIDENTIAL	LKD	W10/F35	31.0	31.0	0.0	0.0	99.9	99.9	0	48	13	48	13	0.0	0.0
				W11/F35	31.8	31.7	0.1	0.3				48	11	48	11	0.0	0.0
				W12/F35	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
				W13/F35	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
F36	R2	RESIDENTIAL	LKD	W1/F36	37.5	37.4	0.1	0.3	100.0	100.0	0	81	25	81	25	0.0	0.0
				W2/F36	29.7	29.6	0.1	0.3				44	13	44	13	0.0	0.0
				W3/F36	29.9	29.9	0.0	0.0				45	13	45	13	0.0	0.0
				W4/F36	30.2	30.2	0.0	0.0				47	13	47	13	0.0	0.0
	R3	RESIDENTIAL	LKD	W10/F36	32.0	32.0	0.0	0.0	100.0	100.0	0	48	12	48	12	0.0	0.0
				W11/F36	32.7	32.7	0.0	0.0				49	11	49	11	0.0	0.0
				W12/F36	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
				W13/F36	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W5/F36	30.5	30.5	0.0	0.0	89.9	89.9	0	48	13	48	13	0.0	0.0
				W6/F36	30.7	30.7	0.0	0.0				48	13	48	13	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W7/F36	31.2	31.2	0.0	0.0	95.1	95.1	0	49	13	49	13	0.0	0.0
	R6	RESIDENTIAL	BEDROOM	W8/F36	31.5	31.5	0.0	0.0	97.5	97.5	0	49	13	49	13	0.0	0.0
				W9/F36	31.8	31.8	0.0	0.0				49	13	49	13	0.0	0.0
F37	R1	RESIDENTIAL	BEDROOM	W5/F37	31.7	31.7	0.0	0.0	90.5	90.5	0	50	14	50	14	0.0	0.0
				W6/F37	31.9	31.9	0.0	0.0				50	14	50	14	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W7/F37	32.3	32.3	0.0	0.0	98.6	98.6	0	51	14	51	14	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W8/F37	32.6	32.6	0.0	0.0	99.9	99.9	0	51	14	51	14	0.0	0.0
				W9/F37	32.8	32.8	0.0	0.0				51	14	51	14	0.0	0.0
	R4	RESIDENTIAL	LKD	W10/F37	33.1	33.0	0.1	0.3	100.0	100.0	0	50	13	50	13	0.0	0.0
				W11/F37	33.6	33.6	0.0	0.0				50	12	50	12	0.0	0.0
				W12/F37	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
				W13/F37	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
	R5	RESIDENTIAL	LKD	W1/F37	37.7	37.7	0.0	0.0	100.0	100.0	0	81	25	81	25	0.0	0.0
				W2/F37	31.0	31.0	0.0	0.0				47	14	47	14	0.0	0.0
				W3/F37	31.2	31.2	0.0	0.0				48	14	48	14	0.0	0.0
				W4/F37	31.5	31.4	0.1	0.3				49	14	49	14	0.0	0.0
F38	R1	RESIDENTIAL	BEDROOM	W5/F38	33.0	33.0	0.0	0.0	93.6	93.6	0	51	14	51	14	0.0	0.0
				W6/F38	33.1	33.1	0.0	0.0				51	14	51	14	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W7/F38	33.5	33.5	0.0	0.0	98.5	98.5	0	52	14	52	14	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W8/F38	33.7	33.7	0.0	0.0	99.9	99.9	0	52	14	52	14	0.0	0.0
				W9/F38	33.9	33.9	0.0	0.0				52	14	52	14	0.0	0.0
	R4	RESIDENTIAL	LKD	W1/F38	38.0	38.0	0.0	0.0	100.0	100.0	0	82	25	82	25	0.0	0.0
				W2/F38	32.4	32.4	0.0	0.0				48	14	48	14	0.0	0.0
				W3/F38	32.6	32.6	0.0	0.0				49	14	49	14	0.0	0.0
				W4/F38	32.8	32.8	0.0	0.0				50	14	50	14	0.0	0.0
	R5	RESIDENTIAL	LKD	W10/F38	34.1	34.1	0.0	0.0	100.0	100.0	0	52	14	52	14	0.0	0.0
				W11/F38	34.6	34.6	0.0	0.0				52	13	52	13	0.0	0.0
				W12/F38	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
				W13/F38	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
F39	R2	RESIDENTIAL	LKD	W1/F39	38.2	38.2	0.0	0.0	100.0	100.0	0	84	27	84	27	0.0	0.0
				W2/F39	33.8	33.8	0.0	0.0				51	15	51	15	0.0	0.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
BEETHAM TOWER (CONTINUED)																	
F39	R2	RESIDENTIAL	LKD	W3/F39	34.0	34.0	0.0	0.0	100.0	100.0	0	51	15	51	15	0.0	0.0
				W4/F39	34.1	34.1	0.0	0.0				52	15	52	15	0.0	0.0
	R3	RESIDENTIAL	LKD	W10/F39	35.2	35.2	0.0	0.0	100.0	100.0	0	54	15	54	15	0.0	0.0
				W11/F39	35.6	35.6	0.0	0.0				54	15	54	15	0.0	0.0
				W12/F39	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
				W13/F39	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W5/F39	34.3	34.3	0.0	0.0	99.6	99.6	0	53	15	53	15	0.0	0.0
				W6/F39	34.4	34.4	0.0	0.0				53	15	53	15	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W7/F39	34.7	34.7	0.0	0.0	98.5	98.5	0	54	15	54	15	0.0	0.0
	R6	RESIDENTIAL	BEDROOM	W8/F39	34.9	34.9	0.0	0.0	100.0	100.0	0	54	15	54	15	0.0	0.0
				W9/F39	35.0	35.0	0.0	0.0				54	15	54	15	0.0	0.0
F40	R1	RESIDENTIAL	BEDROOM	W5/F40	35.6	35.6	0.0	0.0	99.9	99.9	0	55	17	55	17	0.0	0.0
	R2	RESIDENTIAL	BEDROOM	W6/F40	35.9	35.9	0.0	0.0	98.5	98.5	0	56	17	56	17	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W7/F40	36.0	36.0	0.0	0.0	99.9	99.9	0	56	17	56	17	0.0	0.0
				W8/F40	36.2	36.2	0.0	0.0				56	17	56	17	0.0	0.0
	R4	RESIDENTIAL	LKD	W1/F40	38.5	38.5	0.0	0.0	100.0	100.0	0	84	27	84	27	0.0	0.0
				W2/F40	35.2	35.2	0.0	0.0				54	17	54	17	0.0	0.0
				W3/F40	35.4	35.4	0.0	0.0				54	17	54	17	0.0	0.0
				W4/F40	35.5	35.5	0.0	0.0				55	17	55	17	0.0	0.0
	R5	RESIDENTIAL	LKD	W9/F40	36.3	36.3	0.0	0.0	100.0	100.0	0	56	17	56	17	0.0	0.0
				W10/F40	36.6	36.6	0.0	0.0				56	17	56	17	0.0	0.0
				W11/F40	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
				W12/F40	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
F41	R2	RESIDENTIAL	LKD	W1/F41	38.7	38.7	0.0	0.0	100.0	100.0	0	84	27	84	27	0.0	0.0
				W2/F41	36.6	36.6	0.0	0.0				55	17	55	17	0.0	0.0
				W3/F41	36.7	36.7	0.0	0.0				55	17	55	17	0.0	0.0
				W4/F41	36.8	36.8	0.0	0.0				55	17	55	17	0.0	0.0
	R3	RESIDENTIAL	LKD	W9/F41	37.3	37.3	0.0	0.0	100.0	100.0	0	56	17	56	17	0.0	0.0
				W10/F41	37.5	37.5	0.0	0.0				56	17	56	17	0.0	0.0
				W11/F41	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
				W12/F41	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W5/F41	36.9	36.9	0.0	0.0	99.9	99.9	0	55	17	55	17	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W6/F41	37.1	37.1	0.0	0.0	98.5	98.5	0	56	17	56	17	0.0	0.0
	R6	RESIDENTIAL	BEDROOM	W7/F41	37.2	37.2	0.0	0.0	99.9	99.9	0	56	17	56	17	0.0	0.0
				W8/F41	37.3	37.3	0.0	0.0				56	17	56	17	0.0	0.0
F42	R2	RESIDENTIAL	LKD	W1/F42	39.0	39.0	0.0	0.0	100.0	100.0	0	86	29	86	29	0.0	0.0
				W2/F42	38.0	38.0	0.0	0.0				56	17	56	17	0.0	0.0
				W3/F42	38.0	38.0	0.0	0.0				56	17	56	17	0.0	0.0
				W4/F42	38.1	38.1	0.0	0.0				56	17	56	17	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W5/F42	38.1	38.1	0.0	0.0	97.8	97.8	0	56	17	56	17	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F42	38.2	38.2	0.0	0.0	99.4	99.4	0	56	17	56	17	0.0	0.0
				W7/F42	38.2	38.2	0.0	0.0				56	17	56	17	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W8/F42	38.3	38.3	0.0	0.0	98.5	98.5	0	56	17	56	17	0.0	0.0
				W9/F42	38.5	38.5	0.0	0.0				56	17	56	17	0.0	0.0
				W10/F42	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
BEETHAM TOWER (CONTINUED)																	
F43	R2	RESIDENTIAL	LKD	W1/F43	39.2	39.2	0.0	0.0	100.0	100.0	0	86	29	86	29	0.0	0.0
				W2/F43	39.2	39.2	0.0	0.0				58	19	58	19	0.0	0.0
				W3/F43	39.2	39.2	0.0	0.0				58	19	58	19	0.0	0.0
				W4/F43	39.2	39.2	0.0	0.0				58	19	58	19	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W5/F43	39.2	39.2	0.0	0.0	97.8	97.8	0	58	19	58	19	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F43	39.2	39.2	0.0	0.0	99.4	99.4	0	58	19	58	19	0.0	0.0
				W7/F43	39.2	39.2	0.0	0.0				58	19	58	19	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W8/F43	39.3	39.3	0.0	0.0	99.1	99.1	0	58	19	58	19	0.0	0.0
				W9/F43	39.3	39.3	0.0	0.0				58	19	58	19	0.0	0.0
				W10/F43	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
				W11/F43	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
F44	R2	RESIDENTIAL	LKD	W1/F44	39.3	39.3	0.0	0.0	100.0	100.0	0	86	29	86	29	0.0	0.0
				W2/F44	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
				W3/F44	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
				W4/F44	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W5/F44	39.6	39.6	0.0	0.0	97.8	97.8	0	58	19	58	19	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F44	39.6	39.6	0.0	0.0	99.4	99.4	0	58	19	58	19	0.0	0.0
				W7/F44	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W8/F44	39.6	39.6	0.0	0.0	98.1	98.1	0	58	19	58	19	0.0	0.0
				W9/F44	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
				W10/F44	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
				W11/F44	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
F45	R2	RESIDENTIAL	LKD	W1/F45	39.3	39.3	0.0	0.0	100.0	100.0	0	86	29	86	29	0.0	0.0
				W2/F45	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
				W3/F45	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
				W4/F45	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W5/F45	39.6	39.6	0.0	0.0	97.8	97.8	0	58	19	58	19	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F45	39.6	39.6	0.0	0.0	99.4	99.4	0	58	19	58	19	0.0	0.0
				W7/F45	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W8/F45	39.6	39.6	0.0	0.0	98.3	98.3	0	58	19	58	19	0.0	0.0
				W9/F45	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
				W10/F45	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
				W11/F45	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
F46	R2	RESIDENTIAL	LKD	W1/F46	39.4	39.4	0.0	0.0	100.0	100.0	0	86	29	86	29	0.0	0.0
				W2/F46	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
				W3/F46	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
				W4/F46	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
	R3	RESIDENTIAL	BEDROOM	W5/F46	39.6	39.6	0.0	0.0	97.8	97.8	0	58	19	58	19	0.0	0.0
	R4	RESIDENTIAL	BEDROOM	W6/F46	39.6	39.6	0.0	0.0	99.4	99.4	0	58	19	58	19	0.0	0.0
				W7/F46	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
	R5	RESIDENTIAL	BEDROOM	W8/F46	39.6	39.6	0.0	0.0	99.0	99.0	0	58	19	58	19	0.0	0.0
				W9/F46	39.6	39.6	0.0	0.0				58	19	58	19	0.0	0.0
				W10/F46	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0
				W11/F46	39.6	39.6	0.0	0.0				14	0	14	0	0.0	0.0

* Inclined Windows, ** Rooms deeper than 5m, *** Kitchens less than 13sqm

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
325 DEANSGATE STAYCITY APARTHOTEL																	
F01	R1	RESIDENTIAL	-UNKNOWN	W1/F01	9.8	9.8	0.0	0.0	87.3	86.5	0.9	0	0	0	0	0.0	0.0
				W2/F01	9.6	9.6	0.0	0.0				0	0	0	0	0.0	0.0
				W3/F01	9.5	9.5	0.0	0.0				0	0	0	0	0.0	0.0
				W4/F01	9.4	9.4	0.0	0.0				0	0	0	0	0.0	0.0
				W5/F01	9.2	9.2	0.0	0.0				0	0	0	0	0.0	0.0
				W6/F01	9.1	9.1	0.0	0.0				0	0	0	0	0.0	0.0
				W7/F01	9.0	9.0	0.0	0.0				0	0	0	0	0.0	0.0
				W8/F01	21.5	19.9	1.6	7.4				39	12	37	11	5.1	8.3
				W9/F01	21.6	19.9	1.7	7.9				39	12	37	11	5.1	8.3
	R2**	RESIDENTIAL	-UNKNOWN	W10/F01	21.7	20.0	1.7	7.8	94.6	94.6	0	39	12	37	11	5.1	8.3
				W11/F01	22.1	20.3	1.8	8.1				39	12	38	11	2.6	8.3
	R3**	RESIDENTIAL	-UNKNOWN	W12/F01	22.5	20.5	2.0	8.9	67.9	51.0	24.8	39	12	38	11	2.6	8.3
				W13/F01	23.3	21.3	2.0	8.6				39	12	38	11	2.6	8.3
	R4**	RESIDENTIAL	-UNKNOWN	W14/F01	23.5	21.5	2.0	8.5	99.1	99.1	0	37	12	36	11	2.7	8.3
				W15/F01	23.9	21.9	2.0	8.4				39	13	36	11	7.7	15.4
				W16/F01	24.3	22.2	2.1	8.6				38	13	35	11	7.9	15.4
	R5**	RESIDENTIAL	-UNKNOWN	W17/F01	24.5	22.5	2.0	8.2	95.8	95.8	0	38	13	35	11	7.9	15.4
				W18/F01	24.8	22.7	2.1	8.5				40	13	37	11	7.5	15.4
	R6	RESIDENTIAL	-UNKNOWN	W19/F01	25.0	22.9	2.1	8.4	75.0	69.9	6.7	41	13	38	11	7.3	15.4
				W20/F01	23.8	21.7	2.1	8.8				34	11	30	9	11.8	18.2
				W21/F01	22.0	20.7	1.3	5.9				47	19	43	18	8.5	5.3
				W22/F01	21.8	20.5	1.3	6.0				46	19	43	18	6.5	5.3
F02	R1	RESIDENTIAL	-UNKNOWN	W1/F02	13.0	13.0	0.0	0.0	91.9	91.1	0.8	0	0	0	0	0.0	0.0
				W2/F02	12.8	12.8	0.0	0.0				0	0	0	0	0.0	0.0
				W3/F02	12.6	12.6	0.0	0.0				0	0	0	0	0.0	0.0
				W4/F02	12.4	12.4	0.0	0.0				0	0	0	0	0.0	0.0
				W5/F02	12.3	12.3	0.0	0.0				0	0	0	0	0.0	0.0
				W6/F02	12.1	12.1	0.0	0.0				0	0	0	0	0.0	0.0
				W7/F02	11.9	11.9	0.0	0.0				0	0	0	0	0.0	0.0
				W8/F02	23.1	21.1	2.0	8.7				40	13	37	11	7.5	15.4
				W9/F02	23.4	21.4	2.0	8.5				40	13	37	11	7.5	15.4
	R2**	RESIDENTIAL	-UNKNOWN	W10/F02	23.6	21.6	2.0	8.5	94.7	94.7	0	40	13	37	11	7.5	15.4
				W11/F02	23.9	21.9	2.0	8.4				40	13	38	11	5.0	15.4
	R3**	RESIDENTIAL	-UNKNOWN	W12/F02	24.1	22.1	2.0	8.3	68.1	51.5	24.4	40	13	38	11	5.0	15.4
				W13/F02	24.6	22.5	2.1	8.5				40	13	38	11	5.0	15.4
	R4**	RESIDENTIAL	-UNKNOWN	W14/F02	24.8	22.7	2.1	8.5	99.1	99.1	0	39	13	37	11	5.1	15.4
				W15/F02	25.0	22.9	2.1	8.4				42	14	38	11	9.5	21.4
				W16/F02	25.2	23.1	2.1	8.3				41	14	37	11	9.8	21.4
	R5**	RESIDENTIAL	-UNKNOWN	W17/F02	25.4	23.3	2.1	8.3	95.8	95.8	0	41	14	37	11	9.8	21.4
				W18/F02	25.6	23.5	2.1	8.2				42	14	38	11	9.5	21.4
	R6	RESIDENTIAL	-UNKNOWN	W19/F02	25.8	23.7	2.1	8.1	75.0	70.0	6.6	43	14	39	11	9.3	21.4
				W20/F02	24.6	22.5	2.1	8.5				37	12	33	9	10.8	25.0
				W21/F02	8.1	7.7	0.4	4.9				11	11	10	10	9.1	9.1
				W22/F02	6.9	6.4	0.5	7.2				11	11	9	9	18.2	18.2
F03	R1	RESIDENTIAL	-UNKNOWN	W1/F03	18.6	18.6	0.0	0.0	96.2	95.3	1	6	0	6	0	0.0	0.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
325 DEANSGATE STAYCITY APARTHOTEL (CONTINUED)																	
F03	R1	RESIDENTIAL	-UNKNOWN	W2/F03	17.4	17.4	0.0	0.0	96.2	95.3	1	6	0	6	0	0.0	0.0
				W3/F03	23.9	22.0	1.9	7.9				40	13	37	11	7.5	15.4
				W4/F03	24.2	22.2	2.0	8.3				40	13	37	11	7.5	15.4
	R2**	RESIDENTIAL	-UNKNOWN	W5/F03	24.6	22.6	2.0	8.1	89.3	87.1	2.5	40	13	38	11	5.0	15.4
				W6/F03	24.8	22.8	2.0	8.1				40	13	38	11	5.0	15.4
				W7/F03	25.2	23.2	2.0	7.9				40	13	38	11	5.0	15.4
	R3**	RESIDENTIAL	-UNKNOWN	W8/F03	25.4	23.4	2.0	7.9	97.8	97.8	0	40	13	38	11	5.0	15.4
				W9/F03	25.6	23.6	2.0	7.8				42	14	38	11	9.5	21.4
				W10/F03	25.8	23.8	2.0	7.8				42	14	38	11	9.5	21.4
				W11/F03	26.0	24.0	2.0	7.7				42	14	38	11	9.5	21.4
	R4**	RESIDENTIAL	-UNKNOWN	W12/F03	26.2	24.1	2.1	8.0	94.7	94.3	0.4	43	14	39	11	9.3	21.4
				W13/F03	26.4	24.3	2.1	8.0				43	14	39	11	9.3	21.4
				W14/F03	26.7	24.7	2.0	7.5				42	13	38	10	9.5	23.1
				W15/F03	26.9	24.8	2.1	7.8				42	13	38	10	9.5	23.1
	R5	RESIDENTIAL	-UNKNOWN	W16/F03	27.1	25.0	2.1	7.7	98.5	98.5	0	42	13	38	10	9.5	23.1
				W17/F03	27.2	25.2	2.0	7.4				43	13	38	10	11.6	23.1
				W18/F03	30.4	29.8	0.6	2.0				67	22	62	20	7.5	9.1
				W19/F03	28.1	27.6	0.5	1.8				63	21	58	19	7.9	9.5
				W20/F03	23.8	23.3	0.5	2.1				54	17	50	15	7.4	11.8
				W21/F03	18.1	17.6	0.5	2.8				45	15	41	13	8.9	13.3
F04	R1	RESIDENTIAL	-UNKNOWN	W1/F04	21.9	21.9	0.0	0.0	96.3	95.4	0.9	6	0	6	0	0.0	0.0
				W2/F04	20.3	20.3	0.0	0.0				7	0	7	0	0.0	0.0
				W3/F04	24.4	22.5	1.9	7.8				41	13	38	11	7.3	15.4
				W4/F04	24.6	22.6	2.0	8.1				41	13	38	11	7.3	15.4
	R2**	RESIDENTIAL	-UNKNOWN	W5/F04	25.0	23.1	1.9	7.6	89.3	87.2	2.3	41	13	39	11	4.9	15.4
				W6/F04	25.2	23.2	2.0	7.9				41	13	39	11	4.9	15.4
				W7/F04	25.6	23.6	2.0	7.8				42	14	40	12	4.8	14.3
	R3**	RESIDENTIAL	-UNKNOWN	W8/F04	25.8	23.8	2.0	7.8	97.8	97.8	0	41	14	39	12	4.9	14.3
				W9/F04	26.0	24.0	2.0	7.7				42	14	38	11	9.5	21.4
				W10/F04	26.2	24.2	2.0	7.6				42	14	38	11	9.5	21.4
				W11/F04	26.4	24.4	2.0	7.6				42	14	38	11	9.5	21.4
	R4**	RESIDENTIAL	-UNKNOWN	W12/F04	26.6	24.5	2.1	7.9	94.7	94.5	0.2	43	14	39	11	9.3	21.4
				W13/F04	26.7	24.7	2.0	7.5				43	14	39	11	9.3	21.4
				W14/F04	27.1	25.0	2.1	7.7				42	13	38	10	9.5	23.1
				W15/F04	27.3	25.2	2.1	7.7				42	13	38	10	9.5	23.1
	R5	RESIDENTIAL	-UNKNOWN	W16/F04	27.4	25.4	2.0	7.3	98.6	98.6	0	42	13	38	10	9.5	23.1
				W17/F04	27.6	25.5	2.1	7.6				43	13	39	10	9.3	23.1
				W18/F04	30.6	30.1	0.5	1.6				67	22	63	20	6.0	9.1
				W19/F04	28.3	27.8	0.5	1.8				63	21	59	19	6.3	9.5
				W20/F04	24.0	23.5	0.5	2.1				55	18	51	16	7.3	11.1
				W21/F04	18.3	17.8	0.5	2.7				45	15	41	13	8.9	13.3
F05	R1	RESIDENTIAL	-UNKNOWN	W1/F05	22.4	22.4	0.0	0.0	96.3	95.4	0.9	6	0	6	0	0.0	0.0
				W2/F05	20.7	20.7	0.0	0.0				7	0	7	0	0.0	0.0
				W3/F05	24.7	22.7	2.0	8.1				41	13	38	11	7.3	15.4
				W4/F05	24.9	22.9	2.0	8.0				41	13	38	11	7.3	15.4

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
325 DEANSGATE STAYCITY APARTHOTEL (CONTINUED)																	
F05	R2**	RESIDENTIAL	-UNKNOWN	W5/F05	25.3	23.3	2.0	7.9	89.3	87.4	2.1	41	13	39	11	4.9	15.4
				W6/F05	25.5	23.5	2.0	7.8				41	13	39	11	4.9	15.4
				W7/F05	25.9	23.9	2.0	7.7				42	14	40	12	4.8	14.3
	R3**	RESIDENTIAL	-UNKNOWN	W8/F05	26.1	24.1	2.0	7.7	97.8	97.8	0	41	14	39	12	4.9	14.3
				W9/F05	26.3	24.3	2.0	7.6				42	14	39	11	7.1	21.4
				W10/F05	26.5	24.5	2.0	7.5				42	14	39	11	7.1	21.4
				W11/F05	26.7	24.7	2.0	7.5				42	14	39	11	7.1	21.4
	R4**	RESIDENTIAL	-UNKNOWN	W12/F05	26.8	24.8	2.0	7.5	94.8	94.4	0.4	43	14	39	11	9.3	21.4
				W13/F05	27.0	25.0	2.0	7.4				43	14	39	11	9.3	21.4
				W14/F05	27.4	25.3	2.1	7.7				42	13	38	10	9.5	23.1
				W15/F05	27.5	25.5	2.0	7.3				42	13	38	10	9.5	23.1
	R5	RESIDENTIAL	-UNKNOWN	W16/F05	27.7	25.7	2.0	7.2	98.5	98.5	0	42	13	38	10	9.5	23.1
				W17/F05	27.8	25.8	2.0	7.2				43	13	39	10	9.3	23.1
				W18/F05	30.9	30.3	0.6	1.9				67	22	63	20	6.0	9.1
				W19/F05	28.6	28.0	0.6	2.1				63	21	59	19	6.3	9.5
				W20/F05	24.2	23.7	0.5	2.1				55	18	51	16	7.3	11.1
				W21/F05	18.4	17.9	0.5	2.7				46	16	42	14	8.7	12.5
F06	R1	RESIDENTIAL	-UNKNOWN	W1/F06	22.5	22.5	0.0	0.0	96.3	95.4	0.9	6	0	6	0	0.0	0.0
				W2/F06	20.8	20.8	0.0	0.0				7	0	7	0	0.0	0.0
				W3/F06	24.9	23.0	1.9	7.6				41	13	38	11	7.3	15.4
				W4/F06	25.1	23.2	1.9	7.6				41	13	38	11	7.3	15.4
	R2**	RESIDENTIAL	-UNKNOWN	W5/F06	25.5	23.6	1.9	7.5	89.3	87.5	2.1	41	13	39	11	4.9	15.4
				W6/F06	25.8	23.8	2.0	7.8				41	13	39	11	4.9	15.4
				W7/F06	26.2	24.2	2.0	7.6				42	14	40	12	4.8	14.3
	R3**	RESIDENTIAL	-UNKNOWN	W8/F06	26.4	24.4	2.0	7.6	97.9	97.9	0	41	14	39	12	4.9	14.3
				W9/F06	26.5	24.6	1.9	7.2				42	14	39	11	7.1	21.4
				W10/F06	26.7	24.7	2.0	7.5				42	14	39	11	7.1	21.4
				W11/F06	26.9	24.9	2.0	7.4				42	14	39	11	7.1	21.4
	R4**	RESIDENTIAL	-UNKNOWN	W12/F06	27.1	25.1	2.0	7.4	94.8	94.4	0.4	43	14	40	11	7.0	21.4
				W13/F06	27.3	25.3	2.0	7.3				43	14	40	11	7.0	21.4
				W14/F06	27.6	25.6	2.0	7.2				42	13	38	10	9.5	23.1
				W15/F06	27.8	25.8	2.0	7.2				42	13	38	10	9.5	23.1
	R5	RESIDENTIAL	-UNKNOWN	W16/F06	28.0	25.9	2.1	7.5	98.5	98.5	0	42	13	38	10	9.5	23.1
				W17/F06	28.1	26.1	2.0	7.1				43	13	39	10	9.3	23.1
				W18/F06	31.0	30.5	0.5	1.6				67	22	63	20	6.0	9.1
				W19/F06	28.7	28.2	0.5	1.7				63	21	59	19	6.3	9.5
				W20/F06	24.4	23.9	0.5	2.0				55	18	51	16	7.3	11.1
				W21/F06	18.5	18.1	0.4	2.2				46	16	42	14	8.7	12.5
F07	R1	RESIDENTIAL	-UNKNOWN	W1/F07	22.5	22.5	0.0	0.0	96.3	95.4	0.9	6	0	6	0	0.0	0.0
				W2/F07	20.9	20.9	0.0	0.0				7	0	7	0	0.0	0.0
				W3/F07	25.2	23.3	1.9	7.5				41	13	38	11	7.3	15.4
				W4/F07	25.4	23.5	1.9	7.5				41	13	38	11	7.3	15.4
	R2**	RESIDENTIAL	-UNKNOWN	W5/F07	25.8	23.9	1.9	7.4	89.4	87.8	1.8	41	13	39	11	4.9	15.4
				W6/F07	26.0	24.1	1.9	7.3				41	13	39	11	4.9	15.4
				W7/F07	26.4	24.5	1.9	7.2				42	14	40	12	4.8	14.3

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
325 DEANSGATE STAYCITY APARTHOTEL (CONTINUED)																	
F07	R3**	RESIDENTIAL	-UNKNOWN	W8/F07	26.6	24.7	1.9	7.1	97.9	97.9	0	42	14	40	12	4.8	14.3
				W9/F07	26.8	24.9	1.9	7.1				43	14	40	11	7.0	21.4
				W10/F07	27.0	25.0	2.0	7.4				43	14	40	11	7.0	21.4
				W11/F07	27.2	25.2	2.0	7.4				43	14	40	11	7.0	21.4
	R4**	RESIDENTIAL	-UNKNOWN	W12/F07	27.3	25.4	1.9	7.0	94.8	94.5	0.4	44	14	41	11	6.8	21.4
				W13/F07	27.5	25.6	1.9	6.9				44	14	41	11	6.8	21.4
				W14/F07	27.9	25.9	2.0	7.2				43	13	40	10	7.0	23.1
				W15/F07	28.0	26.1	1.9	6.8				43	13	39	10	9.3	23.1
	R5	RESIDENTIAL	-UNKNOWN	W16/F07	28.2	26.2	2.0	7.1	98.5	98.5	0	43	13	39	10	9.3	23.1
				W17/F07	28.4	26.4	2.0	7.0				44	13	40	10	9.1	23.1
				W18/F07	31.2	30.7	0.5	1.6				68	23	64	21	5.9	8.7
				W19/F07	28.9	28.4	0.5	1.7				64	22	60	20	6.2	9.1
				W20/F07	24.6	24.1	0.5	2.0				56	19	52	17	7.1	10.5
				W21/F07	18.7	18.2	0.5	2.7				47	17	43	15	8.5	11.8
F08	R1	RESIDENTIAL	-UNKNOWN	W1/F08	22.6	22.6	0.0	0.0	96.3	95.4	0.9	6	0	6	0	0.0	0.0
				W2/F08	21.0	21.0	0.0	0.0				7	0	7	0	0.0	0.0
				W3/F08	25.4	23.5	1.9	7.5				41	13	39	11	4.9	15.4
				W4/F08	25.6	23.7	1.9	7.4				41	13	39	11	4.9	15.4
	R2**	RESIDENTIAL	-UNKNOWN	W5/F08	26.0	24.2	1.8	6.9	89.7	88.4	1.4	41	13	39	11	4.9	15.4
				W6/F08	26.2	24.4	1.8	6.9				41	13	39	11	4.9	15.4
				W7/F08	26.6	24.7	1.9	7.1				42	14	40	12	4.8	14.3
	R3**	RESIDENTIAL	-UNKNOWN	W8/F08	26.9	24.9	2.0	7.4	98.0	98.0	0	42	14	40	12	4.8	14.3
				W9/F08	27.1	25.1	2.0	7.4				43	14	40	11	7.0	21.4
				W10/F08	27.2	25.3	1.9	7.0				43	14	40	11	7.0	21.4
				W11/F08	27.4	25.5	1.9	6.9				43	14	40	11	7.0	21.4
	R4**	RESIDENTIAL	-UNKNOWN	W12/F08	27.6	25.7	1.9	6.9	94.9	94.7	0.2	44	14	41	11	6.8	21.4
				W13/F08	27.8	25.8	2.0	7.2				44	14	41	11	6.8	21.4
				W14/F08	28.1	26.2	1.9	6.8				43	13	40	10	7.0	23.1
				W15/F08	28.3	26.3	2.0	7.1				43	13	40	10	7.0	23.1
	R5	RESIDENTIAL	-UNKNOWN	W16/F08	28.5	26.5	2.0	7.0	98.6	98.6	0	43	13	40	10	7.0	23.1
				W17/F08	28.6	26.7	1.9	6.6				44	13	41	10	6.8	23.1
				W18/F08	31.4	30.9	0.5	1.6				68	23	64	21	5.9	8.7
				W19/F08	29.1	28.6	0.5	1.7				64	22	60	20	6.2	9.1
				W20/F08	24.7	24.3	0.4	1.6				56	19	52	17	7.1	10.5
				W21/F08	18.8	18.3	0.5	2.7				47	17	43	15	8.5	11.8
F09	R1	RESIDENTIAL	-UNKNOWN	W1/F09	22.7	22.7	0.0	0.0	96.3	95.5	0.8	6	0	6	0	0.0	0.0
				W2/F09	21.1	21.1	0.0	0.0				7	0	7	0	0.0	0.0
				W3/F09	25.6	23.8	1.8	7.0				42	14	40	12	4.8	14.3
				W4/F09	25.8	24.0	1.8	7.0				42	14	40	12	4.8	14.3
	R2**	RESIDENTIAL	-UNKNOWN	W5/F09	26.3	24.4	1.9	7.2	89.9	88.9	1.2	42	14	40	12	4.8	14.3
				W6/F09	26.5	24.6	1.9	7.2				41	13	39	11	4.9	15.4
				W7/F09	26.9	25.0	1.9	7.1				42	14	40	12	4.8	14.3
	R3**	RESIDENTIAL	-UNKNOWN	W8/F09	27.1	25.2	1.9	7.0	98.0	98.0	0	42	14	40	12	4.8	14.3
				W9/F09	27.3	25.4	1.9	7.0				43	14	40	11	7.0	21.4
				W10/F09	27.5	25.6	1.9	6.9				43	14	40	11	7.0	21.4

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
325 DEANSGATE STAYCITY APARTHOTEL (CONTINUED)																	
F09	R3**	RESIDENTIAL	-UNKNOWN	W11/F09	27.7	25.8	1.9	6.9	98.0	98.0	0	43	14	40	11	7.0	21.4
	R4**	RESIDENTIAL	-UNKNOWN	W12/F09	27.8	25.9	1.9	6.8	94.9	94.9	0	44	14	41	11	6.8	21.4
				W13/F09	28.0	26.1	1.9	6.8				44	14	41	11	6.8	21.4
				W14/F09	28.4	26.5	1.9	6.7				44	14	41	11	6.8	21.4
				W15/F09	28.5	26.6	1.9	6.7				44	14	41	11	6.8	21.4
	R5	RESIDENTIAL	-UNKNOWN	W16/F09	28.7	26.8	1.9	6.6	98.5	98.5	0	44	14	41	11	6.8	21.4
				W17/F09	28.9	26.9	2.0	6.9				45	14	42	11	6.7	21.4
				W18/F09	31.5	31.0	0.5	1.6				69	24	65	22	5.8	8.3
				W19/F09	29.2	28.7	0.5	1.7				65	23	61	21	6.2	8.7
				W20/F09	24.9	24.4	0.5	2.0				57	20	54	18	5.3	10.0
				W21/F09	18.9	18.4	0.5	2.6				48	18	45	16	6.2	11.1
F10	R1	RESIDENTIAL	-UNKNOWN	W1/F10	22.8	22.8	0.0	0.0	96.3	95.5	0.8	6	0	6	0	0.0	0.0
				W2/F10	21.1	21.1	0.0	0.0				7	0	7	0	0.0	0.0
				W3/F10	25.8	24.1	1.7	6.6				42	14	40	12	4.8	14.3
				W4/F10	26.0	24.3	1.7	6.5				41	14	39	12	4.9	14.3
	R2**	RESIDENTIAL	-UNKNOWN	W5/F10	26.5	24.7	1.8	6.8	90.1	89.2	1	42	14	40	12	4.8	14.3
				W6/F10	26.7	24.9	1.8	6.7				42	14	40	12	4.8	14.3
				W7/F10	27.1	25.3	1.8	6.6				43	15	41	13	4.7	13.3
	R3**	RESIDENTIAL	-UNKNOWN	W8/F10	27.3	25.5	1.8	6.6	98.0	98.0	0	43	15	41	13	4.7	13.3
				W9/F10	27.5	25.7	1.8	6.5				44	15	41	12	6.8	20.0
				W10/F10	27.7	25.8	1.9	6.9				44	15	41	12	6.8	20.0
				W11/F10	27.9	26.0	1.9	6.8				44	15	41	12	6.8	20.0
	R4**	RESIDENTIAL	-UNKNOWN	W12/F10	28.0	26.2	1.8	6.4	94.8	94.8	0	45	15	42	12	6.7	20.0
				W13/F10	28.2	26.4	1.8	6.4				45	15	42	12	6.7	20.0
				W14/F10	28.6	26.7	1.9	6.6				44	14	41	11	6.8	21.4
				W15/F10	28.8	26.9	1.9	6.6				44	14	41	11	6.8	21.4
	R5	RESIDENTIAL	-UNKNOWN	W16/F10	28.9	27.0	1.9	6.6	98.6	98.6	0	44	14	41	11	6.8	21.4
				W17/F10	29.1	27.2	1.9	6.5				45	14	42	11	6.7	21.4
				W18/F10	31.7	31.2	0.5	1.6				69	24	66	22	4.3	8.3
				W19/F10	29.4	28.9	0.5	1.7				65	23	62	21	4.6	8.7
				W20/F10	25.1	24.6	0.5	2.0				57	20	54	18	5.3	10.0
				W21/F10	19.0	18.5	0.5	2.6				48	18	45	16	6.2	11.1
F11	R1	RESIDENTIAL	-UNKNOWN	W1/F11	22.9	22.9	0.0	0.0	96.3	95.5	0.8	6	0	6	0	0.0	0.0
				W2/F11	21.2	21.2	0.0	0.0				7	0	7	0	0.0	0.0
				W3/F11	26.0	24.3	1.7	6.5				42	14	40	12	4.8	14.3
				W4/F11	26.3	24.5	1.8	6.8				42	14	40	12	4.8	14.3
	R2**	RESIDENTIAL	-UNKNOWN	W5/F11	26.7	24.9	1.8	6.7	90.5	89.8	0.8	42	14	40	12	4.8	14.3
				W6/F11	26.9	25.1	1.8	6.7				42	14	40	12	4.8	14.3
				W7/F11	27.3	25.6	1.7	6.2				43	15	41	13	4.7	13.3
	R3**	RESIDENTIAL	-UNKNOWN	W8/F11	27.5	25.7	1.8	6.5	98.0	98.0	0	43	15	41	13	4.7	13.3
				W9/F11	27.7	25.9	1.8	6.5				44	15	41	12	6.8	20.0
				W10/F11	27.9	26.1	1.8	6.5				44	15	41	12	6.8	20.0
				W11/F11	28.1	26.3	1.8	6.4				44	15	41	12	6.8	20.0
	R4**	RESIDENTIAL	-UNKNOWN	W12/F11	28.3	26.5	1.8	6.4	94.9	94.9	0	45	15	42	12	6.7	20.0
				W13/F11	28.4	26.6	1.8	6.3				45	15	42	12	6.7	20.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
325 DEANSGATE STAYCITY APARTHOTEL (CONTINUED)																	
F11	R4**	RESIDENTIAL	-UNKNOWN	W14/F11	28.8	27.0	1.8	6.3	94.9	94.9	0	45	15	42	12	6.7	20.0
				W15/F11	29.0	27.1	1.9	6.6				45	15	42	12	6.7	20.0
	R5	RESIDENTIAL	-UNKNOWN	W16/F11	29.1	27.3	1.8	6.2	98.6	98.6	0	45	15	42	12	6.7	20.0
				W17/F11	29.3	27.5	1.8	6.1				46	15	43	12	6.5	20.0
				W18/F11	31.9	31.4	0.5	1.6				69	24	66	22	4.3	8.3
				W19/F11	29.6	29.1	0.5	1.7				65	23	62	21	4.6	8.7
				W20/F11	25.2	24.8	0.4	1.6				57	20	54	18	5.3	10.0
				W21/F11	19.0	18.6	0.4	2.1				48	18	45	16	6.2	11.1
F12	R1	RESIDENTIAL	-UNKNOWN	W1/F12	23.0	23.0	0.0	0.0	96.3	95.5	0.8	6	0	6	0	0.0	0.0
				W2/F12	21.3	21.3	0.0	0.0				7	0	7	0	0.0	0.0
				W3/F12	26.3	24.6	1.7	6.5				42	14	40	12	4.8	14.3
				W4/F12	26.5	24.8	1.7	6.4				41	14	39	12	4.9	14.3
	R2**	RESIDENTIAL	-UNKNOWN	W5/F12	26.9	25.2	1.7	6.3	91.1	90.5	0.6	42	14	40	12	4.8	14.3
				W6/F12	27.1	25.4	1.7	6.3				42	14	40	12	4.8	14.3
				W7/F12	27.5	25.8	1.7	6.2				43	15	41	13	4.7	13.3
	R3**	RESIDENTIAL	-UNKNOWN	W8/F12	27.7	26.0	1.7	6.1	98.1	98.1	0	43	15	41	13	4.7	13.3
				W9/F12	27.9	26.2	1.7	6.1				44	15	41	12	6.8	20.0
				W10/F12	28.1	26.4	1.7	6.0				44	15	41	12	6.8	20.0
				W11/F12	28.3	26.6	1.7	6.0				44	15	41	12	6.8	20.0
	R4**	RESIDENTIAL	-UNKNOWN	W12/F12	28.5	26.7	1.8	6.3	94.9	94.9	0	45	15	42	12	6.7	20.0
				W13/F12	28.7	26.9	1.8	6.3				45	15	42	12	6.7	20.0
				W14/F12	29.0	27.2	1.8	6.2				45	15	42	12	6.7	20.0
				W15/F12	29.2	27.4	1.8	6.2				45	15	42	12	6.7	20.0
	R5	RESIDENTIAL	-UNKNOWN	W16/F12	29.3	27.6	1.7	5.8	98.5	98.5	0	45	15	42	12	6.7	20.0
				W17/F12	29.5	27.7	1.8	6.1				46	15	43	12	6.5	20.0
				W18/F12	32.0	31.5	0.5	1.6				69	24	66	22	4.3	8.3
				W19/F12	29.7	29.3	0.4	1.3				65	23	62	21	4.6	8.7
				W20/F12	25.4	24.9	0.5	2.0				57	20	54	18	5.3	10.0
				W21/F12	19.1	18.7	0.4	2.1				48	18	45	16	6.2	11.1
F13	R1	RESIDENTIAL	-UNKNOWN	W1/F13	23.1	23.1	0.0	0.0	96.3	95.5	0.8	6	0	6	0	0.0	0.0
				W2/F13	21.4	21.4	0.0	0.0				7	0	7	0	0.0	0.0
				W3/F13	26.5	24.9	1.6	6.0				42	14	40	12	4.8	14.3
				W4/F13	26.7	25.1	1.6	6.0				42	14	40	12	4.8	14.3
	R2**	RESIDENTIAL	-UNKNOWN	W5/F13	27.1	25.5	1.6	5.9	91.9	91.5	0.5	42	14	40	12	4.8	14.3
				W6/F13	27.3	25.7	1.6	5.9				42	14	40	12	4.8	14.3
				W7/F13	27.7	26.1	1.6	5.8				43	15	41	13	4.7	13.3
	R3**	RESIDENTIAL	-UNKNOWN	W8/F13	27.9	26.3	1.6	5.7	98.1	98.1	0	43	15	41	13	4.7	13.3
				W9/F13	28.1	26.5	1.6	5.7				44	15	41	12	6.8	20.0
				W10/F13	28.3	26.7	1.6	5.7				44	15	41	12	6.8	20.0
				W11/F13	28.5	26.8	1.7	6.0				44	15	41	12	6.8	20.0
	R4**	RESIDENTIAL	-UNKNOWN	W12/F13	28.7	27.0	1.7	5.9	95.0	95.0	0	45	15	42	12	6.7	20.0
				W13/F13	28.9	27.2	1.7	5.9				45	15	42	12	6.7	20.0
				W14/F13	29.2	27.5	1.7	5.8				45	15	42	12	6.7	20.0
				W15/F13	29.4	27.7	1.7	5.8				45	15	42	12	6.7	20.0
	R5	RESIDENTIAL	-UNKNOWN	W16/F13	29.5	27.8	1.7	5.8	98.6	98.6	0	45	15	42	12	6.7	20.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
325 DEANSGATE STAYCITY APARTHOTEL (CONTINUED)																	
F13	R5	RESIDENTIAL	-UNKNOWN	W17/F13	29.7	28.0	1.7	5.7	98.6	98.6	0	46	15	43	12	6.5	20.0
				W18/F13	32.2	31.7	0.5	1.6				69	24	66	22	4.3	8.3
				W19/F13	29.9	29.4	0.5	1.7				65	23	62	21	4.6	8.7
				W20/F13	25.5	25.1	0.4	1.6				57	20	54	18	5.3	10.0
				W21/F13	19.2	18.8	0.4	2.1				48	18	45	16	6.2	11.1
F14	R1	RESIDENTIAL	-UNKNOWN	W1/F14	23.2	23.2	0.0	0.0	96.3	95.5	0.8	6	0	6	0	0.0	0.0
				W2/F14	21.5	21.5	0.0	0.0				7	0	7	0	0.0	0.0
				W3/F14	26.7	25.2	1.5	5.6				42	14	40	12	4.8	14.3
				W4/F14	26.9	25.4	1.5	5.6				42	14	40	12	4.8	14.3
	R2**	RESIDENTIAL	-UNKNOWN	W5/F14	27.3	25.8	1.5	5.5	92.7	92.4	0.3	42	14	40	12	4.8	14.3
				W6/F14	27.6	26.0	1.6	5.8				42	14	40	12	4.8	14.3
				W7/F14	28.0	26.4	1.6	5.7				43	15	41	13	4.7	13.3
	R3**	RESIDENTIAL	-UNKNOWN	W8/F14	28.2	26.6	1.6	5.7	98.2	98.2	0	43	15	41	13	4.7	13.3
				W9/F14	28.4	26.8	1.6	5.6				44	15	41	12	6.8	20.0
				W10/F14	28.5	26.9	1.6	5.6				44	15	41	12	6.8	20.0
				W11/F14	28.7	27.1	1.6	5.6				44	15	41	12	6.8	20.0
	R4**	RESIDENTIAL	-UNKNOWN	W12/F14	28.9	27.3	1.6	5.5	95.0	95.0	0	45	15	42	12	6.7	20.0
				W13/F14	29.1	27.5	1.6	5.5				45	15	42	12	6.7	20.0
				W14/F14	29.4	27.8	1.6	5.4				45	15	42	12	6.7	20.0
				W15/F14	29.6	28.0	1.6	5.4				45	15	42	12	6.7	20.0
	R5	RESIDENTIAL	-UNKNOWN	W16/F14	29.8	28.1	1.7	5.7	98.6	98.6	0	45	15	42	12	6.7	20.0
				W17/F14	29.9	28.3	1.6	5.4				46	15	43	12	6.5	20.0
				W18/F14	32.3	31.9	0.4	1.2				69	24	66	22	4.3	8.3
				W19/F14	30.0	29.6	0.4	1.3				65	23	63	21	3.1	8.7
				W20/F14	25.7	25.3	0.4	1.6				57	20	55	18	3.5	10.0
				W21/F14	19.3	18.9	0.4	2.1				48	18	46	16	4.2	11.1
F15	R1	RESIDENTIAL	-UNKNOWN	W1/F15	23.3	23.3	0.0	0.0	96.3	95.5	0.8	6	0	6	0	0.0	0.0
				W2/F15	21.6	21.6	0.0	0.0				7	0	7	0	0.0	0.0
				W3/F15	26.9	25.5	1.4	5.2				42	14	40	12	4.8	14.3
				W4/F15	27.2	25.7	1.5	5.5				42	14	40	12	4.8	14.3
	R2**	RESIDENTIAL	-UNKNOWN	W5/F15	27.6	26.1	1.5	5.4	92.8	92.6	0.2	42	14	40	12	4.8	14.3
				W6/F15	27.8	26.3	1.5	5.4				42	14	40	12	4.8	14.3
				W7/F15	28.2	26.7	1.5	5.3				43	15	41	13	4.7	13.3
	R3**	RESIDENTIAL	-UNKNOWN	W8/F15	28.4	26.9	1.5	5.3	98.3	98.3	0	43	15	41	13	4.7	13.3
				W9/F15	28.6	27.1	1.5	5.2				44	15	41	12	6.8	20.0
				W10/F15	28.8	27.2	1.6	5.6				44	15	41	12	6.8	20.0
				W11/F15	28.9	27.4	1.5	5.2				44	15	41	12	6.8	20.0
	R4**	RESIDENTIAL	-UNKNOWN	W12/F15	29.1	27.6	1.5	5.2	95.1	95.1	0	45	15	42	12	6.7	20.0
				W13/F15	29.3	27.8	1.5	5.1				45	15	42	12	6.7	20.0
				W14/F15	29.6	28.1	1.5	5.1				45	15	42	12	6.7	20.0
				W15/F15	29.8	28.3	1.5	5.0				45	15	42	12	6.7	20.0
	R5	RESIDENTIAL	-UNKNOWN	W16/F15	30.0	28.4	1.6	5.3	98.6	98.6	0	45	15	42	12	6.7	20.0
				W17/F15	30.1	28.6	1.5	5.0				46	15	43	12	6.5	20.0
				W18/F15	32.5	32.1	0.4	1.2				69	24	67	22	2.9	8.3
				W19/F15	30.2	29.8	0.4	1.3				65	23	63	21	3.1	8.7

* Inclined Windows, ** Rooms deeper than 5m, *** Kitchens less than 13sqm

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
325 DEANSGATE STAYCITY APARTHOTEL (CONTINUED)																	
F15	R5	RESIDENTIAL	-UNKNOWN	W20/F15	25.8	25.4	0.4	1.6	98.6	98.6	0	57	20	55	18	3.5	10.0
				W21/F15	19.4	19.0	0.4	2.1				48	18	46	16	4.2	11.1
F16	R1	RESIDENTIAL	-UNKNOWN	W1/F16	23.4	23.4	0.0	0.0	96.3	95.7	0.6	6	0	6	0	0.0	0.0
				W2/F16	21.8	21.8	0.0	0.0				7	0	7	0	0.0	0.0
				W3/F16	27.2	25.8	1.4	5.1				43	15	41	13	4.7	13.3
				W4/F16	27.4	26.0	1.4	5.1				43	15	41	13	4.7	13.3
	R2**	RESIDENTIAL	-UNKNOWN	W5/F16	27.8	26.4	1.4	5.0	92.8	92.7	0.1	43	15	41	13	4.7	13.3
				W6/F16	28.0	26.6	1.4	5.0				43	15	41	13	4.7	13.3
				W7/F16	28.4	27.0	1.4	4.9				43	15	41	13	4.7	13.3
	R3**	RESIDENTIAL	-UNKNOWN	W8/F16	28.6	27.2	1.4	4.9	98.3	98.3	0	43	15	41	13	4.7	13.3
				W9/F16	28.8	27.4	1.4	4.9				44	15	41	12	6.8	20.0
				W10/F16	29.0	27.5	1.5	5.2				44	15	41	12	6.8	20.0
				W11/F16	29.2	27.7	1.5	5.1				44	15	41	12	6.8	20.0
	R4**	RESIDENTIAL	-UNKNOWN	W12/F16	29.4	27.9	1.5	5.1	95.0	95.0	0	45	15	42	12	6.7	20.0
				W13/F16	29.5	28.0	1.5	5.1				45	15	42	12	6.7	20.0
				W14/F16	29.9	28.4	1.5	5.0				45	15	42	12	6.7	20.0
				W15/F16	30.0	28.5	1.5	5.0				45	15	42	12	6.7	20.0
	R5	RESIDENTIAL	-UNKNOWN	W16/F16	30.2	28.7	1.5	5.0	98.6	98.6	0	45	15	42	12	6.7	20.0
				W17/F16	30.4	28.9	1.5	4.9				46	15	43	12	6.5	20.0
				W18/F16	32.7	32.3	0.4	1.2				69	24	67	22	2.9	8.3
				W19/F16	30.4	30.0	0.4	1.3				65	23	63	21	3.1	8.7
				W20/F16	26.0	25.6	0.4	1.5				57	20	55	18	3.5	10.0
				W21/F16	19.5	19.1	0.4	2.1				48	18	46	16	4.2	11.1
F17	R1	RESIDENTIAL	-UNKNOWN	W1/F17	23.5	23.5	0.0	0.0	96.3	95.8	0.5	6	0	6	0	0.0	0.0
				W2/F17	21.9	21.9	0.0	0.0				7	0	7	0	0.0	0.0
				W3/F17	27.4	26.1	1.3	4.7				43	15	41	13	4.7	13.3
				W4/F17	27.6	26.3	1.3	4.7				43	15	41	13	4.7	13.3
	R2**	RESIDENTIAL	-UNKNOWN	W5/F17	28.1	26.7	1.4	5.0	93.0	93.0	0	43	15	41	13	4.7	13.3
				W6/F17	28.3	26.9	1.4	4.9				43	15	41	13	4.7	13.3
				W7/F17	28.7	27.3	1.4	4.9				44	16	42	14	4.5	12.5
	R3**	RESIDENTIAL	-UNKNOWN	W8/F17	28.9	27.5	1.4	4.8	98.4	98.4	0	44	16	42	14	4.5	12.5
				W9/F17	29.1	27.7	1.4	4.8				45	16	42	13	6.7	18.8
				W10/F17	29.2	27.9	1.3	4.5				45	16	42	13	6.7	18.8
				W11/F17	29.4	28.0	1.4	4.8				45	16	42	13	6.7	18.8
	R4**	RESIDENTIAL	-UNKNOWN	W12/F17	29.6	28.2	1.4	4.7	95.1	95.1	0	46	16	43	13	6.5	18.8
				W13/F17	29.8	28.4	1.4	4.7				46	16	43	13	6.5	18.8
				W14/F17	30.1	28.7	1.4	4.7				46	16	43	13	6.5	18.8
				W15/F17	30.3	28.9	1.4	4.6				46	16	43	13	6.5	18.8
	R5	RESIDENTIAL	-UNKNOWN	W16/F17	30.4	29.0	1.4	4.6	98.5	98.5	0	45	15	42	12	6.7	20.0
				W17/F17	30.6	29.2	1.4	4.6				46	15	43	12	6.5	20.0
				W18/F17	32.9	32.5	0.4	1.2				70	25	68	23	2.9	8.0
				W19/F17	30.6	30.2	0.4	1.3				65	23	63	21	3.1	8.7
				W20/F17	26.2	25.8	0.4	1.5				57	20	55	18	3.5	10.0
				W21/F17	19.6	19.2	0.4	2.0				48	18	46	16	4.2	11.1
F18	R1	RESIDENTIAL	-UNKNOWN	W1/F18	23.6	23.6	0.0	0.0	96.3	96.1	0.2	6	0	6	0	0.0	0.0

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
325 DEANSGATE STAYCITY APARTHOTEL (CONTINUED)																	
F18	R1	RESIDENTIAL	-UNKNOWN	W2/F18	22.0	22.0	0.0	0.0	96.3	96.1	0.2	7	0	7	0	0.0	0.0
				W3/F18	27.7	26.4	1.3	4.7				43	15	41	13	4.7	13.3
				W4/F18	27.9	26.6	1.3	4.7				42	15	40	13	4.8	13.3
	R2**	RESIDENTIAL	-UNKNOWN	W5/F18	28.3	27.0	1.3	4.6	93.1	93.1	0	43	15	41	13	4.7	13.3
				W6/F18	28.5	27.2	1.3	4.6				43	15	41	13	4.7	13.3
				W7/F18	28.9	27.6	1.3	4.5				44	16	42	14	4.5	12.5
	R3**	RESIDENTIAL	-UNKNOWN	W8/F18	29.1	27.8	1.3	4.5	98.4	98.4	0	44	16	42	14	4.5	12.5
				W9/F18	29.3	28.0	1.3	4.4				45	16	42	13	6.7	18.8
				W10/F18	29.5	28.2	1.3	4.4				45	16	42	13	6.7	18.8
				W11/F18	29.7	28.3	1.4	4.7				45	16	42	13	6.7	18.8
	R4**	RESIDENTIAL	-UNKNOWN	W12/F18	29.8	28.5	1.3	4.4	95.1	95.1	0	46	16	43	13	6.5	18.8
				W13/F18	30.0	28.7	1.3	4.3				46	16	43	13	6.5	18.8
				W14/F18	30.3	29.0	1.3	4.3				46	16	43	13	6.5	18.8
				W15/F18	30.5	29.2	1.3	4.3				46	16	43	13	6.5	18.8
	R5	RESIDENTIAL	-UNKNOWN	W16/F18	30.7	29.3	1.4	4.6	98.6	98.6	0	46	16	43	13	6.5	18.8
				W17/F18	30.8	29.5	1.3	4.2				47	16	44	13	6.4	18.8
				W18/F18	33.2	32.9	0.3	0.9				71	26	69	24	2.8	7.7
				W19/F18	30.9	30.5	0.4	1.3				67	25	65	23	3.0	8.0
				W20/F18	26.4	26.1	0.3	1.1				59	22	57	20	3.4	9.1
				W21/F18	19.7	19.4	0.3	1.5				49	19	47	17	4.1	10.5
F19	R1	RESIDENTIAL	-UNKNOWN	W1/F19	23.8	23.8	0.0	0.0	96.3	96.2	0	6	0	6	0	0.0	0.0
				W2/F19	22.2	22.2	0.0	0.0				7	0	7	0	0.0	0.0
				W3/F19	28.0	26.8	1.2	4.3				43	15	41	13	4.7	13.3
				W4/F19	28.2	27.0	1.2	4.3				43	15	41	13	4.7	13.3
	R2**	RESIDENTIAL	-UNKNOWN	W5/F19	28.6	27.4	1.2	4.2	93.3	93.3	0	43	15	41	13	4.7	13.3
				W6/F19	28.8	27.6	1.2	4.2				43	15	41	13	4.7	13.3
				W7/F19	29.2	27.9	1.3	4.5				44	16	42	14	4.5	12.5
	R3**	RESIDENTIAL	-UNKNOWN	W8/F19	29.4	28.1	1.3	4.4	98.4	98.4	0	44	16	42	14	4.5	12.5
				W9/F19	29.6	28.3	1.3	4.4				45	16	42	13	6.7	18.8
				W10/F19	29.7	28.5	1.2	4.0				45	16	42	13	6.7	18.8
				W11/F19	29.9	28.7	1.2	4.0				45	16	42	13	6.7	18.8
	R4**	RESIDENTIAL	-UNKNOWN	W12/F19	30.1	28.8	1.3	4.3	95.3	95.3	0	46	16	43	13	6.5	18.8
				W13/F19	30.3	29.0	1.3	4.3				46	16	43	13	6.5	18.8
				W14/F19	30.6	29.3	1.3	4.2				46	16	43	13	6.5	18.8
				W15/F19	30.8	29.5	1.3	4.2				46	16	43	13	6.5	18.8
	R5	RESIDENTIAL	-UNKNOWN	W16/F19	30.9	29.6	1.3	4.2	98.8	98.8	0	46	16	43	13	6.5	18.8
				W17/F19	31.1	29.8	1.3	4.2				47	16	44	13	6.4	18.8
				W18/F19	33.8	33.5	0.3	0.9				72	27	70	25	2.8	7.4
				W19/F19	31.5	31.1	0.4	1.3				68	26	66	24	2.9	7.7
				W20/F19	26.9	26.6	0.3	1.1				60	23	58	21	3.3	8.7
				W21/F19	19.9	19.5	0.4	2.0				49	19	47	17	4.1	10.5
F20	R1	RESIDENTIAL	-UNKNOWN	W1/F20	23.9	23.9	0.0	0.0	96.3	96.3	0	6	0	6	0	0.0	0.0
				W2/F20	22.3	22.3	0.0	0.0				7	0	7	0	0.0	0.0
				W3/F20	28.2	27.1	1.1	3.9				43	15	41	13	4.7	13.3
				W4/F20	28.4	27.3	1.1	3.9				42	15	40	13	4.8	13.3

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
325 DEANSGATE STAYCITY APARTHOTEL (CONTINUED)																	
F20	R2**	RESIDENTIAL	-UNKNOWN	W5/F20	28.9	27.7	1.2	4.2	93.5	93.4	0	43	15	41	13	4.7	13.3
				W6/F20	29.1	27.9	1.2	4.1				43	15	41	13	4.7	13.3
				W7/F20	29.5	28.3	1.2	4.1				44	16	42	14	4.5	12.5
	R3**	RESIDENTIAL	-UNKNOWN	W8/F20	29.6	28.5	1.1	3.7	98.5	98.5	0	44	16	42	14	4.5	12.5
				W9/F20	29.8	28.6	1.2	4.0				45	16	42	13	6.7	18.8
				W10/F20	30.0	28.8	1.2	4.0				45	16	42	13	6.7	18.8
				W11/F20	30.2	29.0	1.2	4.0				45	16	42	13	6.7	18.8
	R4**	RESIDENTIAL	-UNKNOWN	W12/F20	30.3	29.2	1.1	3.6	95.3	95.3	0	46	16	43	13	6.5	18.8
				W13/F20	30.5	29.3	1.2	3.9				46	16	43	13	6.5	18.8
				W14/F20	30.8	29.6	1.2	3.9				46	16	43	13	6.5	18.8
				W15/F20	31.0	29.8	1.2	3.9				46	16	43	13	6.5	18.8
	R5	RESIDENTIAL	-UNKNOWN	W16/F20	31.1	29.9	1.2	3.9	99.0	99.0	0	46	16	43	13	6.5	18.8
				W17/F20	31.3	30.1	1.2	3.8				47	16	44	13	6.4	18.8
				W18/F20	35.0	34.6	0.4	1.1				75	27	73	25	2.7	7.4
				W19/F20	33.1	32.8	0.3	0.9				70	26	68	24	2.9	7.7
				W20/F20	28.6	28.3	0.3	1.0				62	23	60	21	3.2	8.7
				W21/F20	20.4	20.1	0.3	1.5				50	19	48	17	4.0	10.5
ROPEWORKS BLOCK A																	
F00	R3**	RESIDENTIAL	LKD	W4/F00	8.9	1.8	7.1	79.8	93.8	31.7	66.2						
				W5/F00	9.1	4.8	4.3	47.3									
	R4	RESIDENTIAL	BEDROOM	W6/F00	17.0	9.0	8.0	47.1	86.4	17.4	79.9						
	R5**	RESIDENTIAL	BEDROOM	W7/F00	16.9	8.8	8.1	47.9	85.0	18.4	78.4						
	R6	RESIDENTIAL	LKD	W8/F00	9.1	1.7	7.4	81.3	92.9	19.5	79						
				W9/F00	8.4	2.9	5.5	65.5									
	R7**	RESIDENTIAL	LKD	W10/F00	16.4	8.5	7.9	48.2	63.0	14.7	76.7						
	R8	RESIDENTIAL	BEDROOM	W11/F00	6.5	1.8	4.7	72.3	95.7	12.3	87.2						
				W12/F00	6.7	0.6	6.1	91.0									
	R9	RESIDENTIAL	BEDROOM	W13/F00	16.0	8.8	7.2	45.0	74.2	19.2	74.1						
	R10	RESIDENTIAL	LKD	W14/F00	16.0	9.2	6.8	42.5	65.8	14.7	77.6						
F01	R1	RESIDENTIAL	LKD	W1/F01	17.7	17.7	0.0	0.0	66.4	62.0	6.6	12	0	12	0	0.0	0.0
				W2/F01	18.3	18.3	0.0	0.0				14	0	14	0	0.0	0.0
				W3/F01	20.3	11.7	8.6	42.4				10	0	10	0	0.0	0.0
				W4/F01	20.3	11.5	8.8	43.3				10	0	10	0	0.0	0.0
				W5/F01	20.9	11.1	9.8	46.9				9	0	9	0	0.0	0.0
	R2**	RESIDENTIAL	LKD	W6/F01	4.2	1.3	2.9	69.0	61.1	31.4	48.5						
	R3**	RESIDENTIAL	BEDROOM	W7/F01	20.4	10.3	10.1	49.5	46.1	22.8	50.5						
	R4**	RESIDENTIAL	BEDROOM	W8/F01	20.2	10.3	9.9	49.0	46.7	24.4	47.8						
	R5	RESIDENTIAL	LKD	W9/F01	3.8	1.2	2.6	68.4	62.2	19.2	69.1						
	R6**	RESIDENTIAL	LKD	W10/F01	19.8	10.2	9.6	48.5	36.3	19.8	45.3						
	R7	RESIDENTIAL	BEDROOM	W11/F01	2.2	0.6	1.6	72.7	87.3	14.3	83.6						
	R8	RESIDENTIAL	BEDROOM	W12/F01	19.5	11.1	8.4	43.1	62.0	40.8	34.2						
	R9	RESIDENTIAL	BEDROOM	W13/F01	18.7	11.1	7.6	40.6	46.1	31.9	30.9						
				W14/F01	18.7	11.1	7.6	40.6									
	R10	RESIDENTIAL	LKD	W15/F01	16.5	8.8	7.7	46.7	59.6	36.5	38.8						
F02	R1	RESIDENTIAL	LKD	W1/F02	20.9	20.9	0.0	0.0	91.0	76.0	16.5	19	0	19	0	0.0	0.0

* Inclined Windows, ** Rooms deeper than 5m, *** Kitchens less than 13sqm

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
ROPEWORKS BLOCK A (CONTINUED)																	
F02	R1	RESIDENTIAL	LKD	W2/F02	21.6	21.6	0.0	0.0	91.0	76.0	16.5	20	0	20	0	0.0	0.0
				W3/F02	24.0	12.9	11.1	46.3				10	0	10	0	0.0	0.0
				W4/F02	24.0	12.5	11.5	47.9				10	0	10	0	0.0	0.0
				W5/F02	24.0	12.0	12.0	50.0				10	0	10	0	0.0	0.0
	R2**	RESIDENTIAL	LKD	W6/F02	5.8	0.2	5.6	96.6	94.9	39.4	58.5						
				W7/F02	7.3	1.7	5.6	76.7									
				W8/F02	7.1	2.7	4.4	62.0									
				W9/F02	7.3	3.2	4.1	56.2									
	R3**	RESIDENTIAL	BEDROOM	W10/F02	23.4	11.0	12.4	53.0	94.8	22.6	76.1						
	R4**	RESIDENTIAL	BEDROOM	W11/F02	23.2	11.1	12.1	52.2	97.7	24.9	74.6						
	R5	RESIDENTIAL	LKD	W12/F02	5.5	1.1	4.4	80.0	95.1	18.3	80.7						
				W13/F02	6.6	1.7	4.9	74.2									
				W14/F02	6.6	1.8	4.8	72.7									
				W15/F02	6.0	2.2	3.8	63.3									
	R6**	RESIDENTIAL	LKD	W16/F02	22.7	11.0	11.7	51.5	72.9	20.6	71.7						
	R7	RESIDENTIAL	BEDROOM	W17/F02	4.7	2.1	2.6	55.3	99.0	10.6	89.3						
				W18/F02	4.4	1.6	2.8	63.6									
				W19/F02	4.0	0.1	3.9	97.5									
				W20/F02	4.4	0.5	3.9	88.6									
	R8	RESIDENTIAL	BEDROOM	W21/F02	22.0	12.2	9.8	44.5	91.6	49.3	46.2						
	R9**	RESIDENTIAL	BEDROOM	W22/F02	21.5	12.5	9.0	41.9	63.8	33.0	48.3						
				W23/F02	21.5	12.6	8.9	41.4									
	R10**	RESIDENTIAL	LKD	W24/F02	18.4	9.6	8.8	47.8	77.6	62.3	19.7						
				W25/F02	17.1	9.0	8.1	47.4									
F03	R1	RESIDENTIAL	LKD	W1/F03	24.9	24.9	0.0	0.0	91.6	76.6	16.3	23	0	23	0	0.0	0.0
				W2/F03	25.4	25.4	0.0	0.0				25	0	25	0	0.0	0.0
				W3/F03	24.7	13.3	11.4	46.2				10	0	10	0	0.0	0.0
				W4/F03	24.7	12.9	11.8	47.8				10	0	10	0	0.0	0.0
				W5/F03	24.5	12.3	12.2	49.8				11	0	11	0	0.0	0.0
	R2**	RESIDENTIAL	LKD	W6/F03	6.1	0.2	5.9	96.7	94.3	42.5	55						
				W7/F03	7.7	1.8	5.9	76.6									
				W8/F03	7.6	2.9	4.7	61.8									
				W9/F03	7.8	3.4	4.4	56.4									
	R3**	RESIDENTIAL	BEDROOM	W10/F03	24.0	11.3	12.7	52.9	96.8	24.5	74.7						
	R4**	RESIDENTIAL	BEDROOM	W11/F03	23.9	11.4	12.5	52.3	96.9	24.4	74.8						
	R5	RESIDENTIAL	LKD	W12/F03	6.0	1.2	4.8	80.0	95.3	18.3	80.8						
				W13/F03	7.2	1.9	5.3	73.6									
				W14/F03	7.2	1.9	5.3	73.6									
				W15/F03	6.5	2.3	4.2	64.6									
	R6**	RESIDENTIAL	LKD	W16/F03	23.4	11.3	12.1	51.7	73.9	20.3	72.5						
	R7	RESIDENTIAL	BEDROOM	W17/F03	5.2	2.4	2.8	53.8	99.1	10.7	89.2						
				W18/F03	4.9	1.8	3.1	63.3									
				W19/F03	4.4	0.1	4.3	97.7									
				W20/F03	4.8	0.6	4.2	87.5									
	R8	RESIDENTIAL	BEDROOM	W21/F03	22.9	12.8	10.1	44.1	93.7	49.3	47.4						

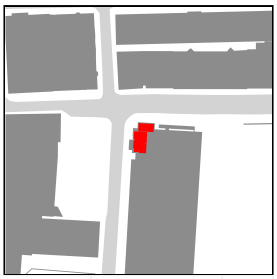
					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
ROPEWORKS BLOCK A (CONTINUED)																	
F03	R9	RESIDENTIAL	BEDROOM	W22/F03	22.7	13.2	9.5	41.9	73.9	42.5	42.6						
				W23/F03	22.7	13.3	9.4	41.4									
	R10	RESIDENTIAL	LKD	W24/F03	19.3	10.5	8.8	45.6	59.5	28.4	52.2						
	R11	RESIDENTIAL	BEDROOM	W25/F03	18.1	9.8	8.3	45.9	97.8	56.4	42.3						
	R12**	RESIDENTIAL	BEDROOM	W26/F03	22.5	15.0	7.5	33.3	72.6	44.4	38.8						
	R13	RESIDENTIAL	LKD	W27/F03	22.6	15.5	7.1	31.4	94.7	91.4	3.5						
				W28/F03	22.9	16.2	6.7	29.3									
F04	R1	RESIDENTIAL	LKD	W1/F04	28.9	28.9	0.0	0.0	92.8	78.0	15.9	34	2	34	2	0.0	0.0
				W2/F04	29.1	29.1	0.0	0.0				34	2	34	2	0.0	0.0
				W3/F04	25.1	13.5	11.6	46.2				12	0	11	0	8.3	0.0
				W4/F04	25.0	13.0	12.0	48.0				11	0	11	0	0.0	0.0
				W5/F04	24.7	12.2	12.5	50.6				10	0	10	0	0.0	0.0
	R2	RESIDENTIAL	LKD	W6/F04	6.3	0.3	6.0	95.2	94.4	42.1	55.4						
				W7/F04	8.1	1.9	6.2	76.5									
				W8/F04	8.0	3.0	5.0	62.5									
				W9/F04	8.0	3.6	4.4	55.0									
	R3	RESIDENTIAL	BEDROOM	W10/F04	24.4	11.4	13.0	53.3	96.8	24.4	74.8						
	R4**	RESIDENTIAL	BEDROOM	W11/F04	24.2	11.4	12.8	52.9	98.2	26.2	73.4						
	R5	RESIDENTIAL	LKD	W12/F04	6.3	1.3	5.0	79.4	94.7	19.5	79.4						
				W13/F04	7.7	1.9	5.8	75.3									
				W14/F04	7.6	2.0	5.6	73.7									
				W15/F04	6.8	2.4	4.4	64.7									
	R6**	RESIDENTIAL	LKD	W16/F04	24.1	11.6	12.5	51.9	74.6	21.3	71.4						
	R7	RESIDENTIAL	BEDROOM	W17/F04	5.5	2.5	3.0	54.5	99.7	11.9	88.1						
				W18/F04	5.4	2.0	3.4	63.0									
				W19/F04	4.7	0.1	4.6	97.9									
				W20/F04	5.0	0.6	4.4	88.0									
	R8	RESIDENTIAL	BEDROOM	W21/F04	23.3	12.9	10.4	44.6	93.2	49.6	46.8						
	R9	RESIDENTIAL	BEDROOM	W22/F04	23.3	13.6	9.7	41.6	74.8	45.7	38.8						
				W23/F04	23.3	13.7	9.6	41.2									
	R10	RESIDENTIAL	LKD	W24/F04	19.6	10.6	9.0	45.9	91.7	74.5	18.7						
				W25/F04	19.0	10.4	8.6	45.3									
	R11**	RESIDENTIAL	BEDROOM	W26/F04	23.5	15.9	7.6	32.3	74.0	45.5	38.5						
	R12	RESIDENTIAL	LKD	W27/F04	23.7	16.5	7.2	30.4	95.7	92.5	3.4						
				W28/F04	23.9	17.1	6.8	28.5									
F05	R1	RESIDENTIAL	LKD	W1/F05	31.2	31.2	0.0	0.0	94.0	80.3	14.5	32	3	32	3	0.0	0.0
				W2/F05	31.3	31.3	0.0	0.0				34	4	34	4	0.0	0.0
				W3/F05	24.8	13.0	11.8	47.6				11	0	10	0	9.1	0.0
				W4/F05	24.5	12.5	12.0	49.0				10	0	10	0	0.0	0.0
				W6/F05	21.5	10.1	11.4	53.0				10	0	10	0	0.0	0.0
	R2	RESIDENTIAL	LKD	W5/F05	9.3	0.7	8.6	92.5	94.4	40.3	57.3						
				W7/F05	12.9	1.8	11.1	86.0									
				W8/F05	13.3	4.3	9.0	67.7									
				W9/F05	12.7	6.2	6.5	51.2									
	R3	RESIDENTIAL	BEDROOM	W10/F05	22.0	9.4	12.6	57.3	96.3	23.1	76						

					VSC (WINDOW)				NSL			APSH (WINDOW)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX %	PR %	LOSS	LOSS %	EX %	PR %	LOSS %	EX		PR		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
ROPEWORKS BLOCK A (CONTINUED)																	
F05	R4**	RESIDENTIAL	BEDROOM	W11/F05	20.2	8.6	11.6	57.4	95.5	22.8	76.1						
	R5	RESIDENTIAL	LKD	W12/F05	10.6	2.5	8.1	76.4	95.4	18.7	80.4						
				W13/F05	13.3	2.6	10.7	80.5									
				W14/F05	13.6	2.8	10.8	79.4									
				W15/F05	12.0	4.0	8.0	66.7									
	R6**	RESIDENTIAL	LKD	W16/F05	23.8	11.0	12.8	53.8	72.9	21.1	71						
	R7	RESIDENTIAL	BEDROOM	W17/F05	11.1	4.5	6.6	59.5	100.0	18.0	82						
				W18/F05	11.8	3.1	8.7	73.7									
				W19/F05	11.0	1.1	9.9	90.0									
				W20/F05	10.3	2.1	8.2	79.6									
	R8	RESIDENTIAL	BEDROOM	W21/F05	21.3	11.4	9.9	46.5	93.5	50.3	46.2						
	R9	RESIDENTIAL	BEDROOM	W22/F05	22.8	13.1	9.7	42.5	75.1	46.1	38.5						
				W23/F05	22.9	13.3	9.6	41.9									
	R10	RESIDENTIAL	LKD	W24/F05	20.3	11.5	8.8	43.3	91.8	75.0	18.4						
				W25/F05	19.4	10.7	8.7	44.8									
	R11**	RESIDENTIAL	BEDROOM	W26/F05	24.2	16.4	7.8	32.2	74.0	44.9	39.4						
	R12	RESIDENTIAL	LKD	W27/F05	24.4	17.0	7.4	30.3	96.9	93.6	3.4						
				W28/F05	24.6	17.6	7.0	28.5									
F06	R2**	RESIDENTIAL	UNKNOWN	W4/F06	9.5	4.9	4.6	48.4	37.7	23.3	38.4						
				W5/F06	9.5	5.9	3.6	37.9									
	R3	RESIDENTIAL	UNKNOWN	W6/F06	22.6	13.4	9.2	40.7	91.0	58.8	35.4						
	R4	RESIDENTIAL	UNKNOWN	W7/F06	19.7	10.8	8.9	45.2	98.4	61.0	38						
	R5**	RESIDENTIAL	BEDROOM	W8/F06	24.5	16.5	8.0	32.7	76.9	48.1	37.5						
	R6	RESIDENTIAL	LKD	W9/F06	24.8	17.2	7.6	30.6	98.2	94.8	3.4						
				W10/F06	25.1	18.0	7.1	28.3									
F07	R2**	RESIDENTIAL	UNKNOWN	W4/F07	24.1	13.4	10.7	44.4	79.9	41.9	47.5						
	R3	RESIDENTIAL	UNKNOWN	W5/F07	22.4	12.8	9.6	42.9	90.4	58.0	35.9						
	R4	RESIDENTIAL	UNKNOWN	W6/F07	16.6	7.9	8.7	52.4	97.2	53.8	44.6						
	R5**	RESIDENTIAL	BEDROOM	W7/F07	22.4	15.0	7.4	33.0	76.8	48.1	37.4						
	R6	RESIDENTIAL	LKD	W8/F07	23.6	16.3	7.3	30.9	98.4	96.0	2.4						
				W9/F07	24.7	17.5	7.2	29.1									

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: HILL QUAYS
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL1
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





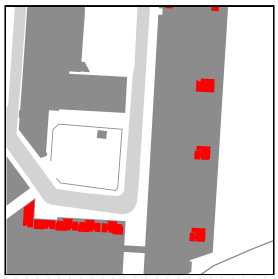
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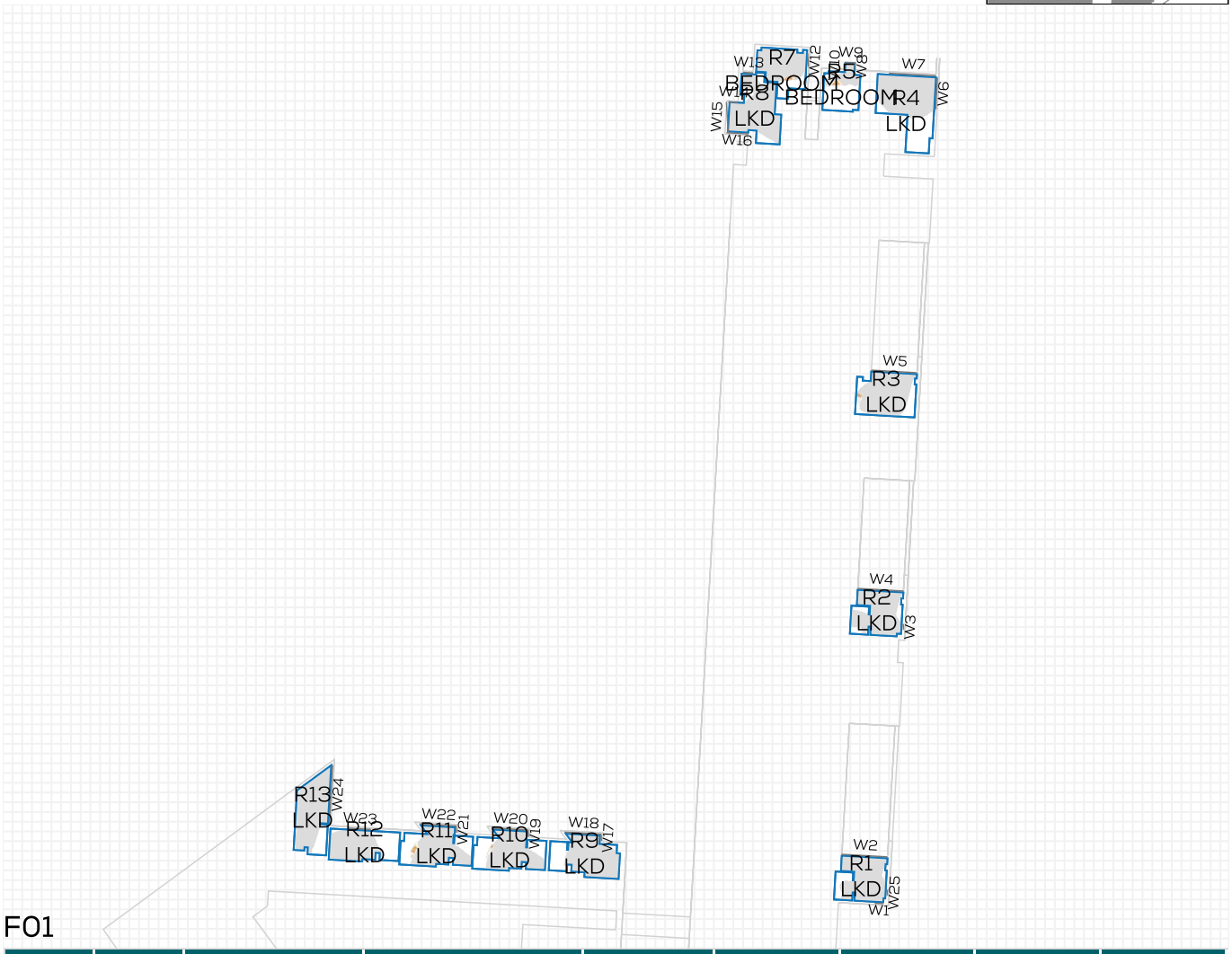
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
HILL QUAYS								
F00	R1	RESIDENTIAL	BEDROOM	13.8	95.2	94.9	0.0	0.4
F00	R2	RESIDENTIAL	KITCHEN	29.9	88.4	88.4	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: HILL QUAYS
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL2
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





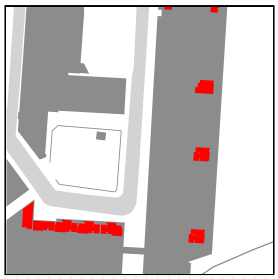
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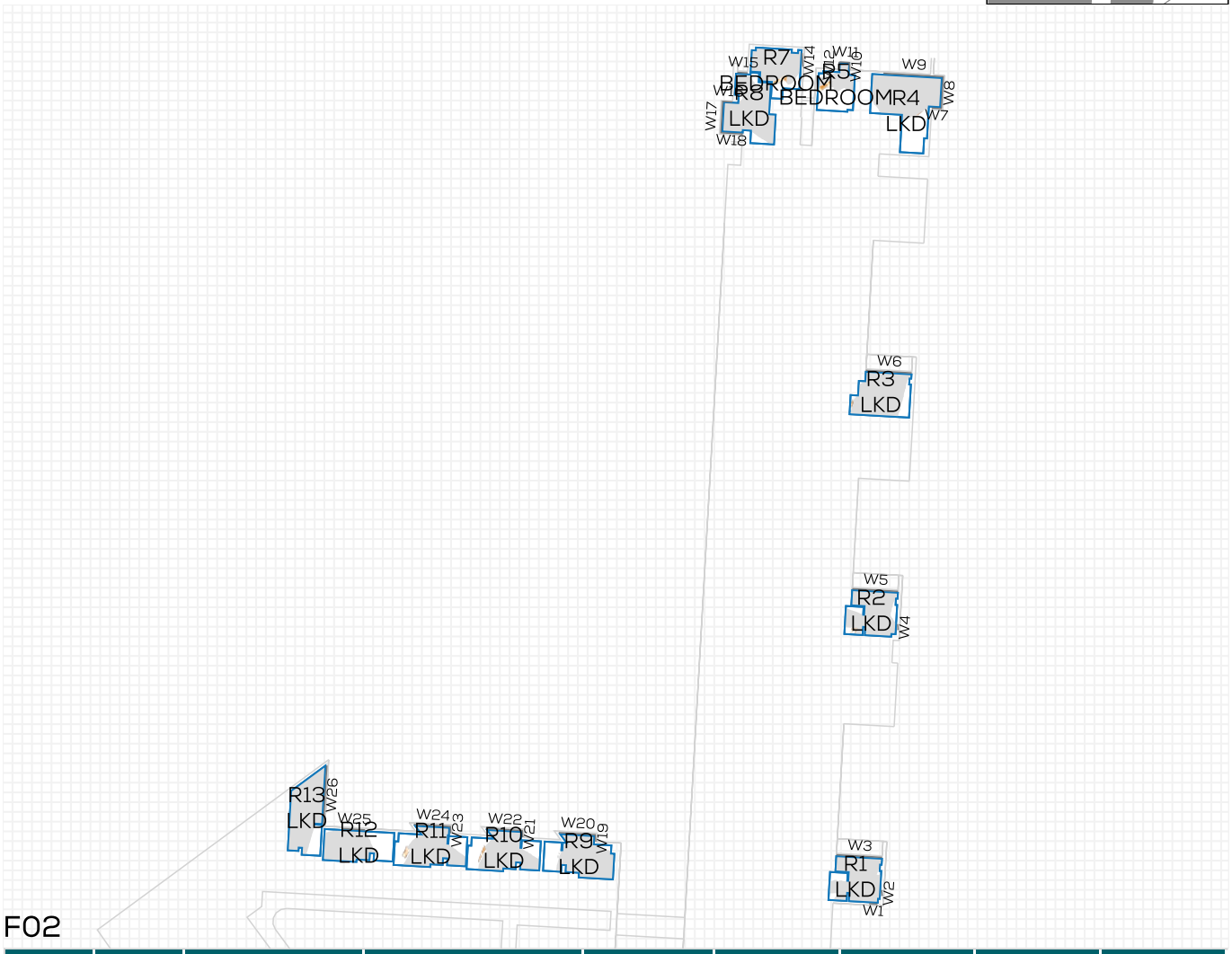
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
HILL QUAYS								
F01	R1	RESIDENTIAL	LKD	22.2	84.3	84.1	0.0	0.2
F01	R2	RESIDENTIAL	LKD	22.2	86.1	85.7	0.1	0.5
F01	R3	RESIDENTIAL	LKD	25.9	80	78.6	0.4	1.7
F01	R4	RESIDENTIAL	LKD	33.8	68.3	67.9	0.1	0.6
F01	R5	RESIDENTIAL	BEDROOM	15.3	34.7	29.4	0.8	15.2
F01	R7	RESIDENTIAL	BEDROOM	19.2	76.3	72.7	0.7	4.8
F01	R8	RESIDENTIAL	LKD	27.5	88.2	88.2	0.0	0
F01	R9	RESIDENTIAL	LKD	25.2	77.3	77.3	0.0	0.1
F01	R10	RESIDENTIAL	LKD	25.3	68.4	67.6	0.2	1.2
F01	R11	RESIDENTIAL	LKD	25.2	69.9	68.3	0.4	2.4
F01	R12	RESIDENTIAL	LKD	21.5	68.3	68.3	0.0	0
F01	R13	RESIDENTIAL	LKD	25.7	82.4	81.8	0.2	0.8

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: HILL QUAYS
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL3
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





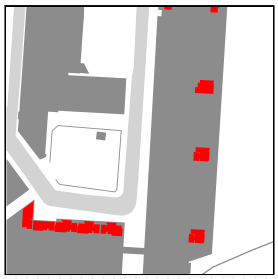
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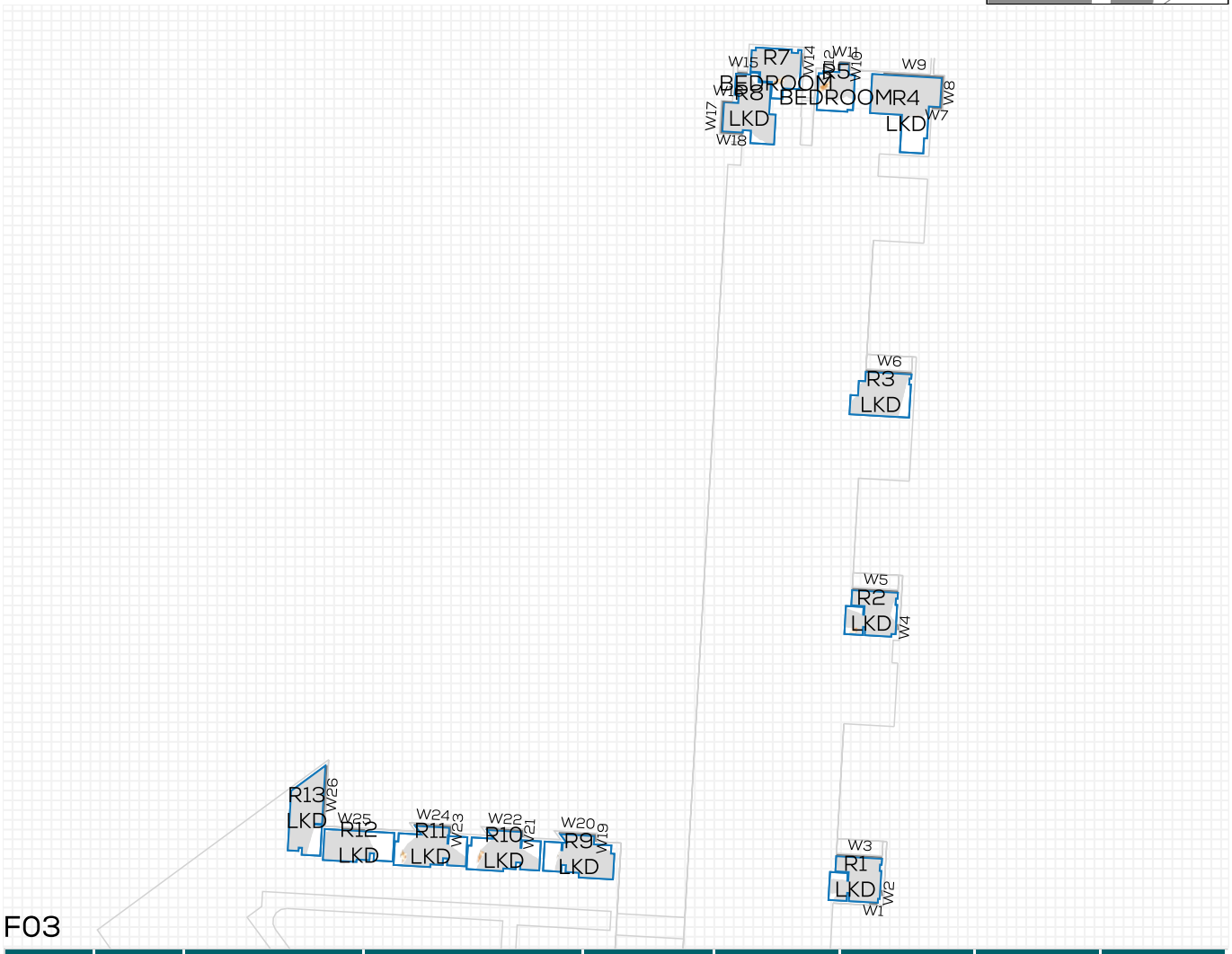
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
HILL QUAYS								
F02	R1	RESIDENTIAL	LKD	22.2	89.4	89.3	0.0	0.1
F02	R2	RESIDENTIAL	LKD	22.2	87.7	86.5	0.3	1.4
F02	R3	RESIDENTIAL	LKD	24.5	86.2	85.5	0.2	0.8
F02	R4	RESIDENTIAL	LKD	37.2	71.5	70.9	0.2	0.9
F02	R5	RESIDENTIAL	BEDROOM	15.3	44.4	38.7	0.9	13
F02	R7	RESIDENTIAL	BEDROOM	19.2	80.9	75.8	1.0	6.3
F02	R8	RESIDENTIAL	LKD	27.5	91.4	91.4	0.0	0
F02	R9	RESIDENTIAL	LKD	25.2	78.7	78.6	0.0	0.2
F02	R10	RESIDENTIAL	LKD	25.3	70.1	68.9	0.3	1.8
F02	R11	RESIDENTIAL	LKD	25.2	71.7	69.7	0.5	2.8
F02	R12	RESIDENTIAL	LKD	21.5	68.5	68.5	0.0	0
F02	R13	RESIDENTIAL	LKD	25.7	86.5	86.5	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: HILL QUAYS
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL4
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





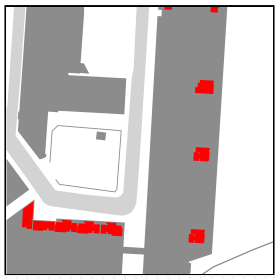
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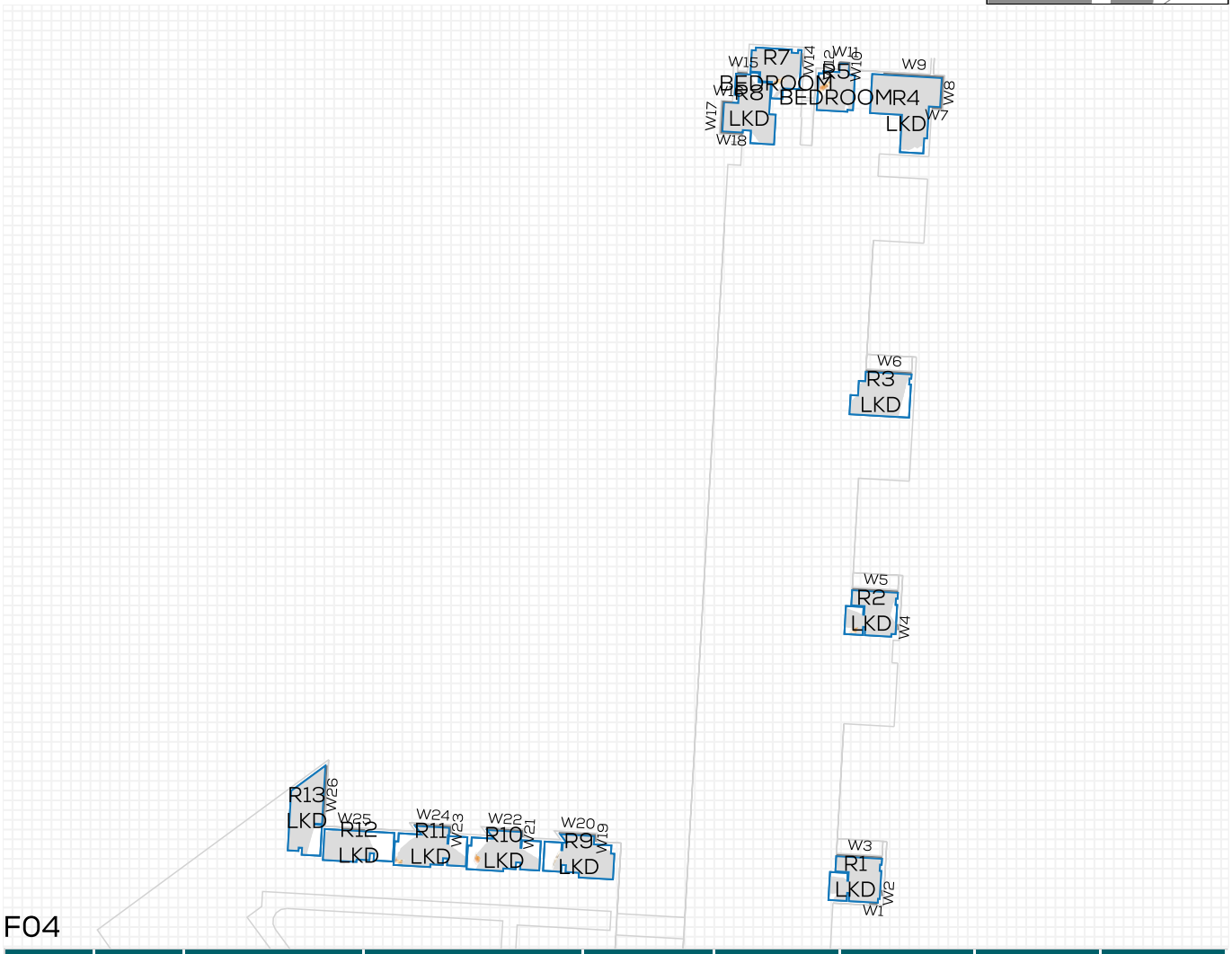
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
HILL QUAYS								
F03	R1	RESIDENTIAL	LKD	22.2	91.5	91.5	0.0	0
F03	R2	RESIDENTIAL	LKD	22.2	88.6	86.9	0.4	1.9
F03	R3	RESIDENTIAL	LKD	24.5	87.2	87.1	0.0	0.1
F03	R4	RESIDENTIAL	LKD	37.2	75.2	74.7	0.2	0.7
F03	R5	RESIDENTIAL	BEDROOM	15.3	63.8	57.5	1.0	9.9
F03	R7	RESIDENTIAL	BEDROOM	19.2	85.4	80.3	1.0	6
F03	R8	RESIDENTIAL	LKD	27.5	93.2	93.2	0.0	0
F03	R9	RESIDENTIAL	LKD	25.2	79.7	79.4	0.1	0.3
F03	R10	RESIDENTIAL	LKD	25.3	71.7	70.1	0.4	2.2
F03	R11	RESIDENTIAL	LKD	25.2	74.1	72.3	0.5	2.5
F03	R12	RESIDENTIAL	LKD	21.5	68.7	68.7	0.0	0
F03	R13	RESIDENTIAL	LKD	25.7	86.6	86.6	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: HILL QUAYS
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL5
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





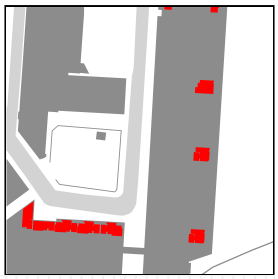
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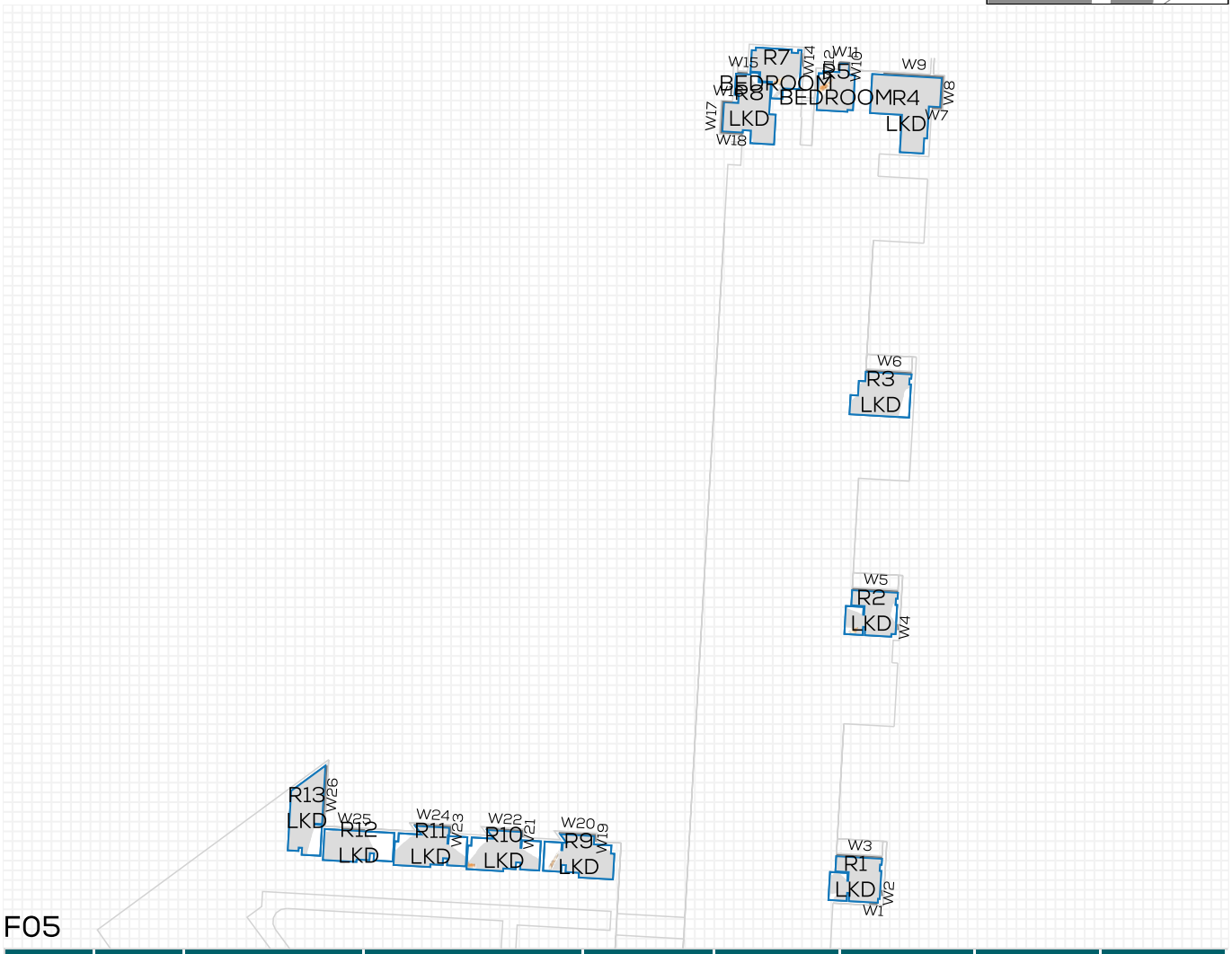
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HILL QUAYS								
F04	R1	RESIDENTIAL	LKD	22.2	93.4	93.4	0.0	0
F04	R2	RESIDENTIAL	LKD	22.2	88.9	87	0.4	2.1
F04	R3	RESIDENTIAL	LKD	24.5	87.4	87.4	0.0	0
F04	R4	RESIDENTIAL	LKD	37.2	96.8	96.8	0.0	0
F04	R5	RESIDENTIAL	BEDROOM	15.3	90.6	84.7	0.9	6.6
F04	R7	RESIDENTIAL	BEDROOM	19.2	88.8	84	0.9	5.4
F04	R8	RESIDENTIAL	LKD	27.5	94.2	94.2	0.0	0
F04	R9	RESIDENTIAL	LKD	25.2	80.9	80.1	0.2	1
F04	R10	RESIDENTIAL	LKD	25.3	74.1	72.3	0.5	2.4
F04	R11	RESIDENTIAL	LKD	25.2	78.9	77.1	0.5	2.3
F04	R12	RESIDENTIAL	LKD	21.5	69	69	0.0	0
F04	R13	RESIDENTIAL	LKD	25.7	86.7	86.7	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: HILL QUAYS
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL6
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





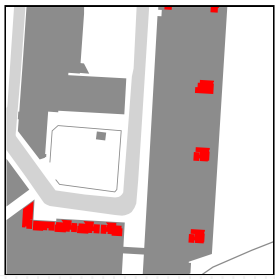
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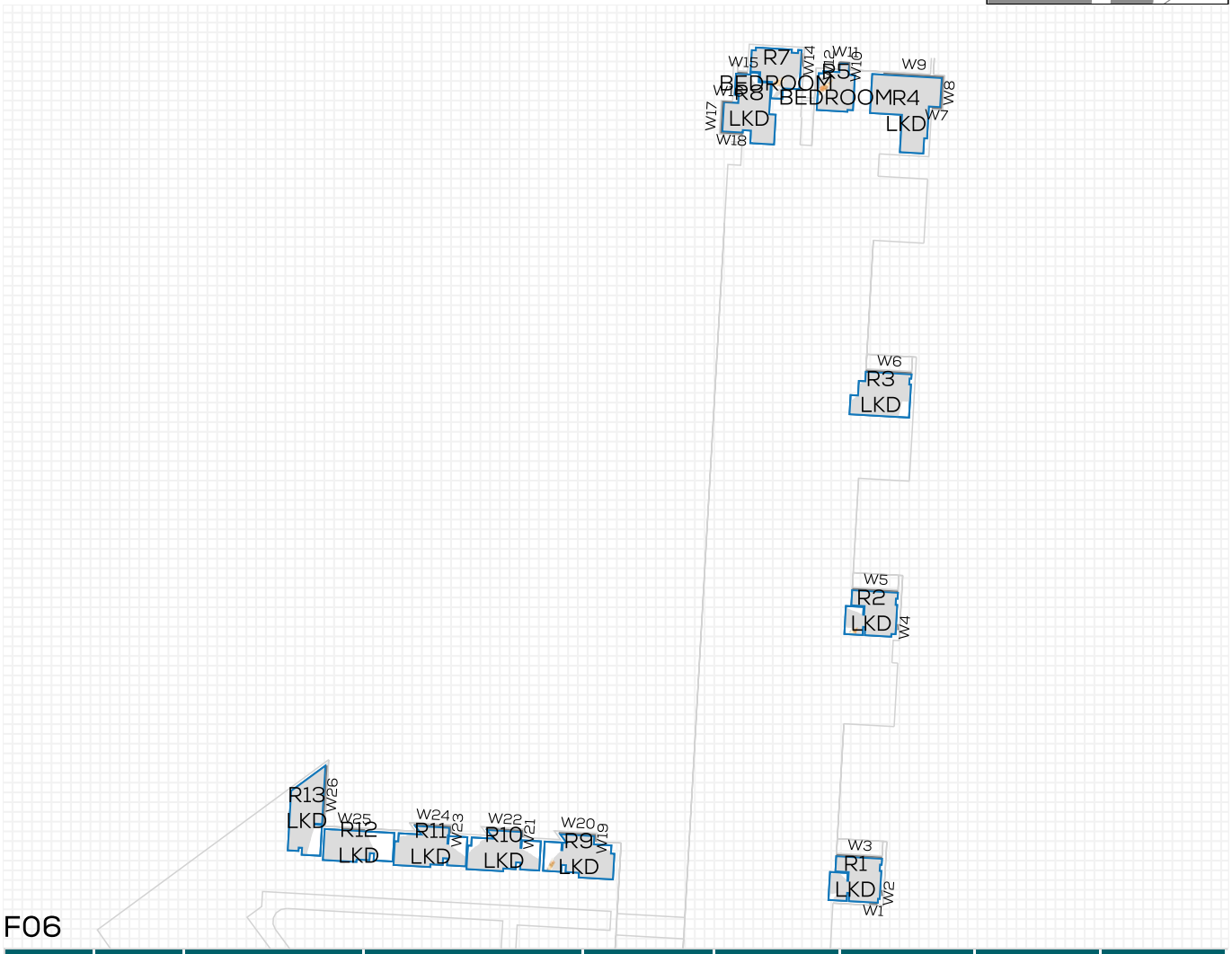
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
HILL QUAYS								
F05	R1	RESIDENTIAL	LKD	22.2	95.6	95.6	0.0	0
F05	R2	RESIDENTIAL	LKD	22.2	89.4	87.4	0.4	2.2
F05	R3	RESIDENTIAL	LKD	24.5	88.6	88.6	0.0	0
F05	R4	RESIDENTIAL	LKD	37.2	99.4	99.4	0.0	0
F05	R5	RESIDENTIAL	BEDROOM	15.3	92.5	86.1	1.0	7
F05	R7	RESIDENTIAL	BEDROOM	19.2	89.3	84.6	0.9	5.3
F05	R8	RESIDENTIAL	LKD	27.5	95.8	95.8	0.0	0
F05	R9	RESIDENTIAL	LKD	25.2	82.2	80.6	0.4	1.9
F05	R10	RESIDENTIAL	LKD	25.3	79	77.3	0.4	2.2
F05	R11	RESIDENTIAL	LKD	25.2	83	83	0.0	0
F05	R12	RESIDENTIAL	LKD	21.5	69	69	0.0	0
F05	R13	RESIDENTIAL	LKD	25.7	86.7	86.7	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: HILL QUAYS
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL7
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





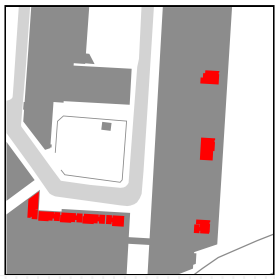
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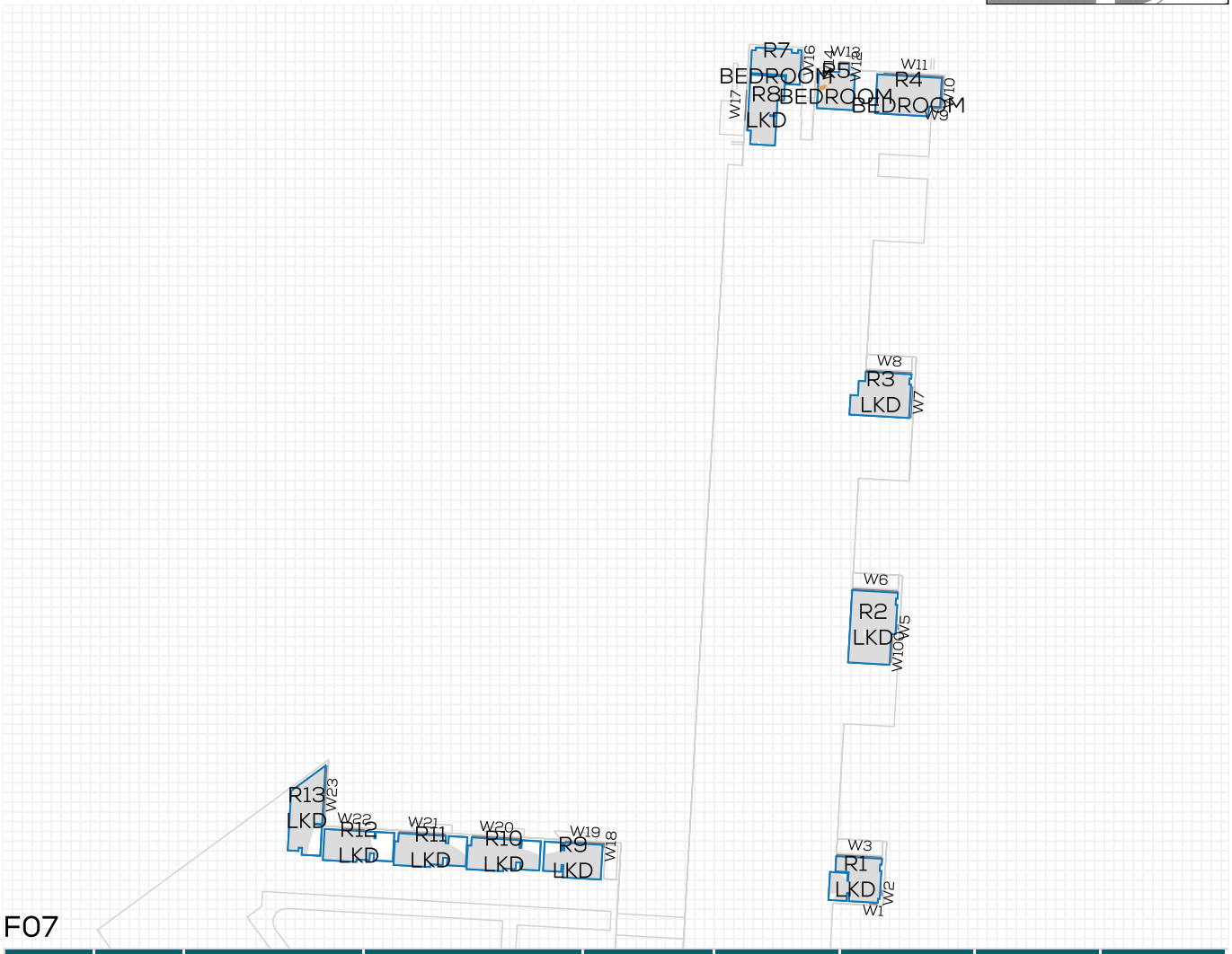
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
HILL QUAYS								
F06	R1	RESIDENTIAL	LKD	22.2	96	96	0.0	0
F06	R2	RESIDENTIAL	LKD	22.2	93.4	91.4	0.4	2.1
F06	R3	RESIDENTIAL	LKD	24.5	92.2	92.2	0.0	0
F06	R4	RESIDENTIAL	LKD	37.2	99.6	99.6	0.0	0
F06	R5	RESIDENTIAL	BEDROOM	15.3	92.6	86.2	1.0	6.8
F06	R7	RESIDENTIAL	BEDROOM	19.2	89.6	84.9	0.9	5.2
F06	R8	RESIDENTIAL	LKD	27.5	95.9	95.9	0.0	0
F06	R9	RESIDENTIAL	LKD	25.2	83.7	81.8	0.5	2.2
F06	R10	RESIDENTIAL	LKD	25.3	84.6	84.6	0.0	0
F06	R11	RESIDENTIAL	LKD	25.2	87.6	87.6	0.0	0
F06	R12	RESIDENTIAL	LKD	21.5	69.2	69.2	0.0	0
F06	R13	RESIDENTIAL	LKD	25.7	86.7	86.7	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: HILL QUAYS
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL8
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F07

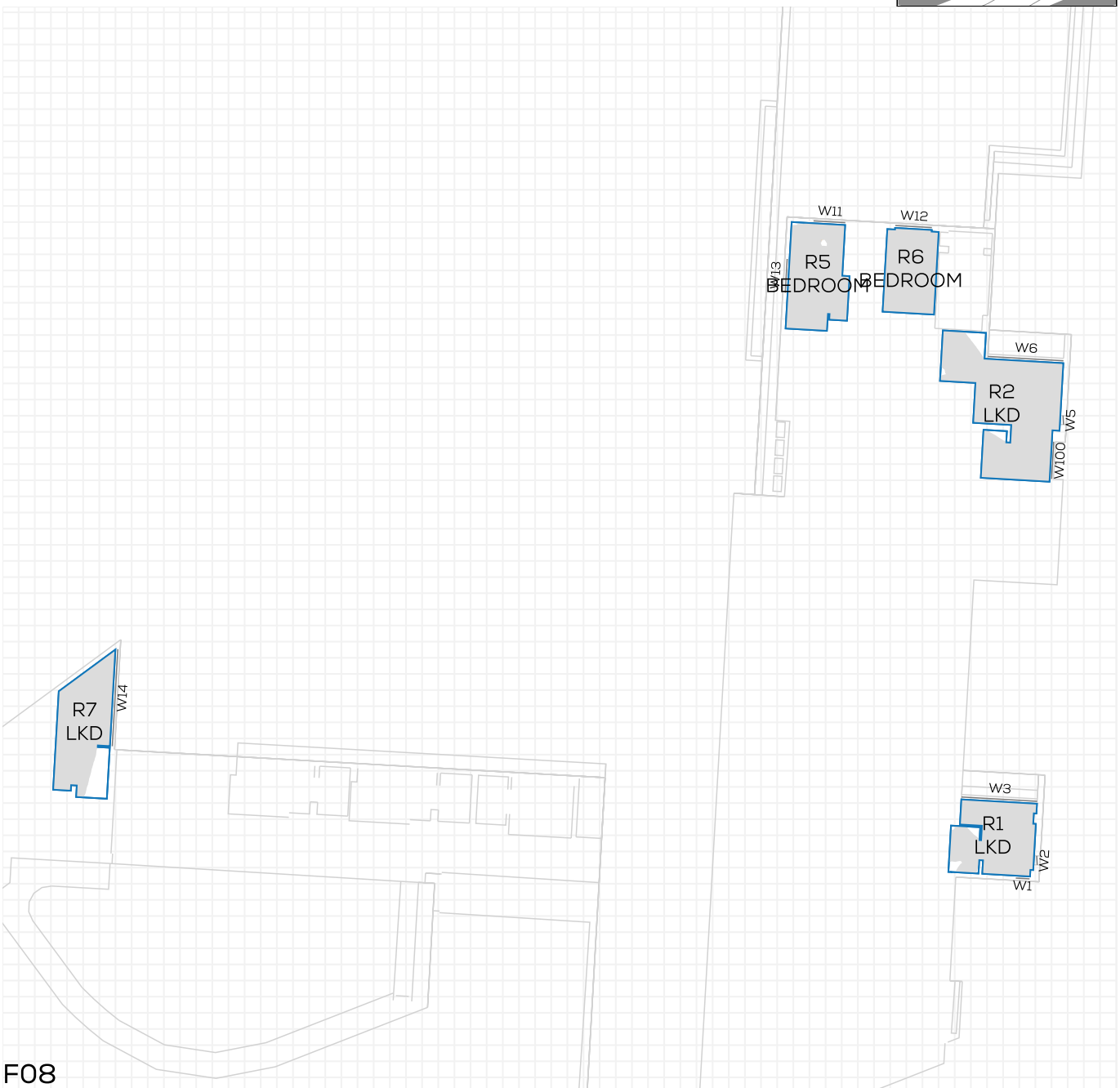
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
HILL QUAYS								
F07	R1	RESIDENTIAL	LKD	22.2	96.1	96.1	0.0	0
F07	R2	RESIDENTIAL	LKD	33.3	99.7	99.7	0.0	0
F07	R3	RESIDENTIAL	LKD	24.7	100	100	0.0	0
F07	R4	RESIDENTIAL	BEDROOM	25.2	100	100	0.0	0
F07	R5	RESIDENTIAL	BEDROOM	14.8	91.9	85.2	1.0	7.4
F07	R7	RESIDENTIAL	BEDROOM	14.4	91.9	91.9	0.0	0
F07	R8	RESIDENTIAL	LKD	21.8	92.8	92.8	0.0	0
F07	R9	RESIDENTIAL	LKD	19.7	89.8	89.8	0.0	0
F07	R10	RESIDENTIAL	LKD	22.6	90.3	90.3	0.0	0
F07	R11	RESIDENTIAL	LKD	22.3	88.8	88.8	0.0	0
F07	R12	RESIDENTIAL	LKD	21.4	70.1	70.1	0.0	0
F07	R13	RESIDENTIAL	LKD	25.7	86.8	86.8	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: HILL QUAYS
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL9
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





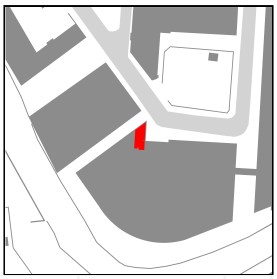
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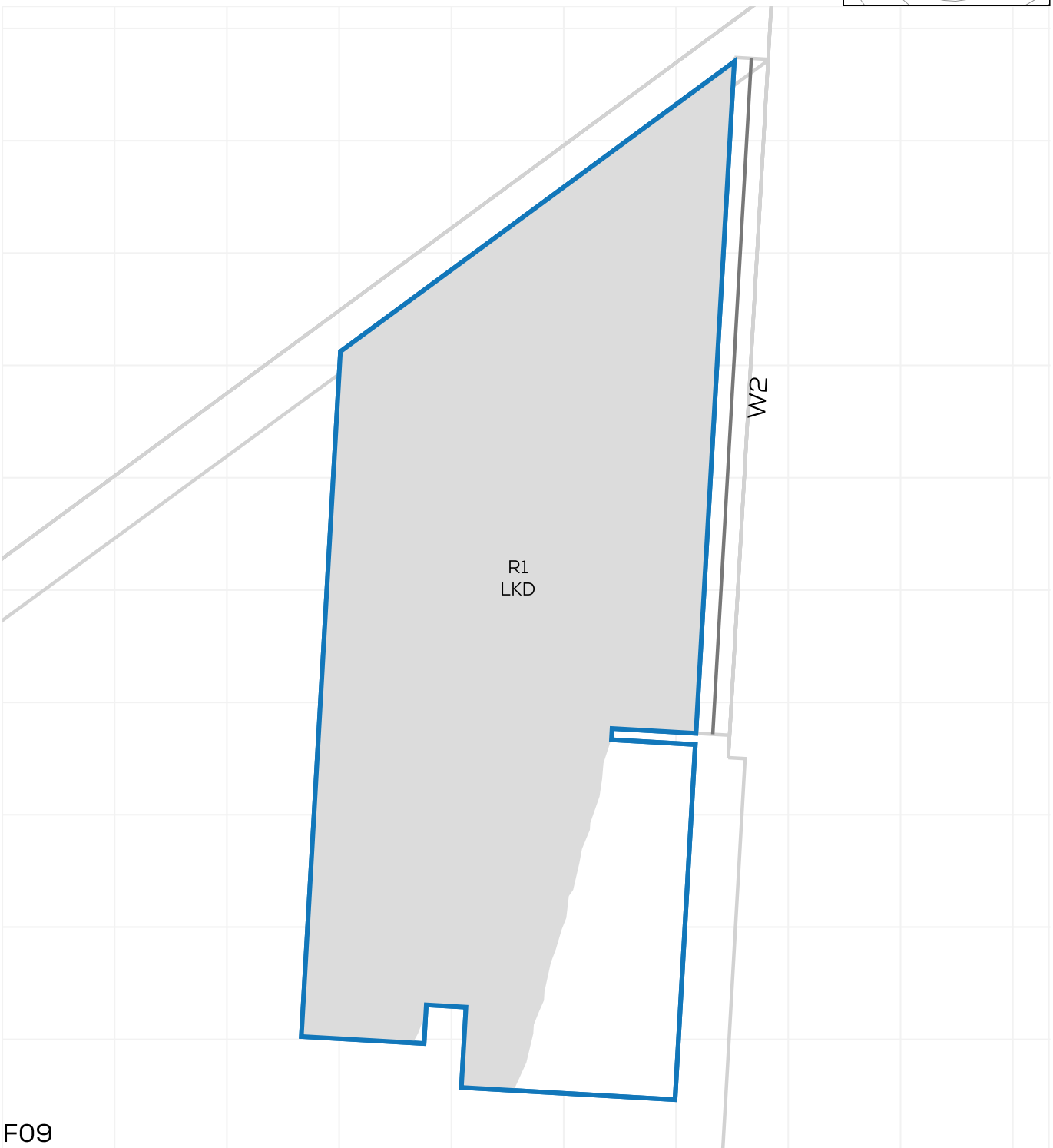
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
HILL QUAYS								
F08	R1	RESIDENTIAL	LKD	22.2	96.2	96.2	0.0	0
F08	R2	RESIDENTIAL	LKD	42.8	96.3	96.3	0.0	0
F08	R5	RESIDENTIAL	BEDROOM	22.6	99.1	99	0.0	0.1
F08	R6	RESIDENTIAL	BEDROOM	16.6	99.9	99.9	0.0	0
F08	R7	RESIDENTIAL	LKD	25.7	86.7	86.7	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: HILL QUAYS
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL10
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





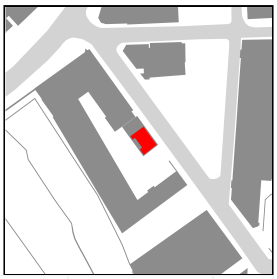
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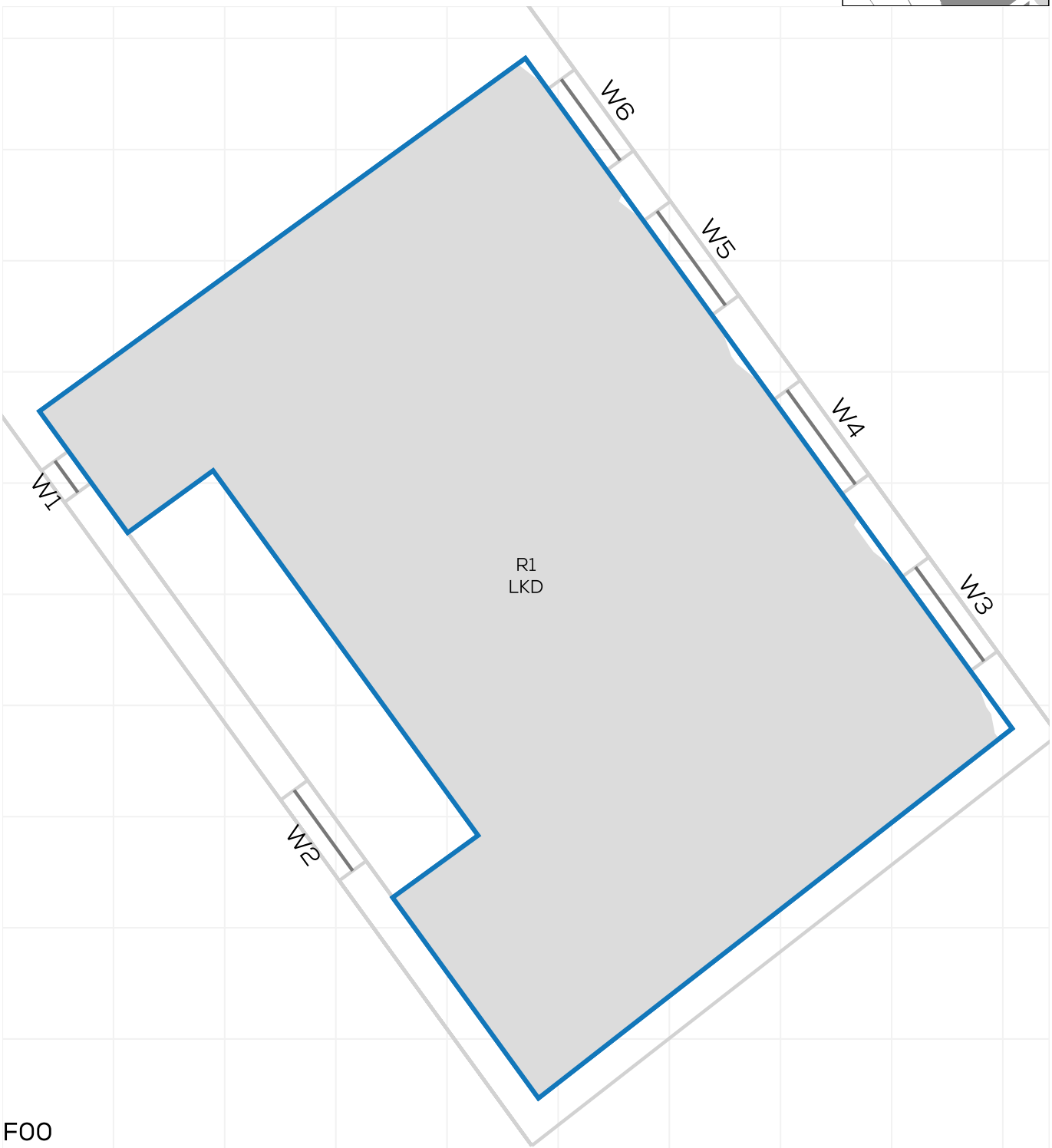
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
HILL QUAYS								
F09	R1	RESIDENTIAL	LKD	25.7	86.7	86.7	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: RIVERSIDE MEWS
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL11
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





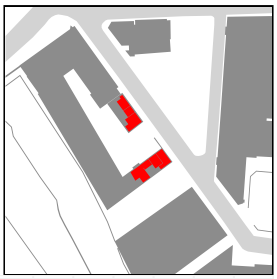
F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
RIVERSIDE MEWS								
F00	R1	RESIDENTIAL	LKD	36.9	99.6	99.6	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: RIVERSIDE MEWS
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL12
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





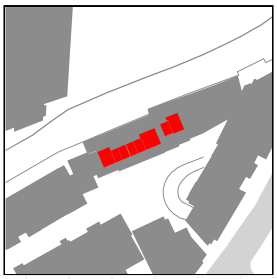
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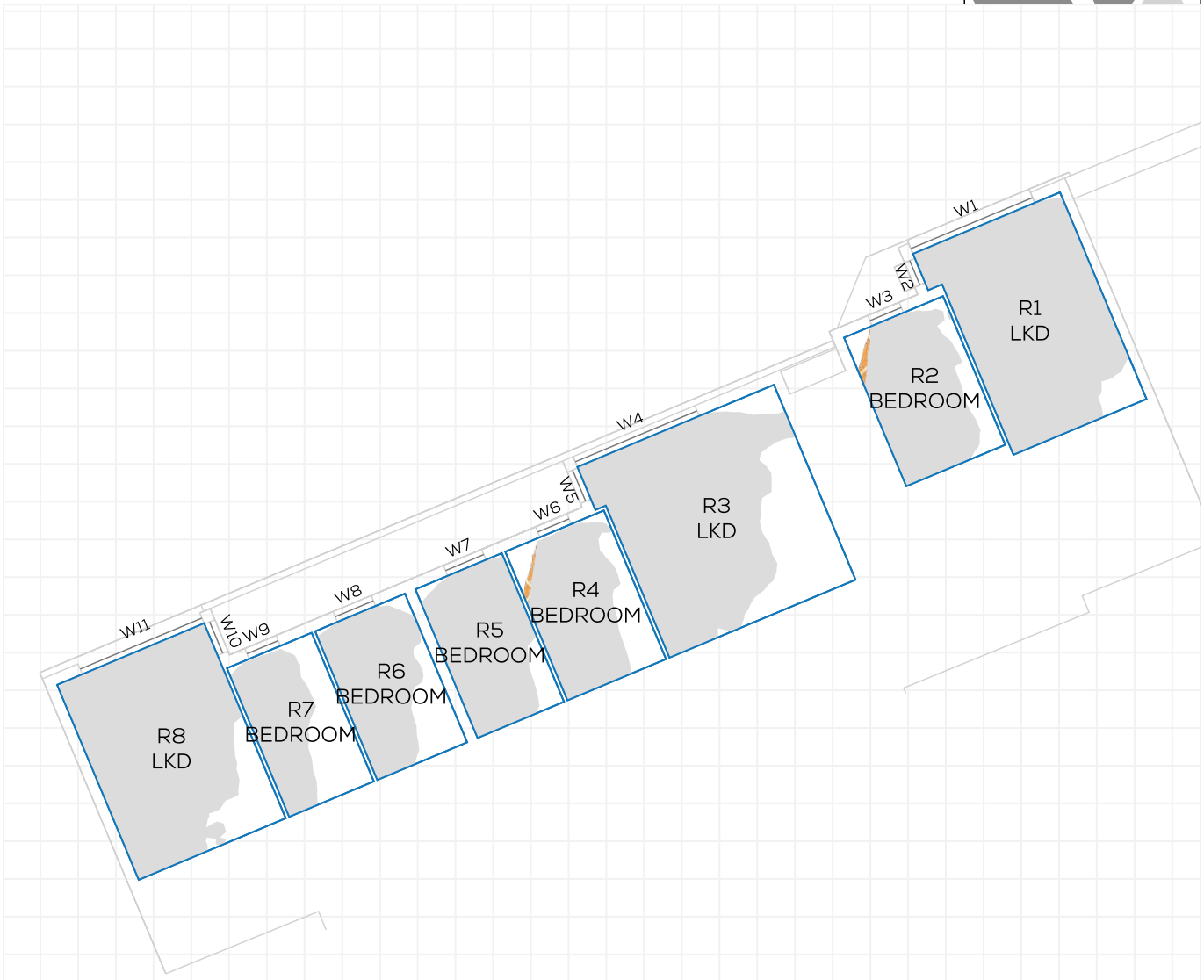
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
RIVERSIDE MEWS								
F01	R1	RESIDENTIAL	BEDROOM	18.9	99.7	99.7	0.0	0
F01	R2	RESIDENTIAL	BEDROOM	7.3	98.6	98.6	0.0	0
F01	R3	RESIDENTIAL	BEDROOM	11.2	98.9	98.9	0.0	0
F01	R4	RESIDENTIAL	BEDROOM	15.3	91.1	91.1	0.0	0
F01	R5	RESIDENTIAL	BEDROOM	11.9	99.6	99.6	0.0	0
F01	R6	RESIDENTIAL	LKD	27.1	87.9	87.9	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE RHINE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL13
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





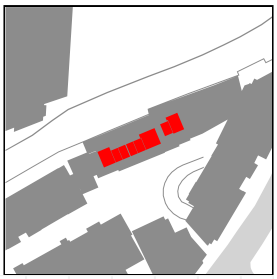
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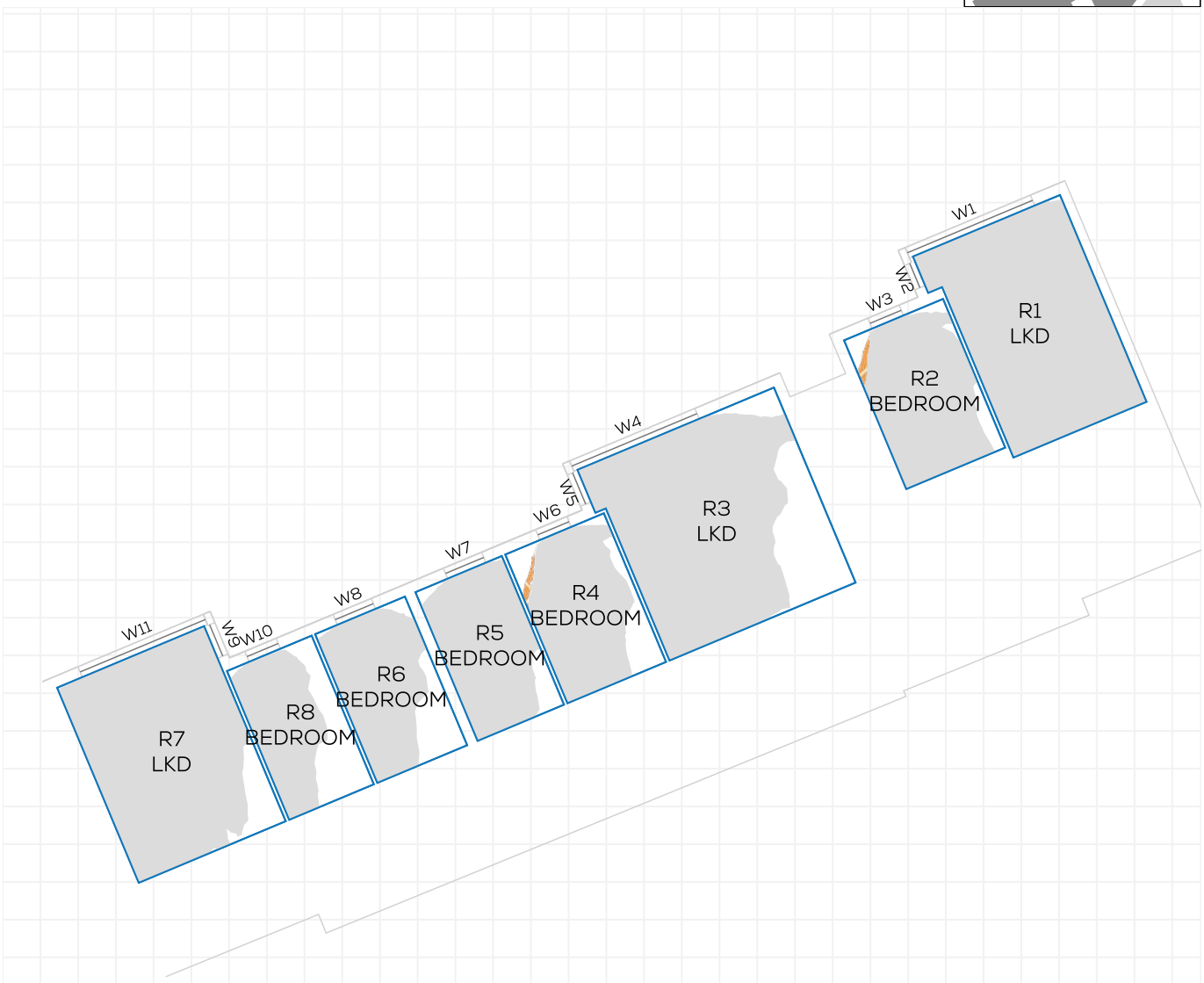
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE RHINE								
F00	R1	RESIDENTIAL	LKD	23.1	95.3	95.3	0.0	0
F00	R2	RESIDENTIAL	BEDROOM	12.1	81.6	79.9	0.2	2
F00	R3	RESIDENTIAL	LKD	30.3	73.3	73.3	0.0	0
F00	R4	RESIDENTIAL	BEDROOM	12.1	73.3	72	0.2	1.8
F00	R5	RESIDENTIAL	BEDROOM	10.6	89.2	89.2	0.0	0
F00	R6	RESIDENTIAL	BEDROOM	11.0	74.8	74.8	0.0	0
F00	R7	RESIDENTIAL	BEDROOM	10.4	57.6	57.6	0.0	0
F00	R8	RESIDENTIAL	LKD	23.7	87.5	87.5	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE RHINE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL14
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





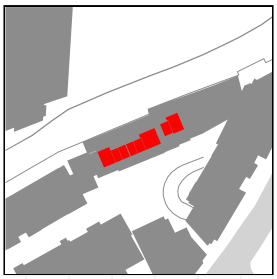
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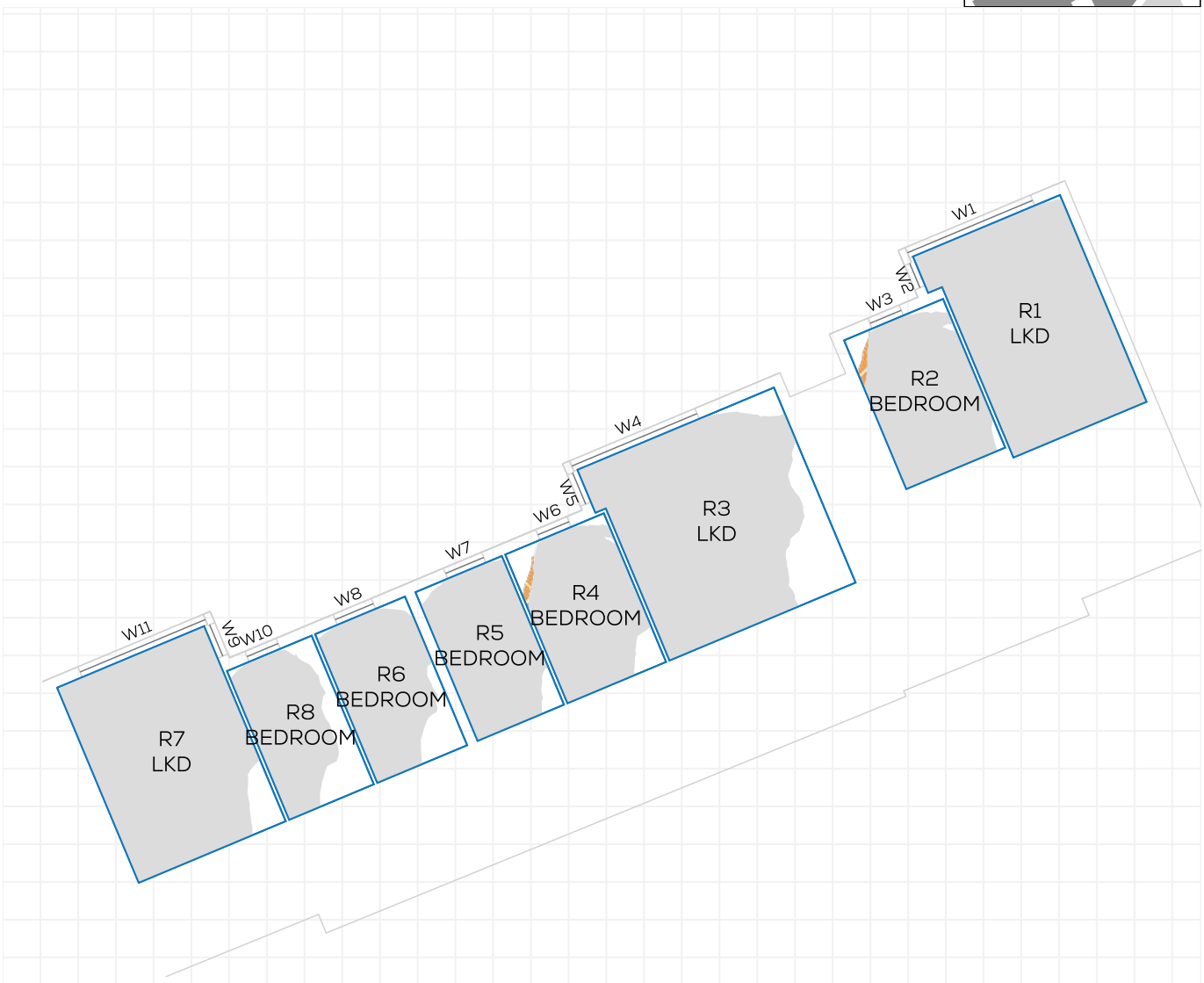
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE RHINE								
F01	R1	RESIDENTIAL	LKD	23.1	99.9	99.9	0.0	0
F01	R2	RESIDENTIAL	BEDROOM	12.1	90.1	88.5	0.2	1.7
F01	R3	RESIDENTIAL	LKD	30.3	79.9	79.9	0.0	0
F01	R4	RESIDENTIAL	BEDROOM	12.1	79.9	78.6	0.2	1.6
F01	R5	RESIDENTIAL	BEDROOM	10.6	90.9	90.9	0.0	0
F01	R6	RESIDENTIAL	BEDROOM	11.0	78.2	78.2	0.0	0
F01	R7	RESIDENTIAL	LKD	23.7	92.8	92.8	0.0	0
F01	R8	RESIDENTIAL	BEDROOM	10.4	64.5	64.5	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE RHINE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL15
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





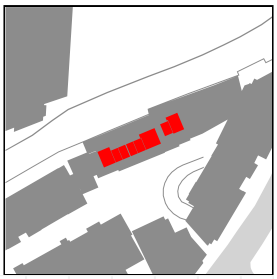
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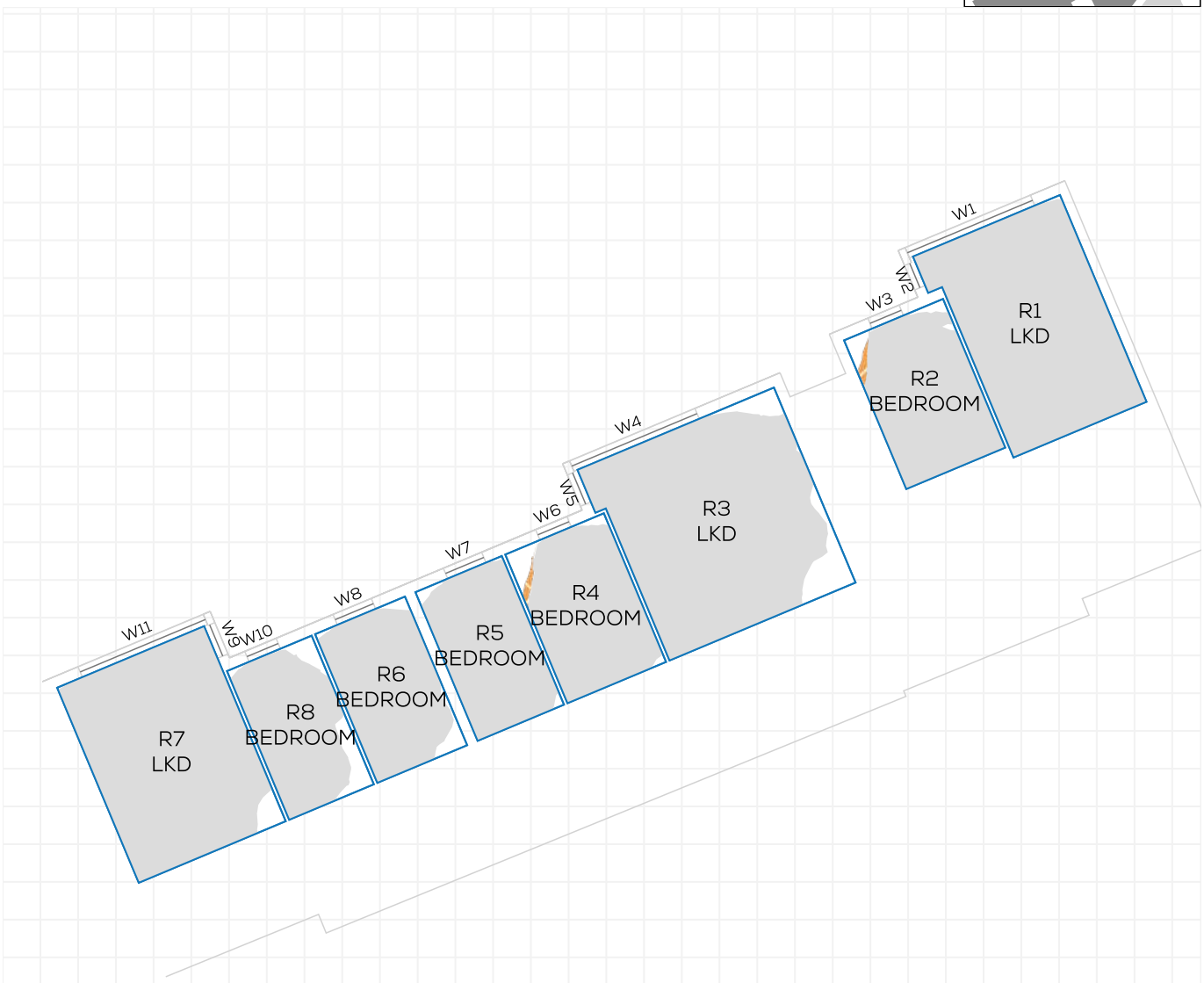
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE RHINE								
F02	R1	RESIDENTIAL	LKD	23.1	99.9	99.9	0.0	0
F02	R2	RESIDENTIAL	BEDROOM	12.1	93.9	92.4	0.2	1.5
F02	R3	RESIDENTIAL	LKD	30.3	85.2	85.2	0.0	0
F02	R4	RESIDENTIAL	BEDROOM	12.1	88	86.7	0.2	1.5
F02	R5	RESIDENTIAL	BEDROOM	10.6	94.3	94.3	0.0	0
F02	R6	RESIDENTIAL	BEDROOM	11.0	84.5	84.5	0.0	0
F02	R7	RESIDENTIAL	LKD	23.7	95.1	95.1	0.0	0
F02	R8	RESIDENTIAL	BEDROOM	10.4	73	73	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE RHINE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL16
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





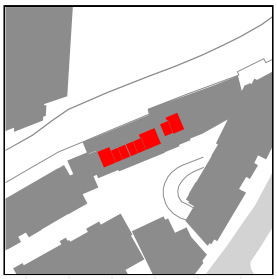
F03

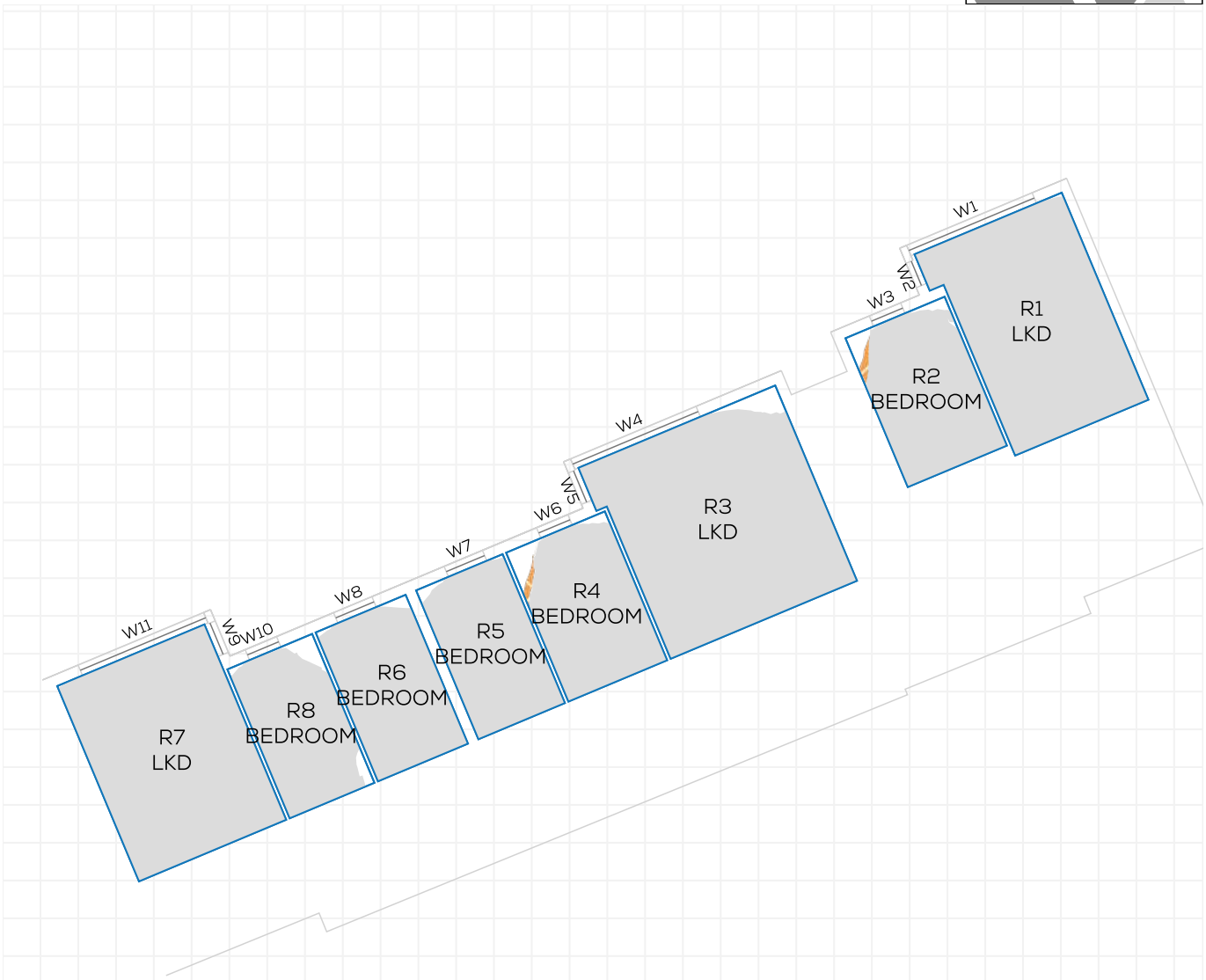
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE RHINE								
F03	R1	RESIDENTIAL	LKD	23.1	99.9	99.9	0.0	0
F03	R2	RESIDENTIAL	BEDROOM	12.1	95	93.6	0.2	1.5
F03	R3	RESIDENTIAL	LKD	30.3	92.4	92.4	0.0	0
F03	R4	RESIDENTIAL	BEDROOM	12.1	93.3	92	0.2	1.4
F03	R5	RESIDENTIAL	BEDROOM	10.6	97.8	97.8	0.0	0
F03	R6	RESIDENTIAL	BEDROOM	11.0	93.9	93.9	0.0	0
F03	R7	RESIDENTIAL	LKD	23.7	97.7	97.7	0.0	0
F03	R8	RESIDENTIAL	BEDROOM	10.4	85.8	85.8	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE RHINE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL17
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





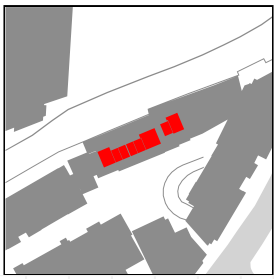
F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE RHINE								
F04	R1	RESIDENTIAL	LKD	23.1	99.9	99.9	0.0	0
F04	R2	RESIDENTIAL	BEDROOM	12.1	95.2	93.8	0.2	1.5
F04	R3	RESIDENTIAL	LKD	30.3	97.8	97.8	0.0	0
F04	R4	RESIDENTIAL	BEDROOM	12.1	93.8	92.5	0.2	1.3
F04	R5	RESIDENTIAL	BEDROOM	10.6	98.3	98.3	0.0	0
F04	R6	RESIDENTIAL	BEDROOM	11.0	98.1	98.1	0.0	0
F04	R7	RESIDENTIAL	LKD	23.7	100	100	0.0	0
F04	R8	RESIDENTIAL	BEDROOM	10.4	92.5	92.5	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE RHINE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL18
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





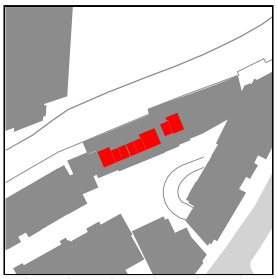
F05

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE RHINE								
F05	R1	RESIDENTIAL	LKD	23.1	99.9	99.9	0.0	0
F05	R2	RESIDENTIAL	BEDROOM	12.1	95.2	93.9	0.2	1.4
F05	R3	RESIDENTIAL	LKD	30.3	97.9	97.9	0.0	0
F05	R4	RESIDENTIAL	BEDROOM	12.1	93.3	91.9	0.2	1.4
F05	R5	RESIDENTIAL	BEDROOM	10.6	97.8	97.8	0.0	0
F05	R6	RESIDENTIAL	BEDROOM	11.0	97.7	97.7	0.0	0
F05	R7	RESIDENTIAL	LKD	23.7	100	100	0.0	0
F05	R8	RESIDENTIAL	BEDROOM	10.4	94.5	94.5	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE RHINE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL19
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F06

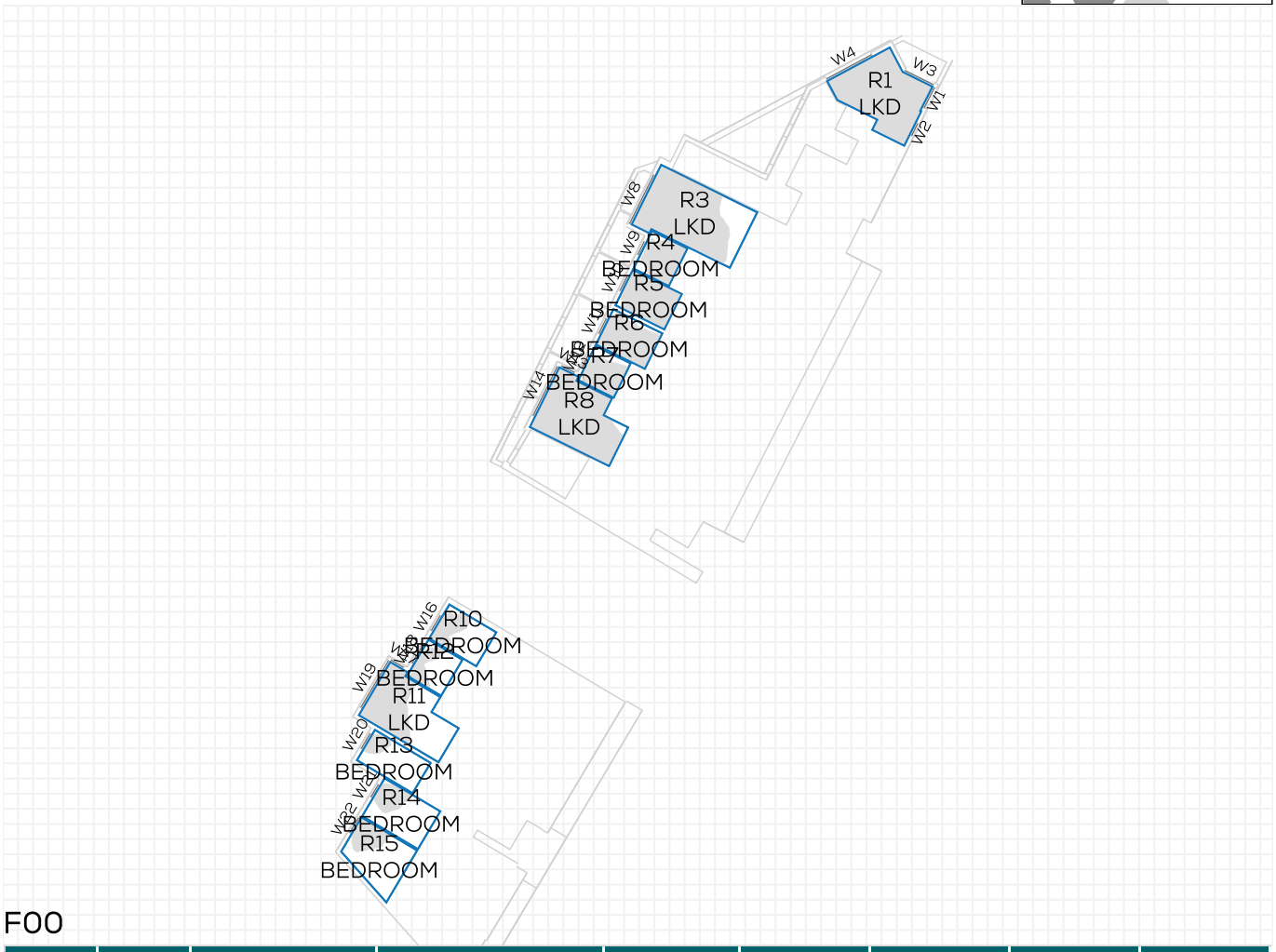
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE RHINE								
F06	R1	RESIDENTIAL	LKD	23.1	99.9	99.9	0.0	0
F06	R2	RESIDENTIAL	BEDROOM	12.1	96.8	96.8	0.0	0
F06	R3	RESIDENTIAL	LKD	30.3	98	98	0.0	0
F06	R4	RESIDENTIAL	BEDROOM	12.1	95.1	95	0.0	0
F06	R5	RESIDENTIAL	BEDROOM	10.6	98.4	98.4	0.0	0
F06	R6	RESIDENTIAL	BEDROOM	11.0	98.4	98.4	0.0	0
F06	R7	RESIDENTIAL	LKD	23.7	100	100	0.0	0
F06	R8	RESIDENTIAL	BEDROOM	10.4	96.1	96.1	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE NILE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL20
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F00

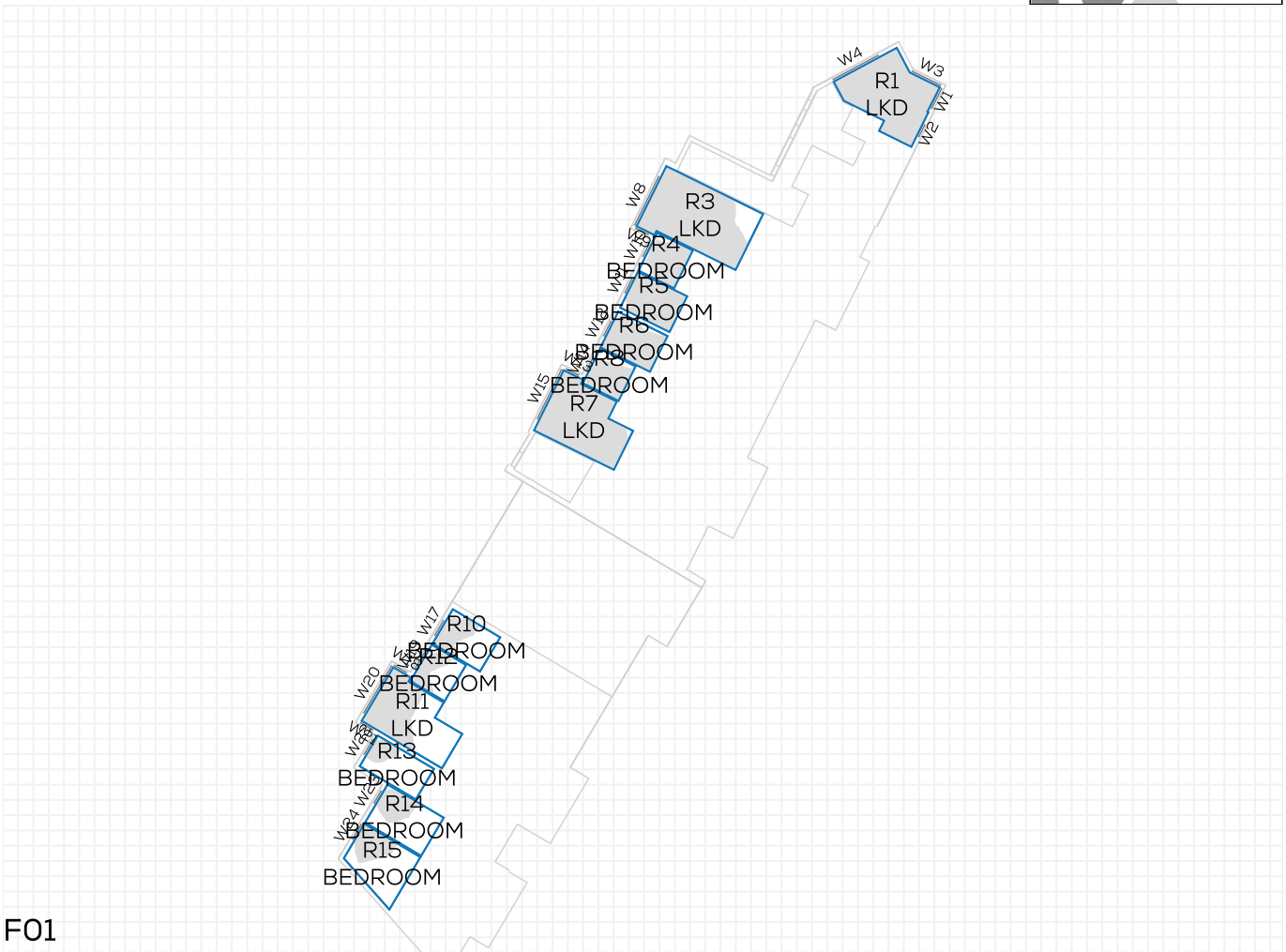
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE NILE								
F00	R1	RESIDENTIAL	LKD	22.6	100	100	0.0	0
F00	R3	RESIDENTIAL	LKD	29.3	80.5	80.5	0.0	0
F00	R4	RESIDENTIAL	BEDROOM	7.2	85.7	85.7	0.0	0
F00	R5	RESIDENTIAL	BEDROOM	9.4	97.4	96.5	0.1	0.9
F00	R6	RESIDENTIAL	BEDROOM	9.4	91.9	91.7	0.0	0.2
F00	R7	RESIDENTIAL	BEDROOM	6.6	78.3	77.4	0.1	1.2
F00	R8	RESIDENTIAL	LKD	21.9	97.9	97.9	0.0	0
F00	R10	RESIDENTIAL	BEDROOM	9.4	38.7	38.7	0.0	0
F00	R11	RESIDENTIAL	LKD	21.0	52.4	52.4	0.0	0
F00	R12	RESIDENTIAL	BEDROOM	7.2	36.4	36.1	0.0	0.8
F00	R13	RESIDENTIAL	BEDROOM	9.9	17.4	17.4	0.0	0
F00	R14	RESIDENTIAL	BEDROOM	12.4	25.8	25.8	0.0	0
F00	R15	RESIDENTIAL	BEDROOM	14.1	25.4	25.4	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE NILE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL21
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F01

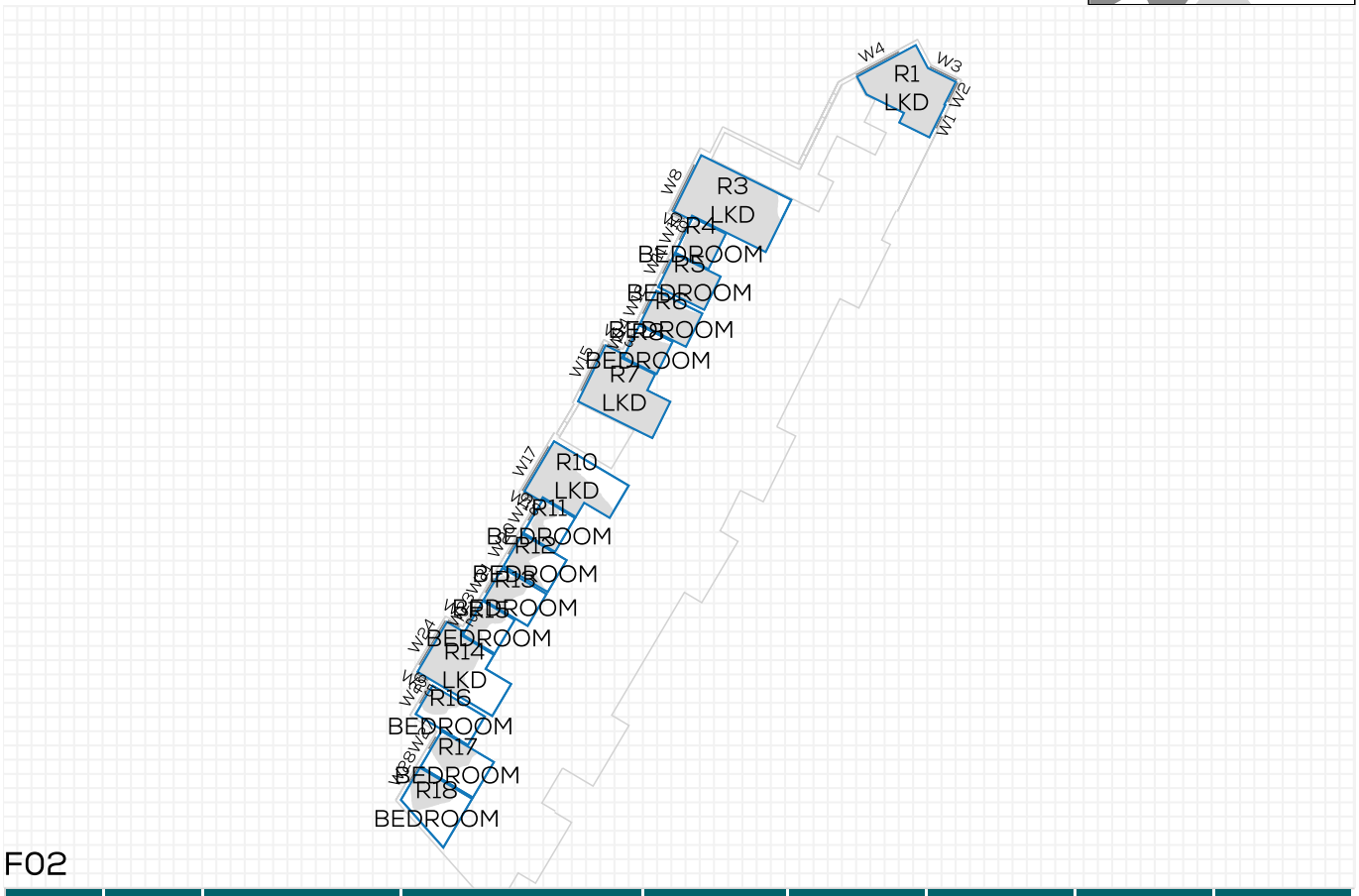
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE NILE								
F01	R1	RESIDENTIAL	LKD	22.6	100	100	0.0	0
F01	R3	RESIDENTIAL	LKD	29.3	90.2	90.2	0.0	0
F01	R4	RESIDENTIAL	BEDROOM	7.2	86.1	86.1	0.0	0
F01	R5	RESIDENTIAL	BEDROOM	9.4	97.4	96.5	0.1	0.9
F01	R6	RESIDENTIAL	BEDROOM	9.4	93.2	93	0.0	0.2
F01	R7	RESIDENTIAL	LKD	21.9	99.2	99.2	0.0	0
F01	R8	RESIDENTIAL	BEDROOM	6.6	78.5	78	0.0	0.7
F01	R10	RESIDENTIAL	BEDROOM	9.4	43.4	43.4	0.0	0
F01	R11	RESIDENTIAL	LKD	21.0	55.6	55.6	0.0	0
F01	R12	RESIDENTIAL	BEDROOM	7.2	42.8	42.6	0.0	0.5
F01	R13	RESIDENTIAL	BEDROOM	9.9	23.1	23.1	0.0	0
F01	R14	RESIDENTIAL	BEDROOM	12.4	32.1	32.1	0.0	0
F01	R15	RESIDENTIAL	BEDROOM	14.1	31.6	31.6	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE NILE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL22
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F02

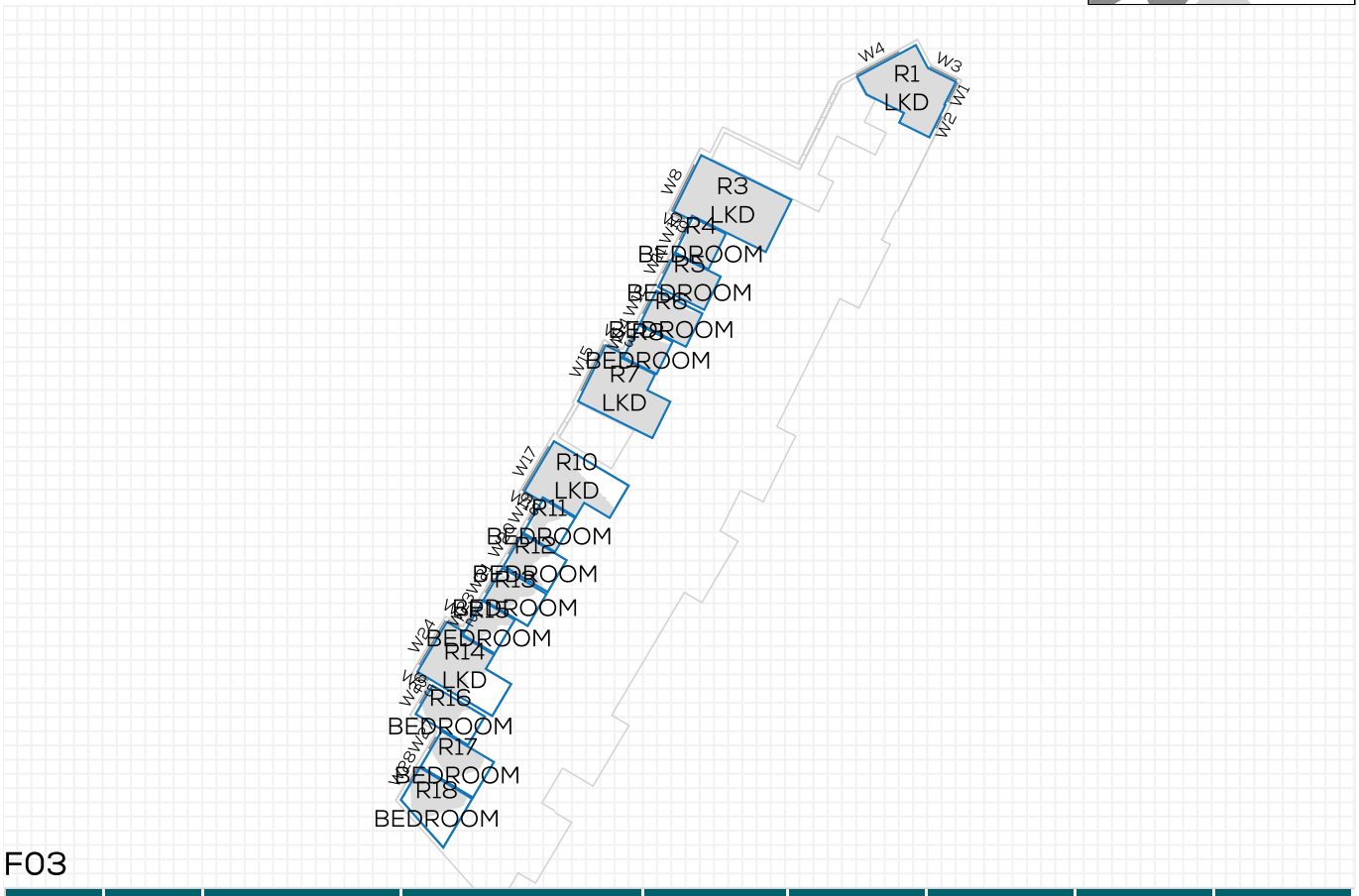
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE NILE								
F02	R1	RESIDENTIAL	LKD	22.6	100	100	0.0	0
F02	R3	RESIDENTIAL	LKD	29.3	96.3	96.3	0.0	0
F02	R4	RESIDENTIAL	BEDROOM	7.2	87.3	87.3	0.0	0
F02	R5	RESIDENTIAL	BEDROOM	9.4	97.4	96.5	0.1	0.9
F02	R6	RESIDENTIAL	BEDROOM	9.4	94.3	94.2	0.0	0.1
F02	R7	RESIDENTIAL	LKD	21.9	99.9	99.9	0.0	0
F02	R8	RESIDENTIAL	BEDROOM	6.6	79.5	79	0.0	0.7
F02	R10	RESIDENTIAL	LKD	21.1	73.6	73.6	0.0	0
F02	R11	RESIDENTIAL	BEDROOM	7.2	48	48	0.0	0
F02	R12	RESIDENTIAL	BEDROOM	9.4	55.1	54.5	0.1	1
F02	R13	RESIDENTIAL	BEDROOM	9.4	48.2	48.2	0.0	0
F02	R14	RESIDENTIAL	LKD	21.0	61.3	61.3	0.0	0
F02	R15	RESIDENTIAL	BEDROOM	7.2	50.6	50.5	0.0	0.2
F02	R16	RESIDENTIAL	BEDROOM	9.9	32.5	32.5	0.0	0
F02	R17	RESIDENTIAL	BEDROOM	12.4	41.4	41.4	0.0	0
F02	R18	RESIDENTIAL	BEDROOM	14.1	43	43	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE NILE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL23
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F03

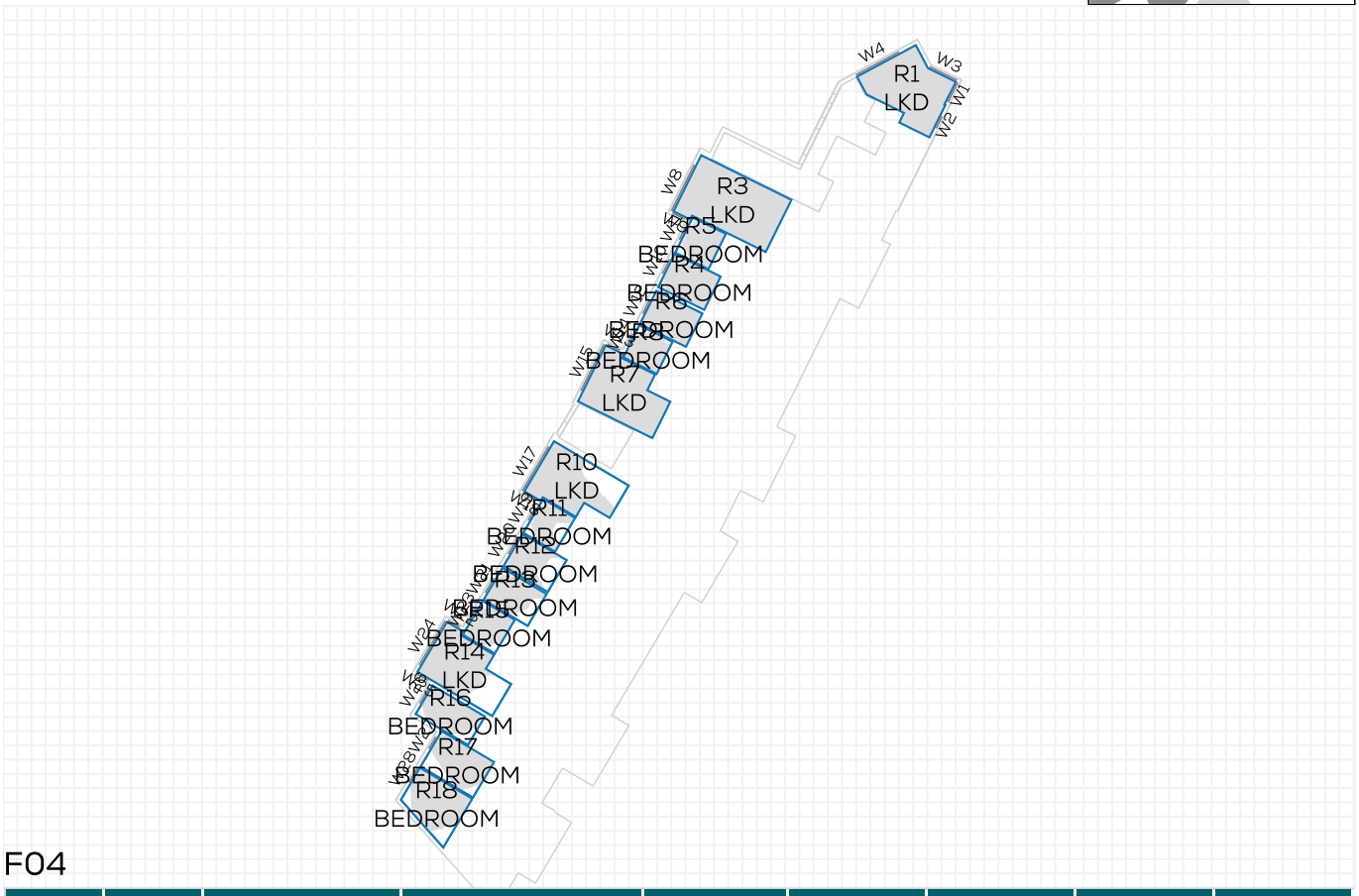
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE NILE								
F03	R1	RESIDENTIAL	LKD	22.6	100	100	0.0	0
F03	R3	RESIDENTIAL	LKD	29.3	99.9	99.9	0.0	0
F03	R4	RESIDENTIAL	BEDROOM	7.2	88.1	88.1	0.0	0
F03	R5	RESIDENTIAL	BEDROOM	9.4	97.4	96.5	0.1	0.9
F03	R6	RESIDENTIAL	BEDROOM	9.4	95.8	95.8	0.0	0.1
F03	R7	RESIDENTIAL	LKD	21.9	99.9	99.9	0.0	0
F03	R8	RESIDENTIAL	BEDROOM	6.6	81.9	81.3	0.0	0.6
F03	R10	RESIDENTIAL	LKD	21.1	75.1	75.1	0.0	0
F03	R11	RESIDENTIAL	BEDROOM	7.2	55.1	55.1	0.0	0
F03	R12	RESIDENTIAL	BEDROOM	9.4	60.5	59.9	0.1	0.9
F03	R13	RESIDENTIAL	BEDROOM	9.4	58.1	58.1	0.0	0
F03	R14	RESIDENTIAL	LKD	21.0	68.8	68.8	0.0	0
F03	R15	RESIDENTIAL	BEDROOM	7.2	65.1	65	0.0	0.1
F03	R16	RESIDENTIAL	BEDROOM	9.9	51.3	51.3	0.0	0
F03	R17	RESIDENTIAL	BEDROOM	12.4	56.6	56.6	0.0	0
F03	R18	RESIDENTIAL	BEDROOM	14.1	62	62	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE NILE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL24
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F04

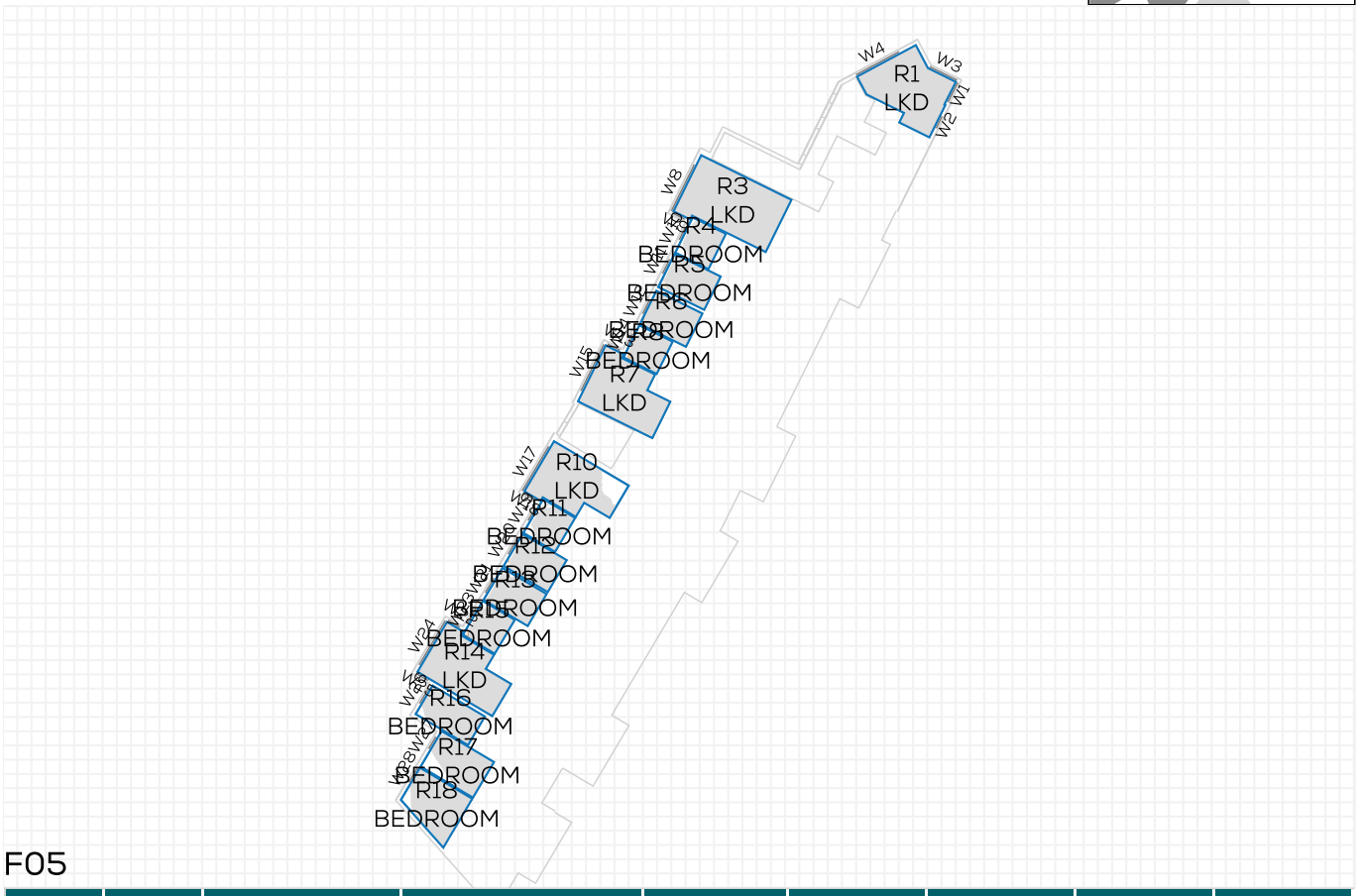
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE NILE								
F04	R1	RESIDENTIAL	LKD	22.6	100	100	0.0	0
F04	R3	RESIDENTIAL	LKD	29.3	99.9	99.9	0.0	0
F04	R4	RESIDENTIAL	BEDROOM	9.4	97.6	96.6	0.1	1
F04	R5	RESIDENTIAL	BEDROOM	7.2	88.3	88.3	0.0	0
F04	R6	RESIDENTIAL	BEDROOM	9.4	98	97.9	0.0	0.1
F04	R7	RESIDENTIAL	LKD	21.9	99.9	99.9	0.0	0
F04	R8	RESIDENTIAL	BEDROOM	6.6	88.3	87.9	0.0	0.5
F04	R10	RESIDENTIAL	LKD	21.1	77.6	77.6	0.0	0
F04	R11	RESIDENTIAL	BEDROOM	7.2	70.8	70.8	0.0	0
F04	R12	RESIDENTIAL	BEDROOM	9.4	70.9	70.3	0.1	0.8
F04	R13	RESIDENTIAL	BEDROOM	9.4	77.9	77.9	0.0	0
F04	R14	RESIDENTIAL	LKD	21.0	76.7	76.7	0.0	0
F04	R15	RESIDENTIAL	BEDROOM	7.2	86.3	86.2	0.0	0.1
F04	R16	RESIDENTIAL	BEDROOM	9.9	85.9	85.9	0.0	0
F04	R17	RESIDENTIAL	BEDROOM	12.4	78.5	78.5	0.0	0
F04	R18	RESIDENTIAL	BEDROOM	14.1	85.1	85.1	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE NILE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL25
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F05

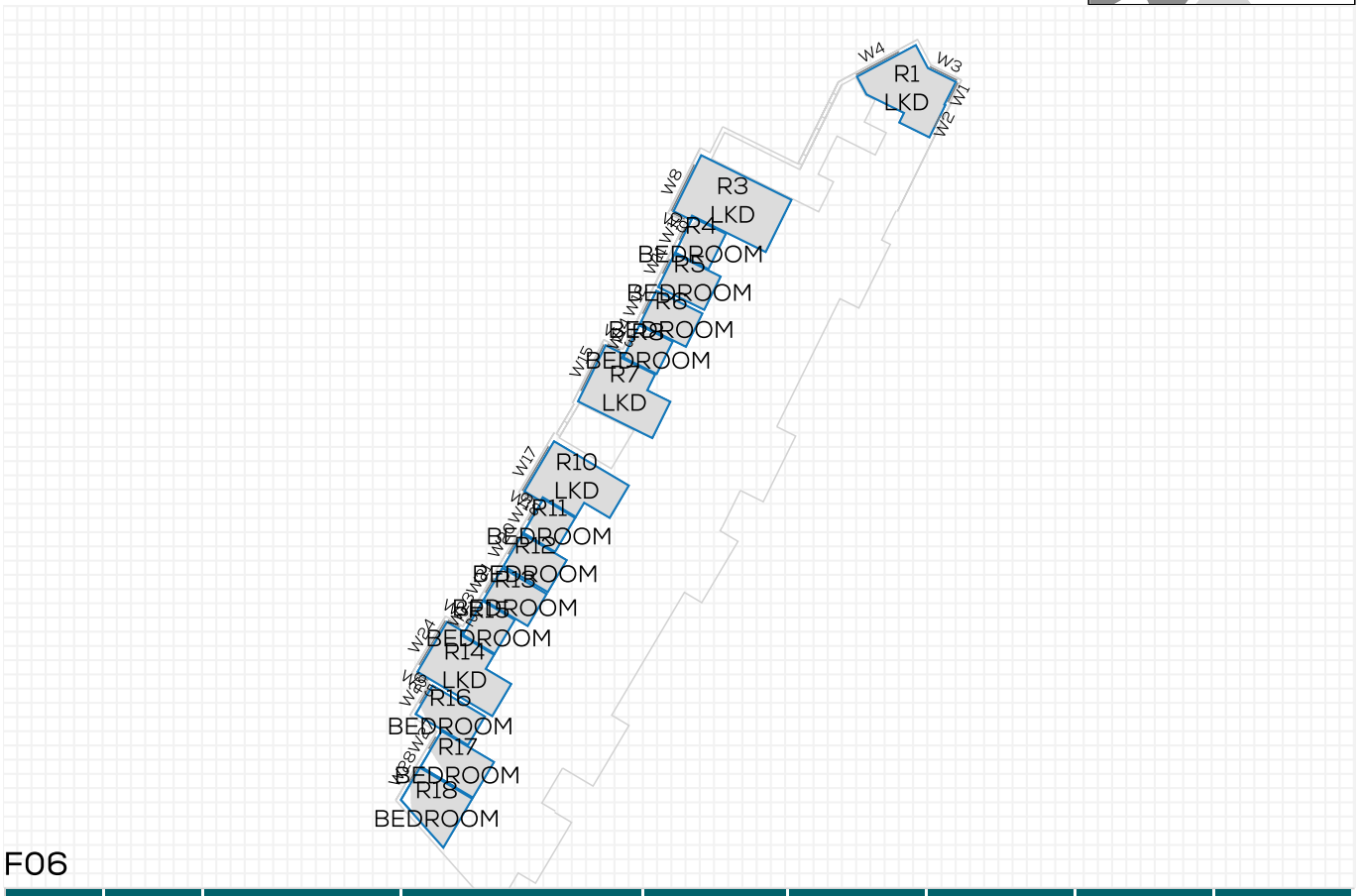
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE NILE								
F05	R1	RESIDENTIAL	LKD	22.6	100	100	0.0	0
F05	R3	RESIDENTIAL	LKD	29.3	99.9	99.9	0.0	0
F05	R4	RESIDENTIAL	BEDROOM	7.2	87.2	87.2	0.0	0
F05	R5	RESIDENTIAL	BEDROOM	9.4	94.8	93.8	0.1	1
F05	R6	RESIDENTIAL	BEDROOM	9.4	97.9	97	0.1	0.9
F05	R7	RESIDENTIAL	LKD	21.9	99.9	99.9	0.0	0
F05	R8	RESIDENTIAL	BEDROOM	6.6	89.1	87.8	0.1	1.4
F05	R10	RESIDENTIAL	LKD	21.1	87.6	87.6	0.0	0
F05	R11	RESIDENTIAL	BEDROOM	7.2	85.3	85.3	0.0	0
F05	R12	RESIDENTIAL	BEDROOM	9.4	95.1	94.4	0.1	0.7
F05	R13	RESIDENTIAL	BEDROOM	9.4	94.4	94.4	0.0	0.1
F05	R14	RESIDENTIAL	LKD	21.0	99.8	99.8	0.0	0
F05	R15	RESIDENTIAL	BEDROOM	7.2	90.4	89.7	0.1	0.8
F05	R16	RESIDENTIAL	BEDROOM	9.9	96.3	96.3	0.0	0
F05	R17	RESIDENTIAL	BEDROOM	12.4	83.5	83.5	0.0	0
F05	R18	RESIDENTIAL	BEDROOM	14.1	94.8	94.8	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE NILE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL26
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





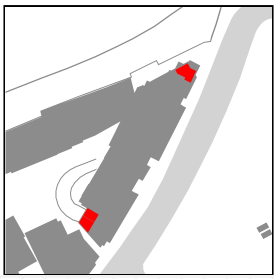
F06

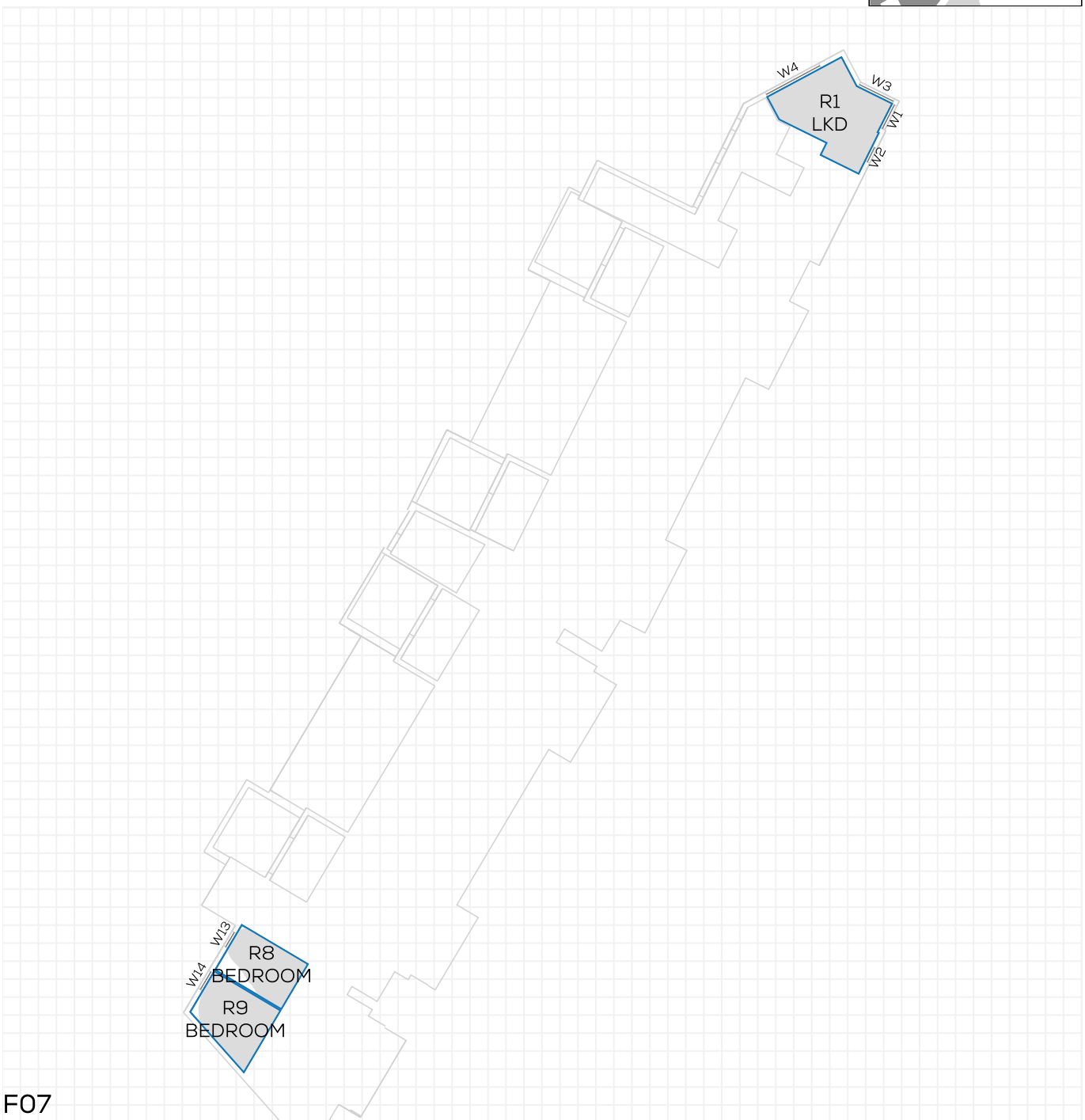
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE NILE								
F06	R1	RESIDENTIAL	LKD	22.6	100	100	0.0	0
F06	R3	RESIDENTIAL	LKD	29.3	99.9	99.9	0.0	0
F06	R4	RESIDENTIAL	BEDROOM	7.2	89.9	89.9	0.0	0
F06	R5	RESIDENTIAL	BEDROOM	9.4	96.7	96.3	0.0	0.4
F06	R6	RESIDENTIAL	BEDROOM	9.4	98.2	97.8	0.0	0.4
F06	R7	RESIDENTIAL	LKD	21.9	99.9	99.9	0.0	0
F06	R8	RESIDENTIAL	BEDROOM	6.6	91.6	91	0.0	0.7
F06	R10	RESIDENTIAL	LKD	21.1	100	100	0.0	0
F06	R11	RESIDENTIAL	BEDROOM	7.2	89.5	89.5	0.0	0
F06	R12	RESIDENTIAL	BEDROOM	9.4	98.5	98.5	0.0	0
F06	R13	RESIDENTIAL	BEDROOM	9.4	97.8	97.8	0.0	0
F06	R14	RESIDENTIAL	LKD	21.0	100	100	0.0	0
F06	R15	RESIDENTIAL	BEDROOM	7.2	94.2	94.1	0.0	0
F06	R16	RESIDENTIAL	BEDROOM	9.9	96.8	96.8	0.0	0
F06	R17	RESIDENTIAL	BEDROOM	12.4	84.2	84.2	0.0	0
F06	R18	RESIDENTIAL	BEDROOM	14.1	94.9	94.9	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE NILE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL27
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





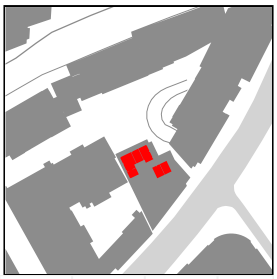
F07

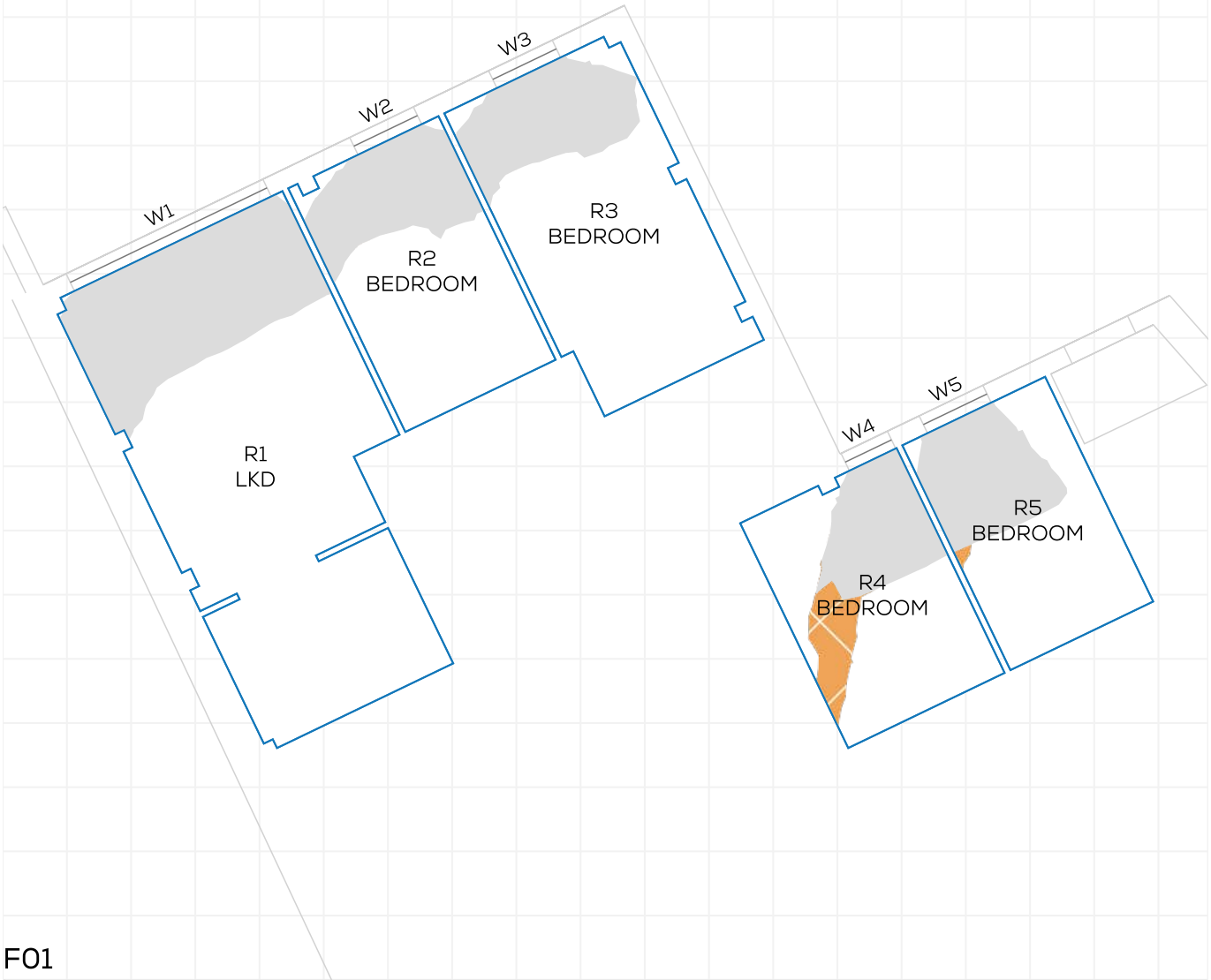
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE NILE								
F07	R1	RESIDENTIAL	LKD	22.6	100	100	0.0	0
F07	R8	RESIDENTIAL	BEDROOM	12.4	85	85	0.0	0
F07	R9	RESIDENTIAL	BEDROOM	14.1	97	97	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: 30 CITY ROAD EAST
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL28
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





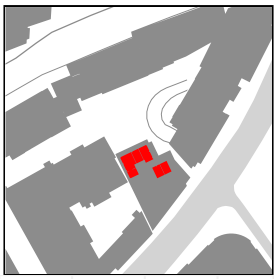
F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
30 CITY ROAD EAST								
F01	R1	RESIDENTIAL	LKD	27.9	27.1	27.1	0.0	0
F01	R2	RESIDENTIAL	BEDROOM	10.9	32.5	32.4	0.0	0
F01	R3	RESIDENTIAL	BEDROOM	15.4	23.7	23.7	0.0	0
F01	R4	RESIDENTIAL	BEDROOM	10.5	38	27.6	1.1	27.5
F01	R5	RESIDENTIAL	BEDROOM	9.6	35.4	34.9	0.1	1.5

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: 30 CITY ROAD EAST
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL29
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





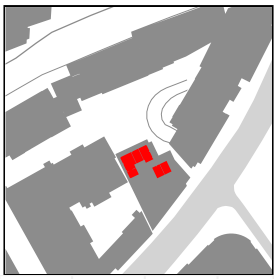
F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
30 CITY ROAD EAST								
F02	R1	RESIDENTIAL	LKD	27.9	36.2	36.2	0.0	0
F02	R2	RESIDENTIAL	BEDROOM	10.9	41.4	41.3	0.0	0.2
F02	R3	RESIDENTIAL	BEDROOM	15.4	32.1	32	0.0	0.2
F02	R4	RESIDENTIAL	BEDROOM	10.5	47.4	37.9	1.0	20.1
F02	R5	RESIDENTIAL	BEDROOM	9.6	47.4	47.4	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: 30 CITY ROAD EAST
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL30
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





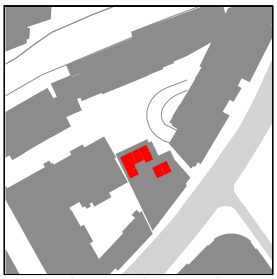
F03

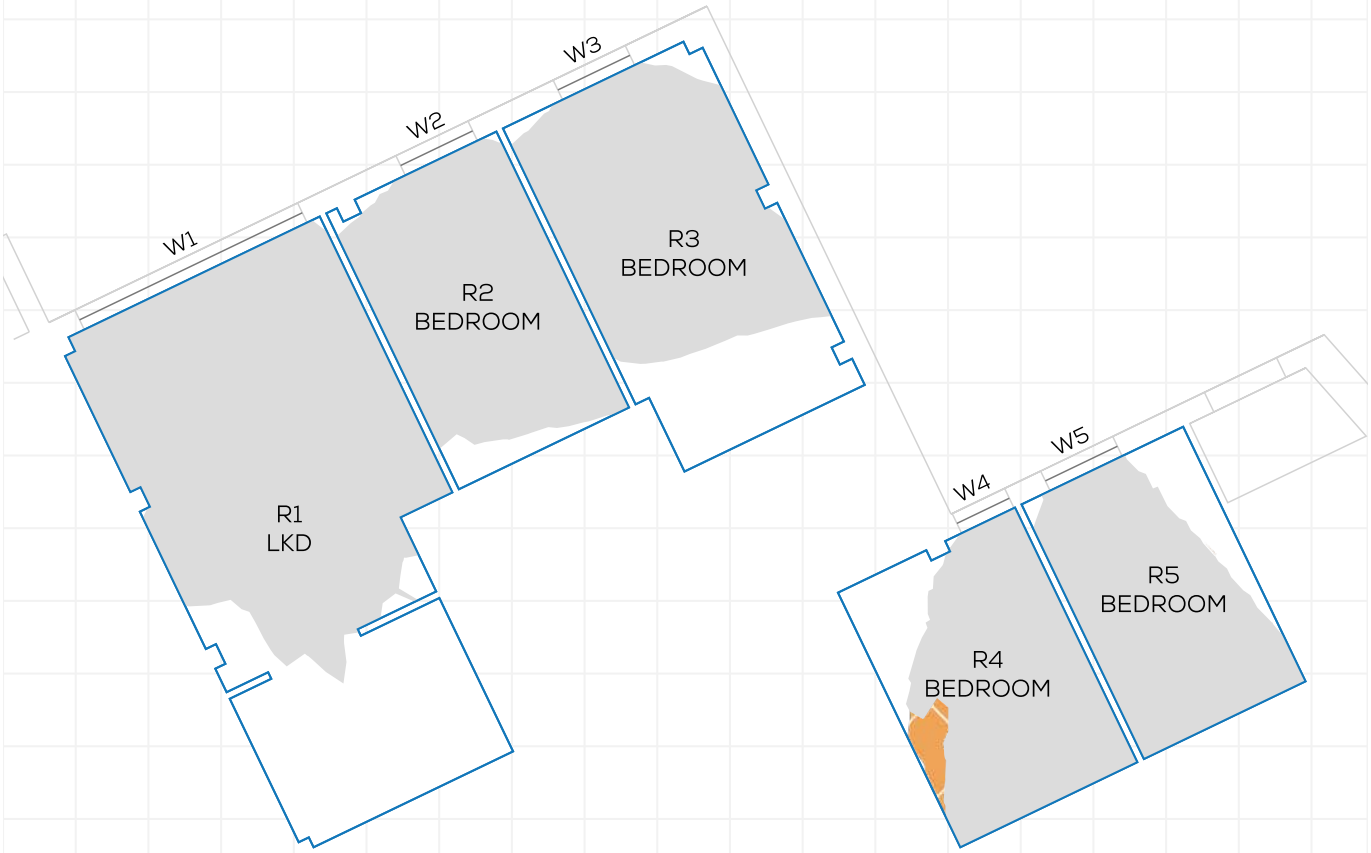
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
30 CITY ROAD EAST								
F03	R1	RESIDENTIAL	LKD	27.9	50.7	50.7	0.0	0
F03	R2	RESIDENTIAL	BEDROOM	10.9	58.2	57.8	0.0	0.6
F03	R3	RESIDENTIAL	BEDROOM	15.4	45.5	45.4	0.0	0.3
F03	R4	RESIDENTIAL	BEDROOM	10.5	65.6	57.8	0.8	12
F03	R5	RESIDENTIAL	BEDROOM	9.6	70.9	70.9	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: 30 CITY ROAD EAST
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL31
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





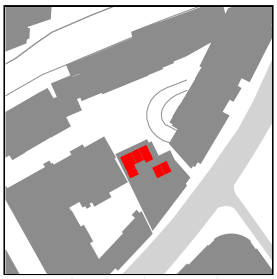
F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
30 CITY ROAD EAST								
F04	R1	RESIDENTIAL	LKD	27.9	69.3	69.3	0.0	0
F04	R2	RESIDENTIAL	BEDROOM	10.9	92	92	0.0	0
F04	R3	RESIDENTIAL	BEDROOM	15.4	73	73	0.0	0
F04	R4	RESIDENTIAL	BEDROOM	10.5	84.4	79.8	0.5	5.5
F04	R5	RESIDENTIAL	BEDROOM	9.6	84.6	84.6	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: 30 CITY ROAD EAST
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL32
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





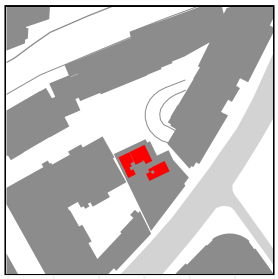
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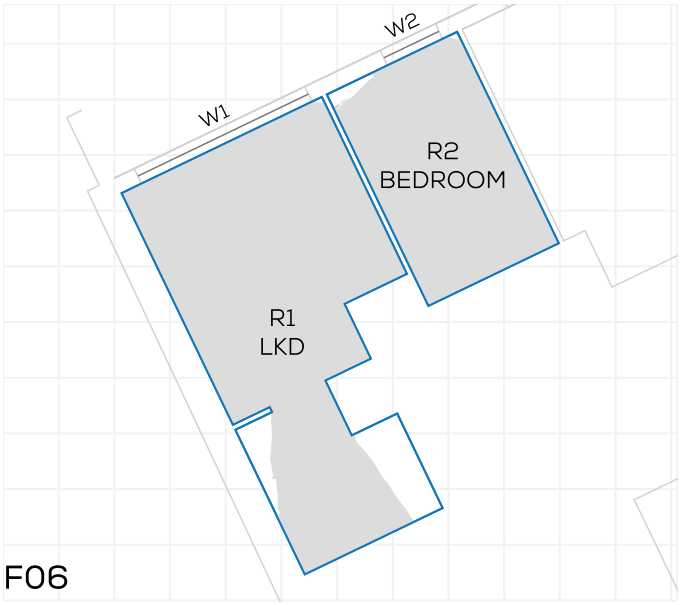
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
30 CITY ROAD EAST								
F05	R1	RESIDENTIAL	LKD	27.9	87.5	87.4	0.0	0
F05	R2	RESIDENTIAL	BEDROOM	10.9	98.6	98.6	0.0	0
F05	R3	RESIDENTIAL	BEDROOM	15.4	97.8	97.8	0.0	0
F05	R4	RESIDENTIAL	BEDROOM	10.5	87.4	84.2	0.3	3.6
F05	R5	RESIDENTIAL	BEDROOM	9.6	85.2	85.2	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: 30 CITY ROAD EAST
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL33
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

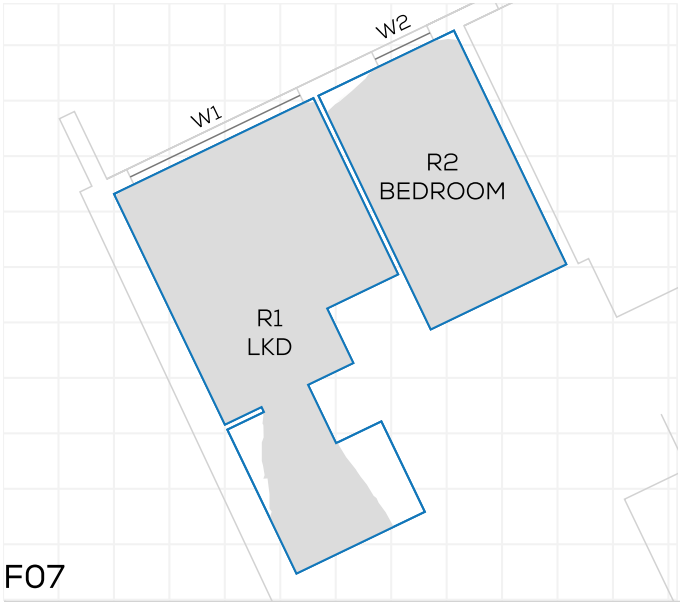




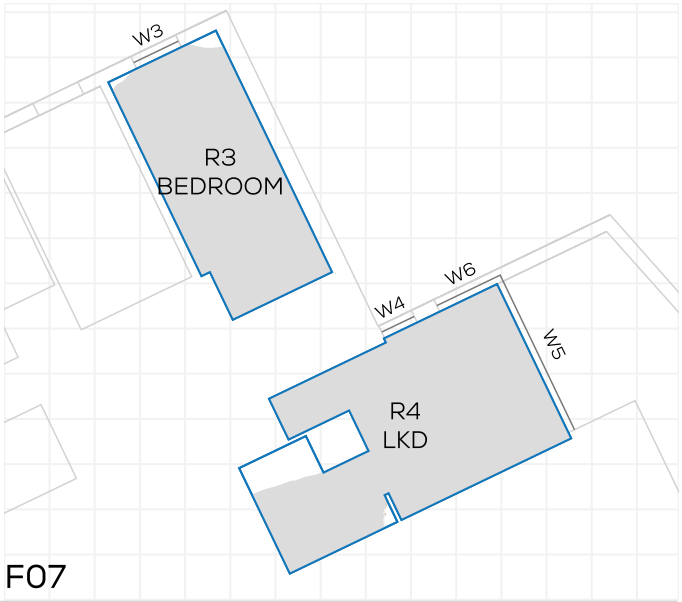
F06



F06



F07



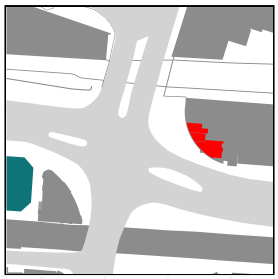
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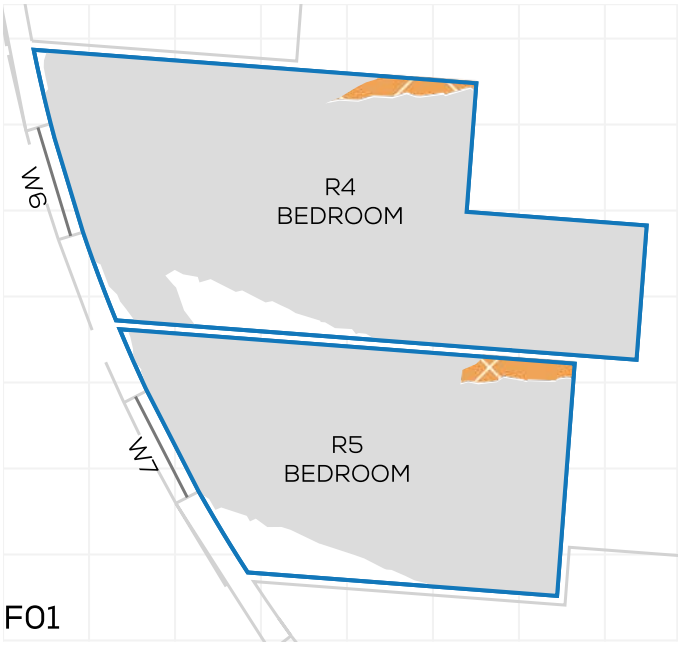
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
30 CITY ROAD EAST								
F06	R1	RESIDENTIAL	LKD	24.2	91.8	91.8	0.0	0
F06	R2	RESIDENTIAL	BEDROOM	10.9	98.1	98.2	0.0	0
F06	R3	RESIDENTIAL	BEDROOM	14.8	98.3	98.3	0.0	0
F06	R4	RESIDENTIAL	LKD	23.6	71	70.2	0.2	1.1
F07	R1	RESIDENTIAL	LKD	23.4	91.7	91.7	0.0	0
F07	R2	RESIDENTIAL	BEDROOM	12.7	98.1	98.1	0.0	0
F07	R3	RESIDENTIAL	BEDROOM	15.4	98.6	98.6	0.0	0
F07	R4	RESIDENTIAL	LKD	23.1	94.3	94.2	0.0	0

NSL CONTOURS

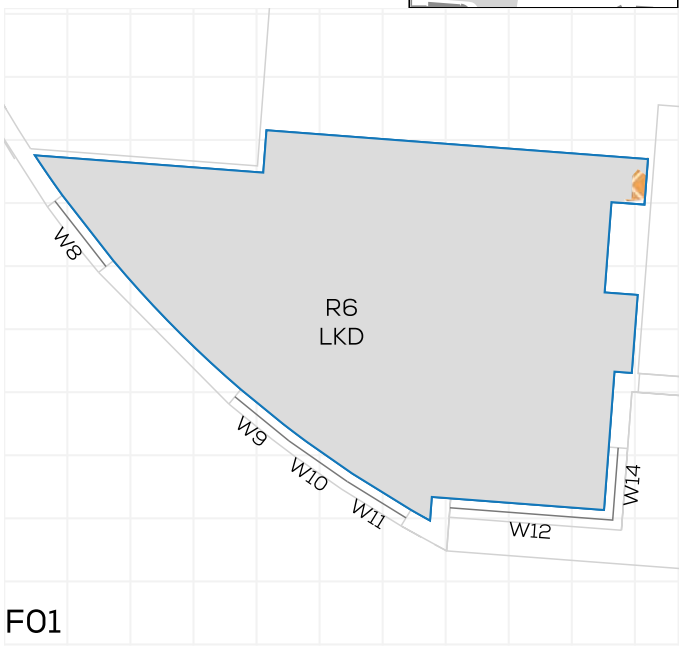
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE HACIENDA
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL34
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

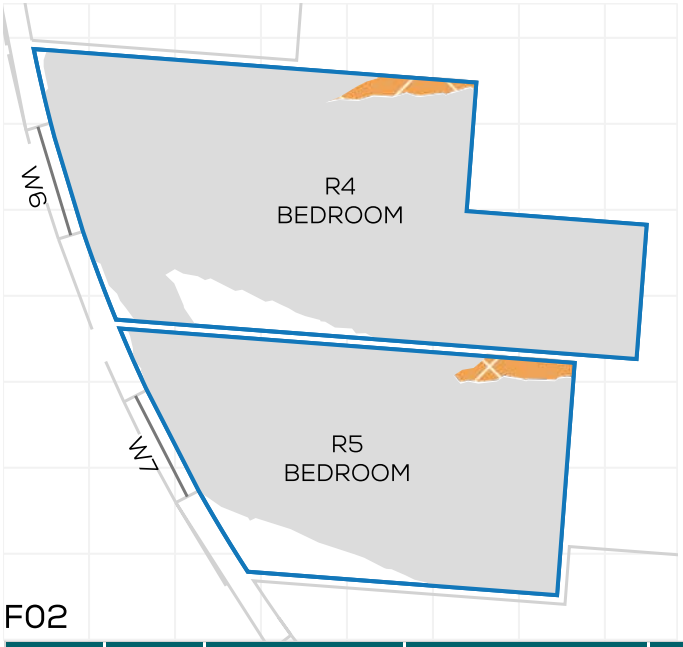




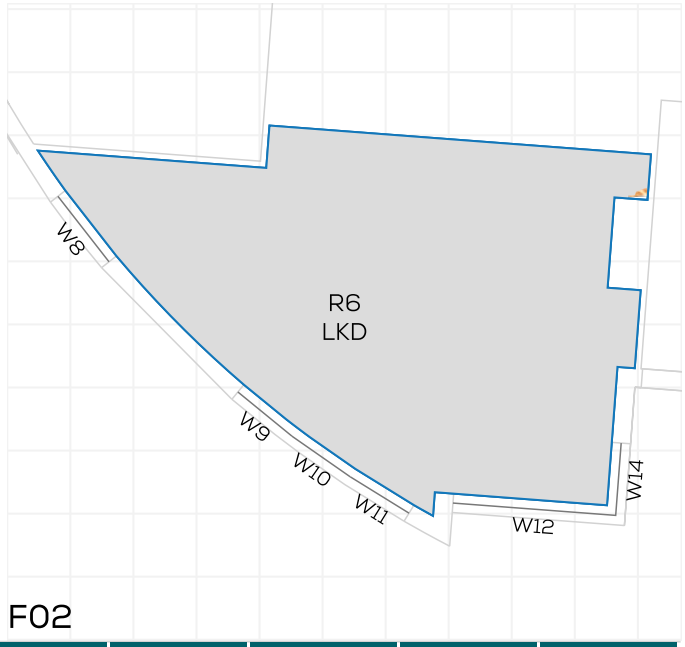
F01



F01



F02



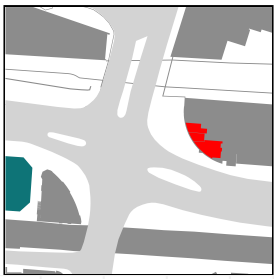
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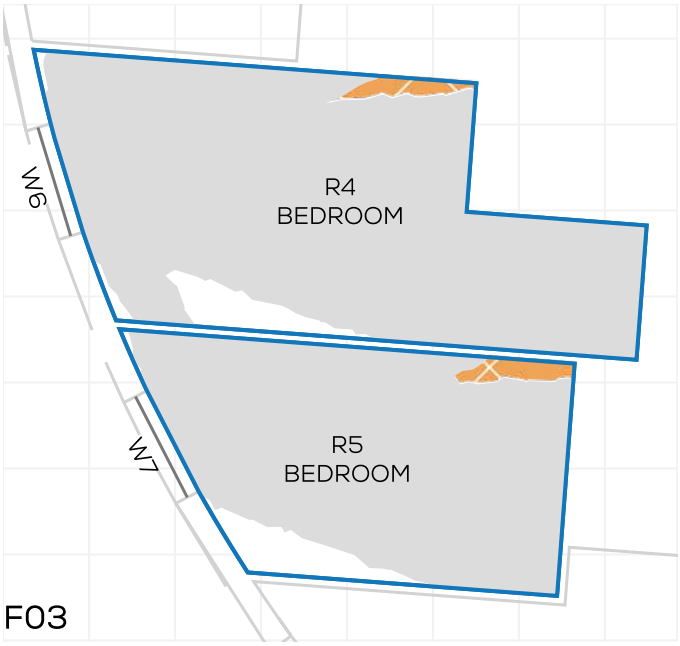
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE HACIENDA								
F01	R4	RESIDENTIAL	BEDROOM	17.4	95.1	93.5	0.3	1.7
F01	R5	RESIDENTIAL	BEDROOM	12.2	92.5	90	0.3	2.7
F01	R6	RESIDENTIAL	LKD	38.2	100	99.7	0.1	0.3
F02	R4	RESIDENTIAL	BEDROOM	17.4	95.2	93.6	0.3	1.7
F02	R5	RESIDENTIAL	BEDROOM	12.2	92.4	89.9	0.3	2.7
F02	R6	RESIDENTIAL	LKD	38.2	100	99.9	0.0	0.1

NSL CONTOURS

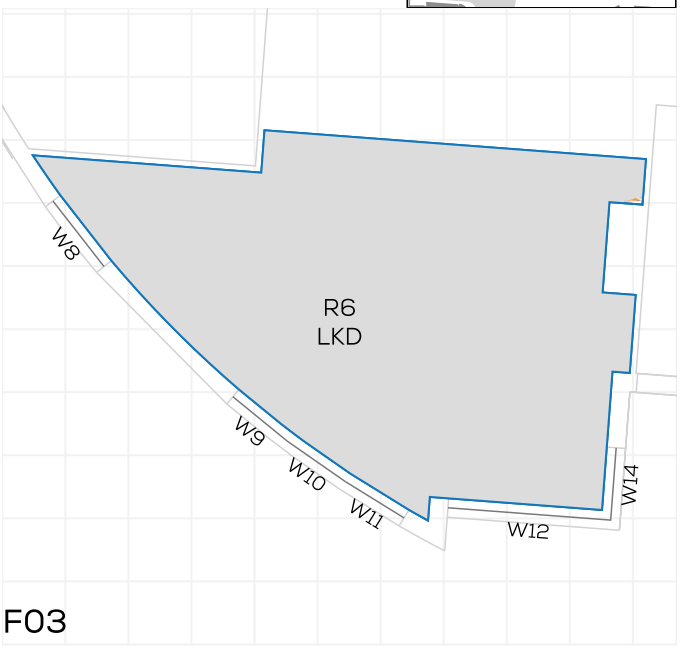
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE HACIENDA
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL35
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

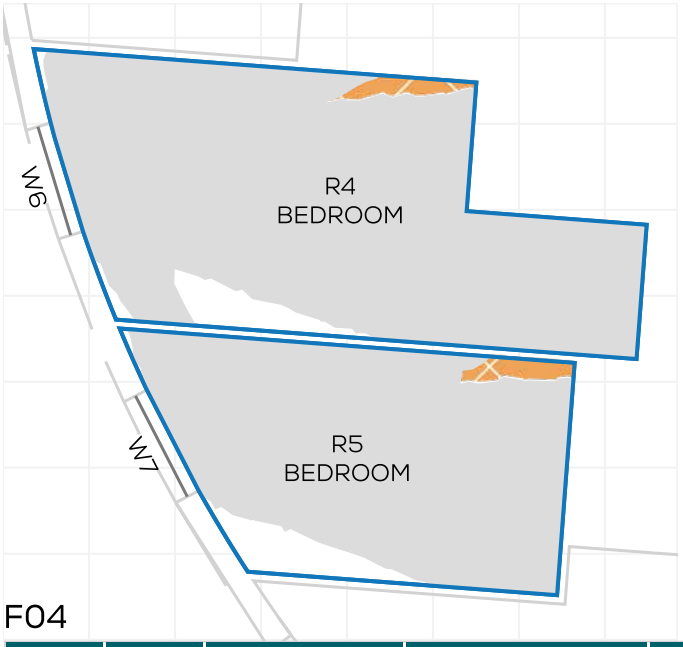




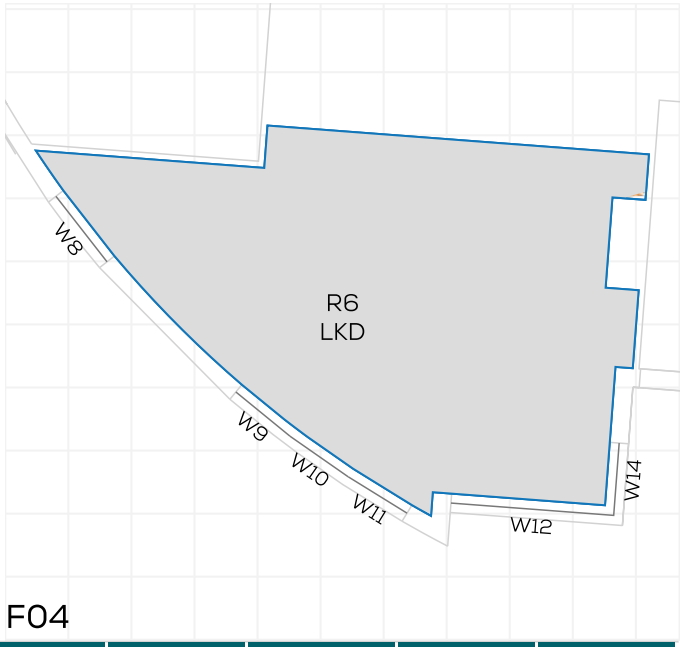
F03



F03



F04



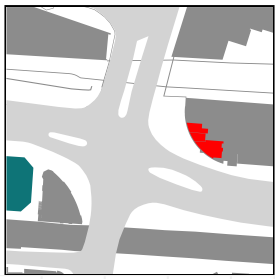
F04

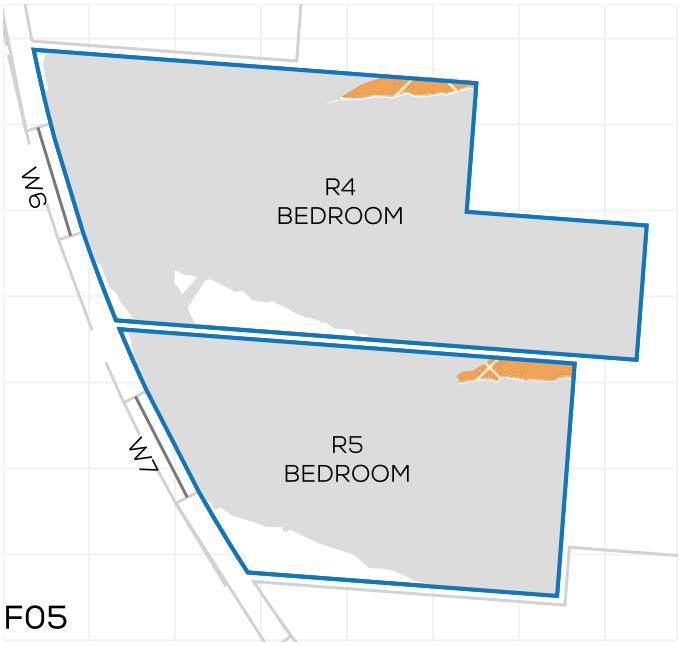
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE HACIENDA								
F03	R4	RESIDENTIAL	BEDROOM	17.4	95.3	93.7	0.3	1.6
F03	R5	RESIDENTIAL	BEDROOM	12.2	92.8	90.3	0.3	2.7
F03	R6	RESIDENTIAL	LKD	38.2	100	99.9	0.0	0
F04	R4	RESIDENTIAL	BEDROOM	17.4	95.3	93.7	0.3	1.6
F04	R5	RESIDENTIAL	BEDROOM	12.2	92.7	90.3	0.3	2.6
F04	R6	RESIDENTIAL	LKD	38.2	100	99.9	0.0	0

NSL CONTOURS

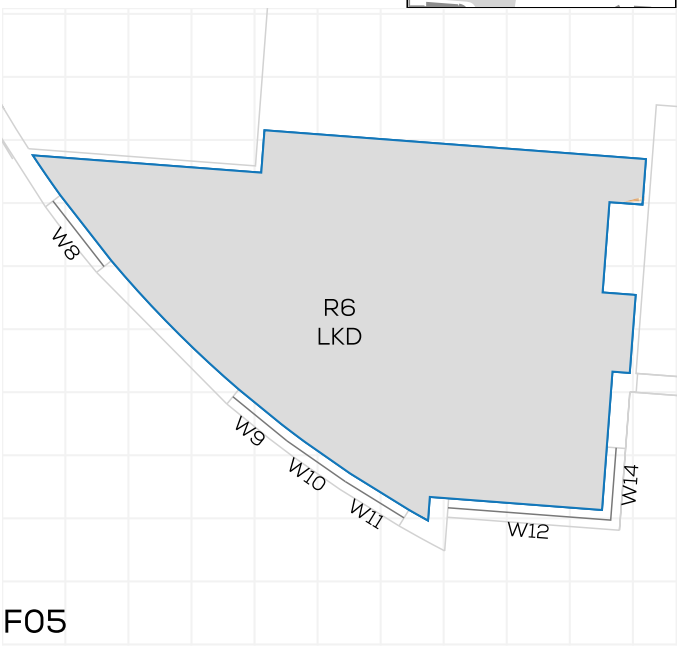
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE HACIENDA
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL36
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

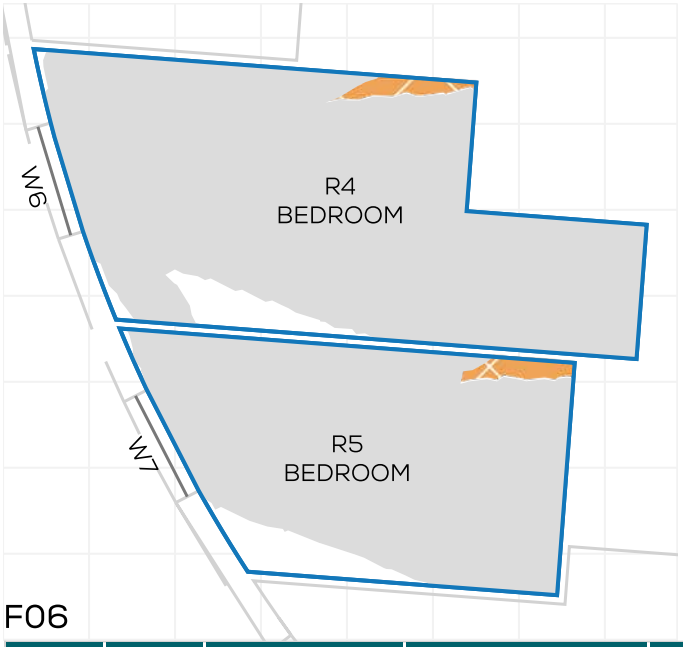




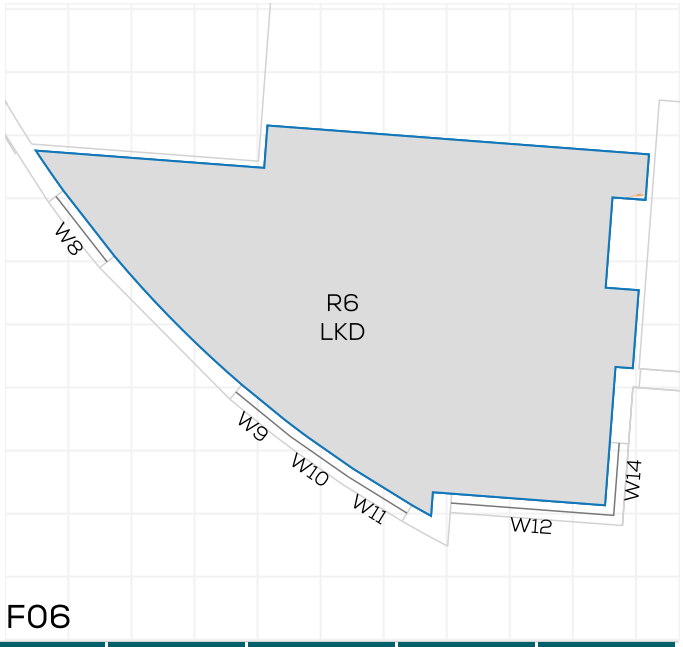
F05



F05



F06



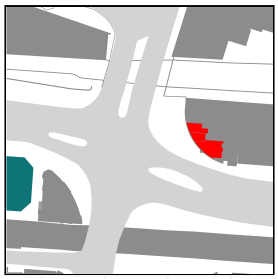
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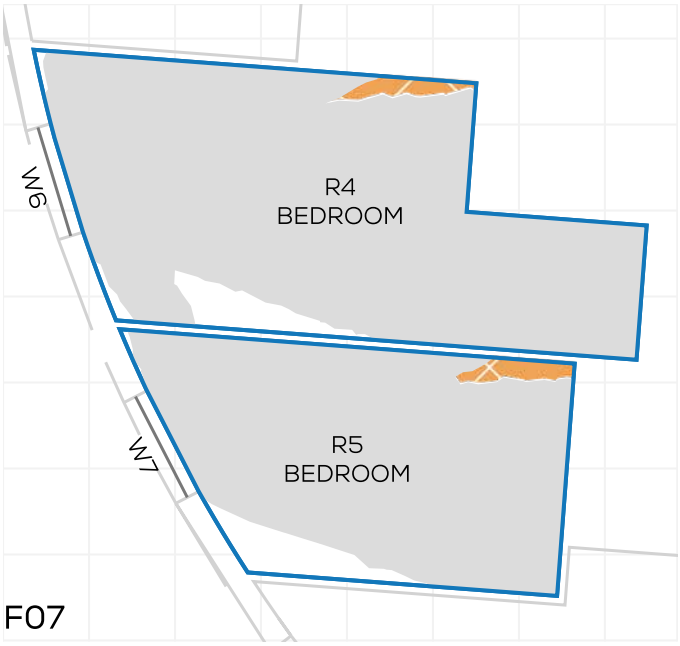
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE HACIENDA								
F05	R4	RESIDENTIAL	BEDROOM	17.4	95.6	94	0.3	1.6
F05	R5	RESIDENTIAL	BEDROOM	12.2	92.9	90.5	0.3	2.5
F05	R6	RESIDENTIAL	LKD	38.2	100	99.9	0.0	0
F06	R4	RESIDENTIAL	BEDROOM	17.4	95.3	93.7	0.3	1.7
F06	R5	RESIDENTIAL	BEDROOM	12.2	92.8	90.5	0.3	2.4
F06	R6	RESIDENTIAL	LKD	38.2	100	99.9	0.0	0

NSL CONTOURS

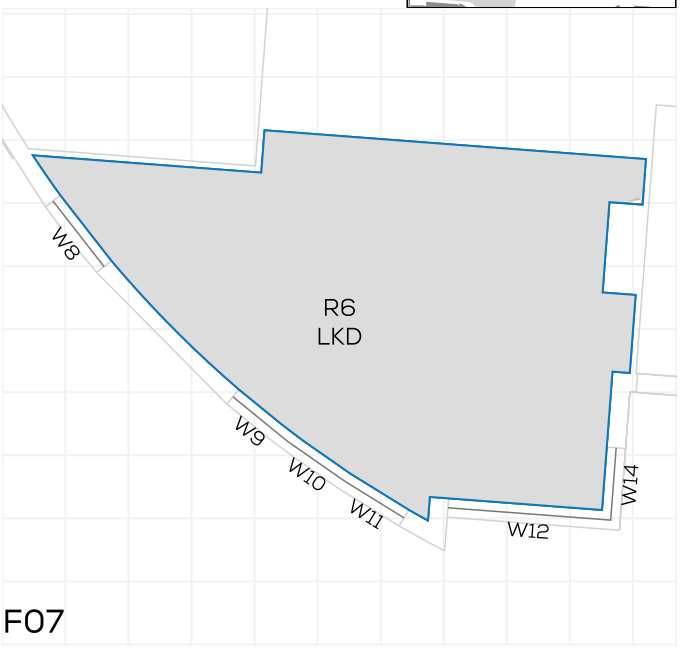
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE HACIENDA
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL37
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

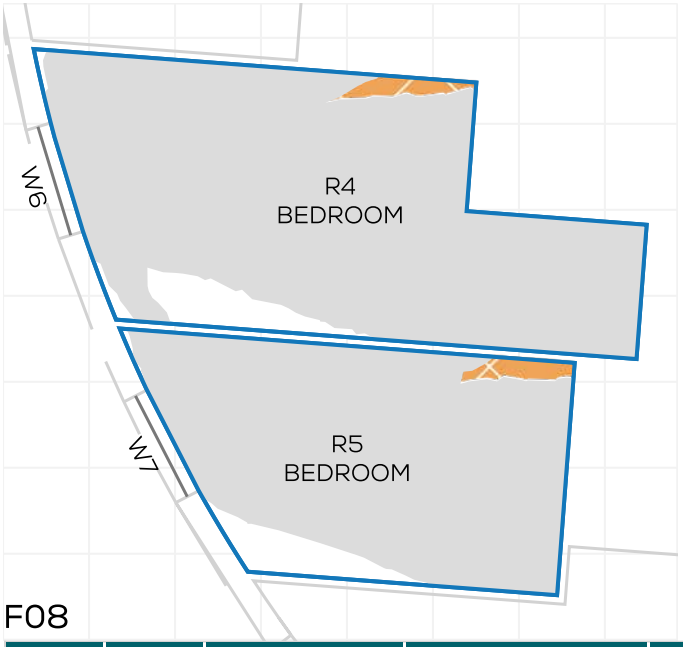




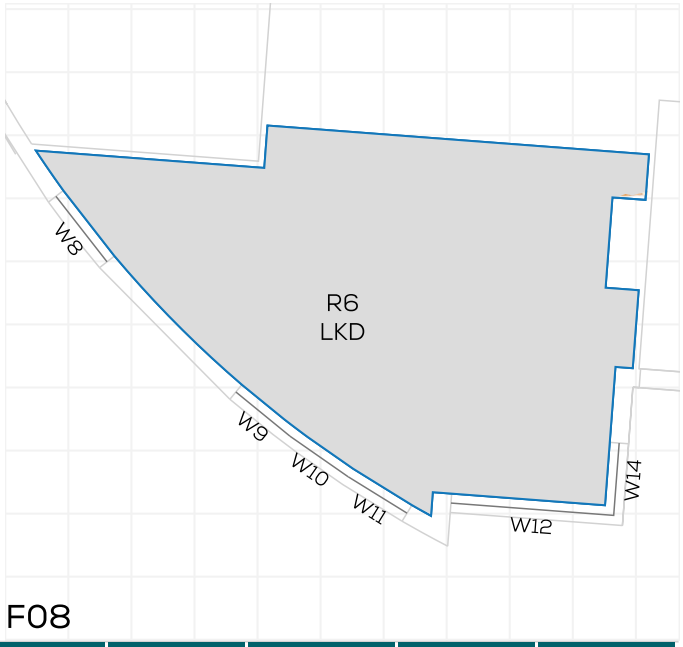
F07



F07



F08



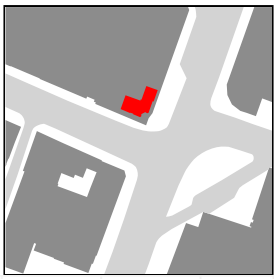
F08

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE HACIENDA								
F07	R4	RESIDENTIAL	BEDROOM	17.4	95.4	93.9	0.3	1.6
F07	R5	RESIDENTIAL	BEDROOM	12.2	93	90.6	0.3	2.5
F07	R6	RESIDENTIAL	LKD	38.2	100	99.9	0.0	0
F08	R4	RESIDENTIAL	BEDROOM	17.4	94.3	92.7	0.3	1.7
F08	R5	RESIDENTIAL	BEDROOM	12.2	93	90.7	0.3	2.4
F08	R6	RESIDENTIAL	LKD	38.2	100	99.9	0.0	0.1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: 326-330 DEANSGATE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL38
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
326-330 DEANSGATE								
F00	R1	RESIDENTIAL	EDUCATIONAL	63.4	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE ROPEWORKS
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL39
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

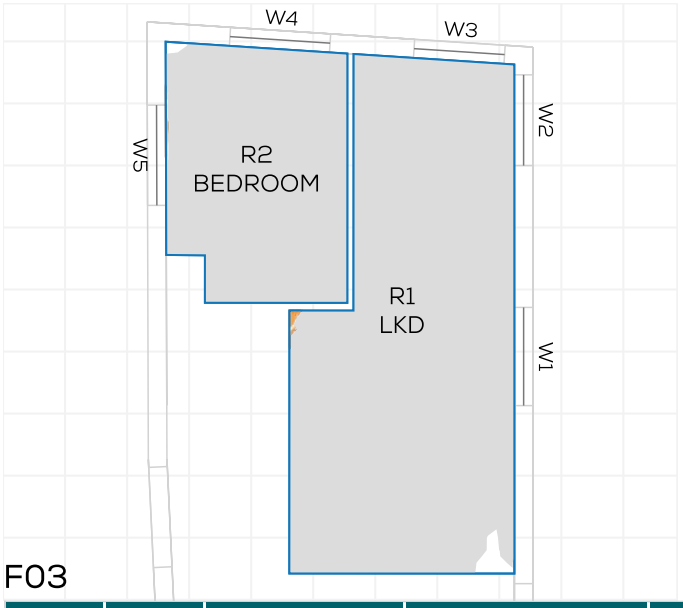




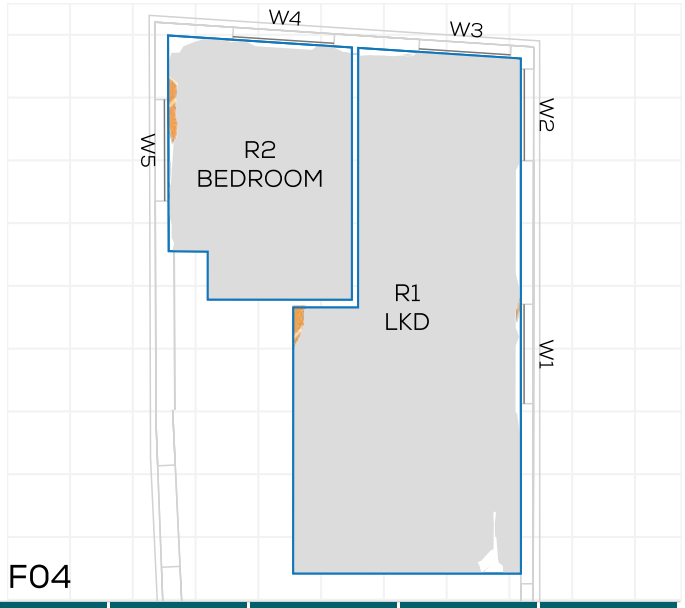
F01



F02



F03



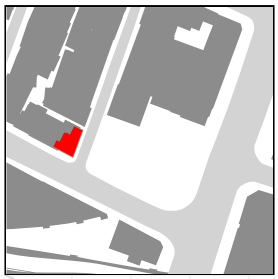
F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE ROPEWORKS								
F01	R1	RESIDENTIAL	LKD	25.9	84.4	62.2	5.7	26.3
F01	R2	RESIDENTIAL	BEDROOM	11.5	80.6	79.7	0.1	1
F02	R1	RESIDENTIAL	LKD	25.9	97.9	95.9	0.5	2.1
F02	R2	RESIDENTIAL	BEDROOM	11.5	99.2	98.7	0.1	0.5
F03	R1	RESIDENTIAL	LKD	25.9	99.1	98.9	0.1	0.2
F03	R2	RESIDENTIAL	BEDROOM	11.5	99.6	99.2	0.0	0.4
F04	R1	RESIDENTIAL	LKD	25.9	98	97.7	0.1	0.4
F04	R2	RESIDENTIAL	BEDROOM	11.5	97.6	96.5	0.1	1.1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: 8-16 BRIDGEWATER ST
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL40
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F00



F01



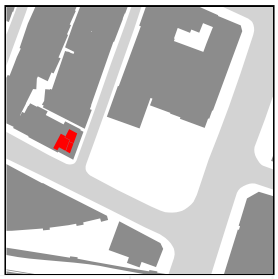
F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
8-16 BRIDGEWATER ST								
F00	R1	RESIDENTIAL	LIVING ROOM	31.4	78.5	78.5	0.0	0
F01	R1	RESIDENTIAL	LIVING ROOM	28.3	91.9	91.9	0.0	0
F01	R2	RESIDENTIAL	BEDROOM	13.2	88.8	88.8	0.0	0
F02	R1	RESIDENTIAL	LIVING ROOM	27.4	96.5	96.5	0.0	0
F02	R2	RESIDENTIAL	BEDROOM	13.2	88.3	88.3	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: 8-16 BRIDGEWATER ST
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL41
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





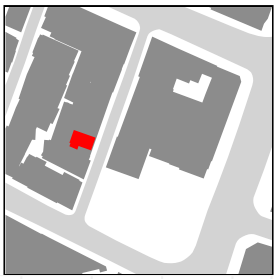
F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
8-16 BRIDGEWATER ST								
F03	R1	RESIDENTIAL	LIVING ROOM	17.0	87.1	87.1	0.0	0
F03	R2	RESIDENTIAL	KITCHEN	5.2	88.6	88.6	0.0	0
F03	R3	RESIDENTIAL	BEDROOM	10.7	99.4	99.4	0.0	0

NSL CONTOURS

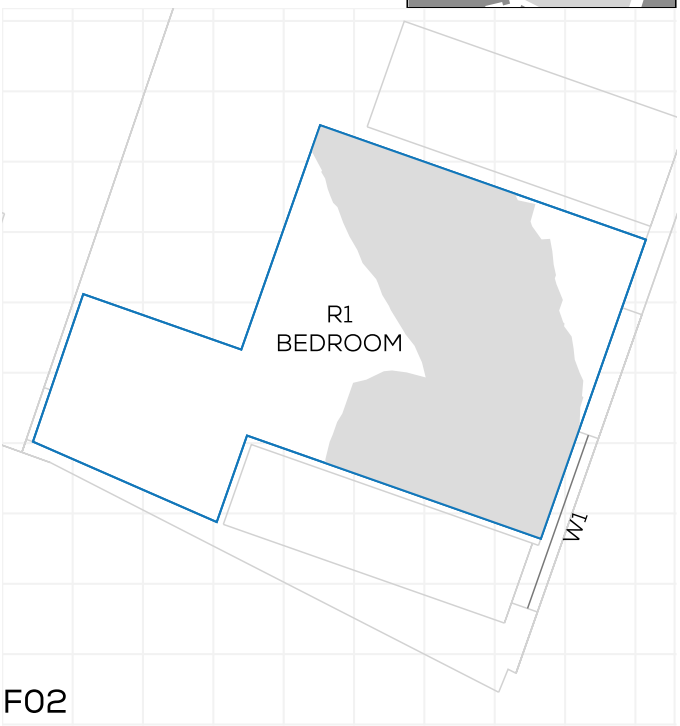
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: 18-12 SOUTHERN ST
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL42
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F01



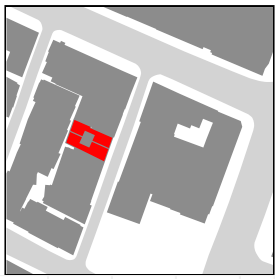
F02

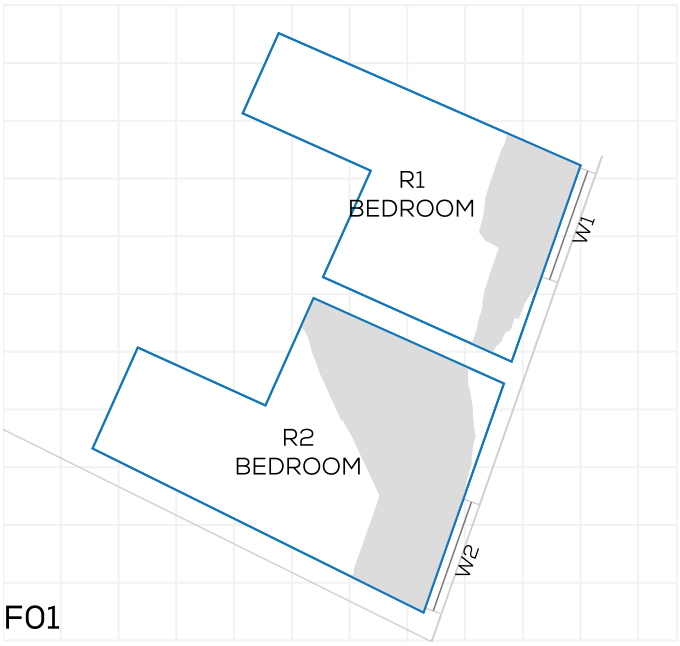
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
18-12 SOUTHERN ST								
F01	R1	RESIDENTIAL	LIVING ROOM	34.5	49.6	49.6	0.0	0
F02	R1	RESIDENTIAL	BEDROOM	28.2	49.5	49.5	0.0	0

NSL CONTOURS

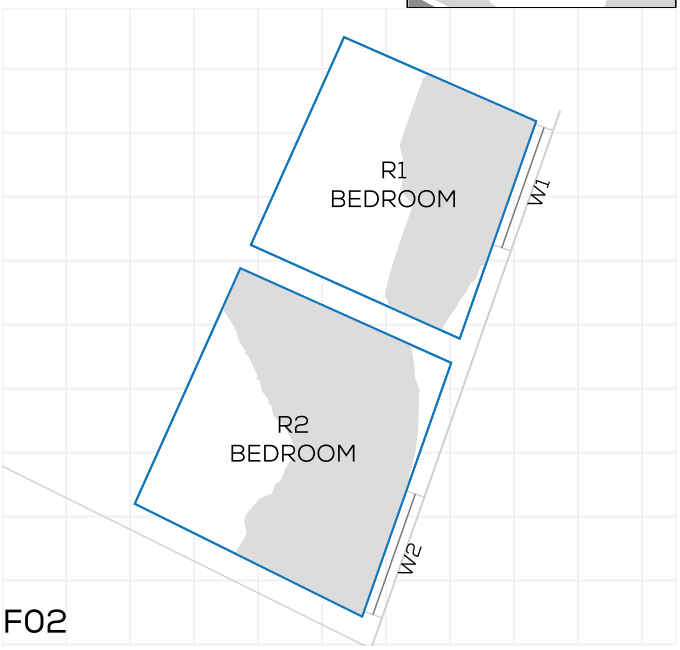
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: 8-10 SOUTHERN ST
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL43
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

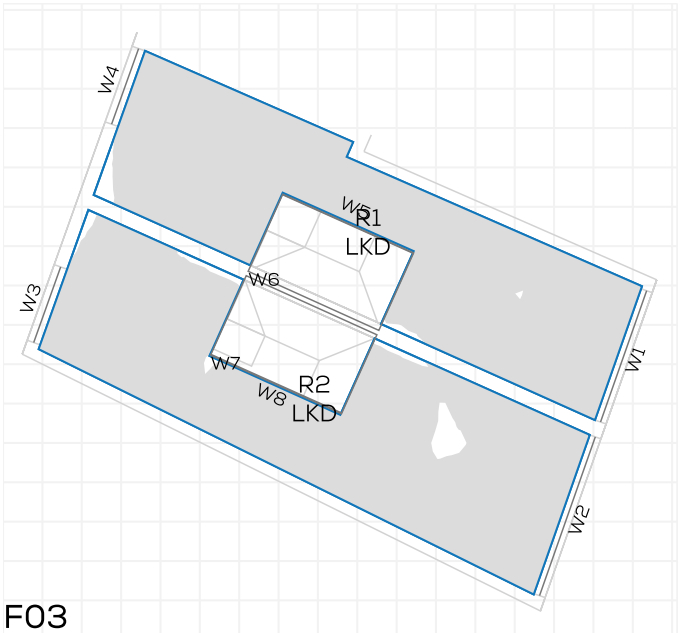




F01



F02



F03

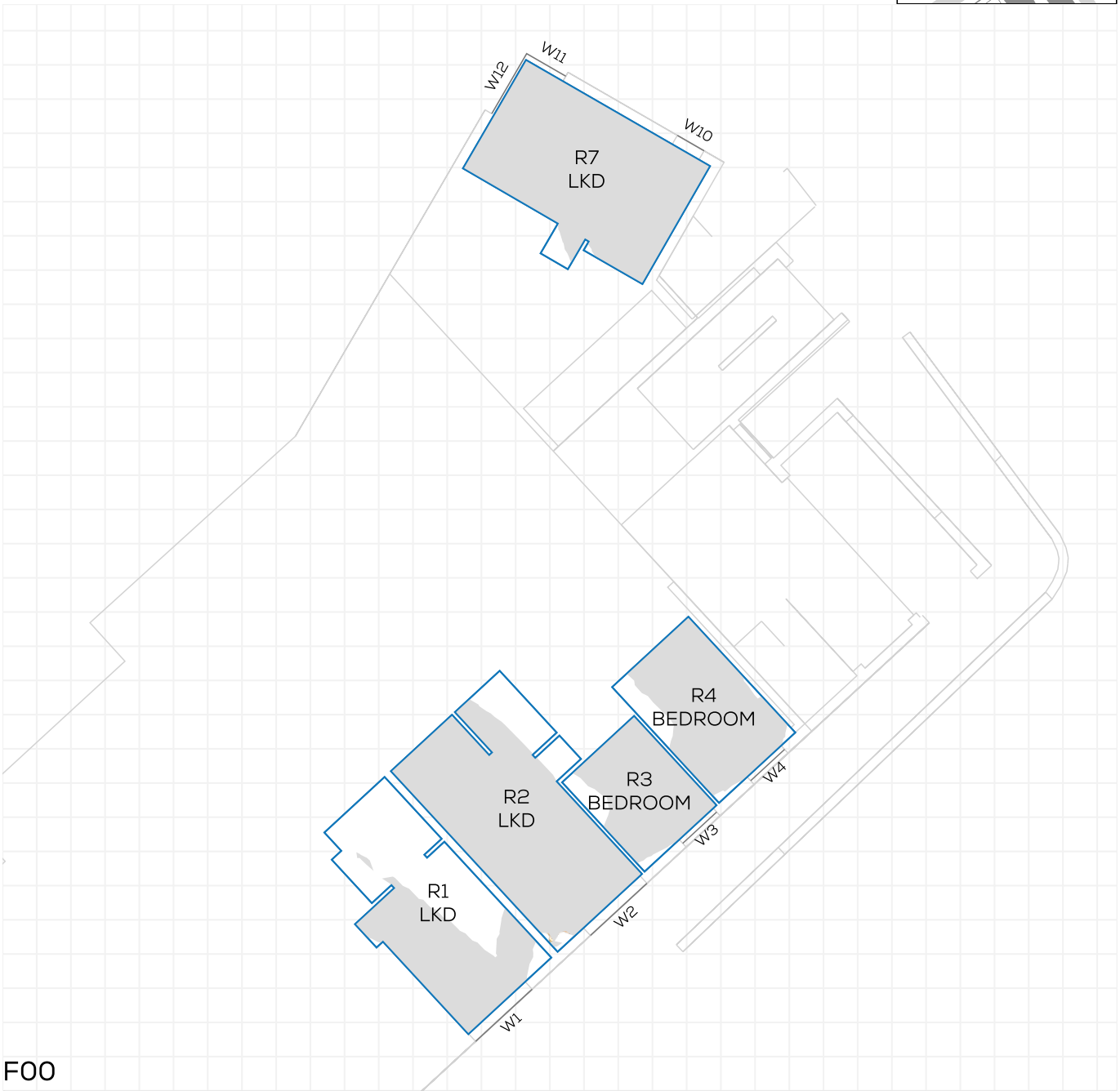
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
8-10 SOUTHERN ST								
F01	R1	RESIDENTIAL	BEDROOM	16.0	23	23	0.0	0
F01	R2	RESIDENTIAL	BEDROOM	20.3	43.9	43.9	0.0	0
F02	R1	RESIDENTIAL	BEDROOM	12.3	45.4	45.4	0.0	0
F02	R2	RESIDENTIAL	BEDROOM	15.6	65.7	65.7	0.0	0
F03	R1	RESIDENTIAL	LKD	44.2	98.7	98.7	0.0	0
F03	R2	RESIDENTIAL	LKD	48.3	96.9	96.9	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: DEANSGATE QUAY
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL44
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
DEANSGATE QUAY								
F00	R1	RESIDENTIAL	LKD	22.2	47.9	47.9	0.0	0
F00	R2	RESIDENTIAL	LKD	27.2	87	86.8	0.0	0.1
F00	R3	RESIDENTIAL	BEDROOM	10.2	89.3	89.3	0.0	0
F00	R4	RESIDENTIAL	BEDROOM	14.0	88.5	88.5	0.0	0
F00	R7	RESIDENTIAL	LKD	24.4	97.7	97.7	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: DEANSGATE QUAY
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL45
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
DEANSGATE QUAY								
F01	R1	RESIDENTIAL	LKD	27.8	84.3	84.3	0.0	0
F01	R2	RESIDENTIAL	LKD	32.9	90.5	90.5	0.0	0
F01	R3	RESIDENTIAL	BEDROOM	10.2	97.9	97.9	0.0	0
F01	R4	RESIDENTIAL	BEDROOM	14.0	95.5	95.5	0.0	0
F01	R5	RESIDENTIAL	BEDROOM	10.8	92.6	92.6	0.0	0
F01	R6	RESIDENTIAL	LKD	25.1	96.2	96.2	0.0	0
F01	R9	RESIDENTIAL	LKD	24.4	99.1	99.1	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: DEANSGATE QUAY
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL46
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
DEANSGATE QUAY								
F02	R1	RESIDENTIAL	LKD	27.8	84.8	84.8	0.0	0
F02	R2	RESIDENTIAL	LKD	32.9	90.6	90.6	0.0	0
F02	R3	RESIDENTIAL	BEDROOM	10.2	98	98	0.0	0
F02	R4	RESIDENTIAL	BEDROOM	14.0	98.4	98.4	0.0	0
F02	R5	RESIDENTIAL	BEDROOM	10.8	94.6	94.6	0.0	0
F02	R6	RESIDENTIAL	LKD	25.1	96.9	96.9	0.0	0
F02	R9	RESIDENTIAL	LKD	24.4	99.8	99.8	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: DEANSGATE QUAY
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL47
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
DEANSGATE QUAY								
F03	R1	RESIDENTIAL	LKD	27.8	86.5	86.5	0.0	0
F03	R2	RESIDENTIAL	LKD	32.9	90.7	90.7	0.0	0
F03	R3	RESIDENTIAL	BEDROOM	10.2	98	98	0.0	0
F03	R4	RESIDENTIAL	BEDROOM	14.0	98.5	98.5	0.0	0
F03	R5	RESIDENTIAL	BEDROOM	10.8	96.7	96.7	0.0	0
F03	R6	RESIDENTIAL	LKD	25.1	97	97	0.0	0
F03	R10	RESIDENTIAL	LKD	24.4	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: DEANSGATE QUAY
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL48
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F04

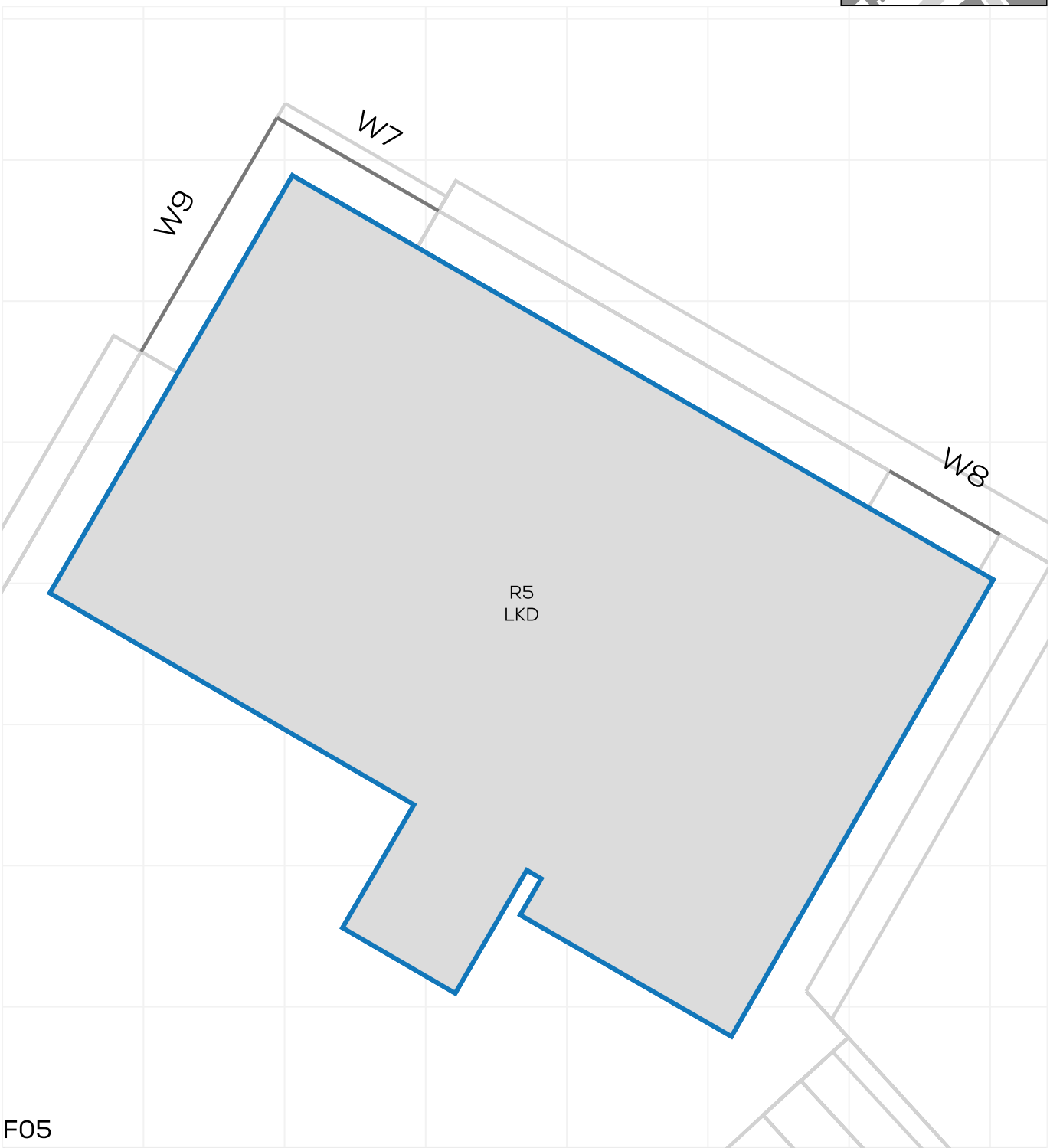
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
DEANSGATE QUAY								
F04	R1	RESIDENTIAL	LKD	27.8	85.5	85.5	0.0	0
F04	R2	RESIDENTIAL	LKD	32.9	90.4	90.4	0.0	0
F04	R3	RESIDENTIAL	BEDROOM	10.2	98	98	0.0	0
F04	R4	RESIDENTIAL	BEDROOM	14.0	98.5	98.5	0.0	0
F04	R5	RESIDENTIAL	BEDROOM	10.8	97	97	0.0	0
F04	R6	RESIDENTIAL	LKD	25.1	96.7	96.7	0.0	0
F04	R9	RESIDENTIAL	LKD	24.4	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: DEANSGATE QUAY
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL49
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





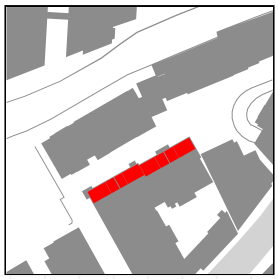
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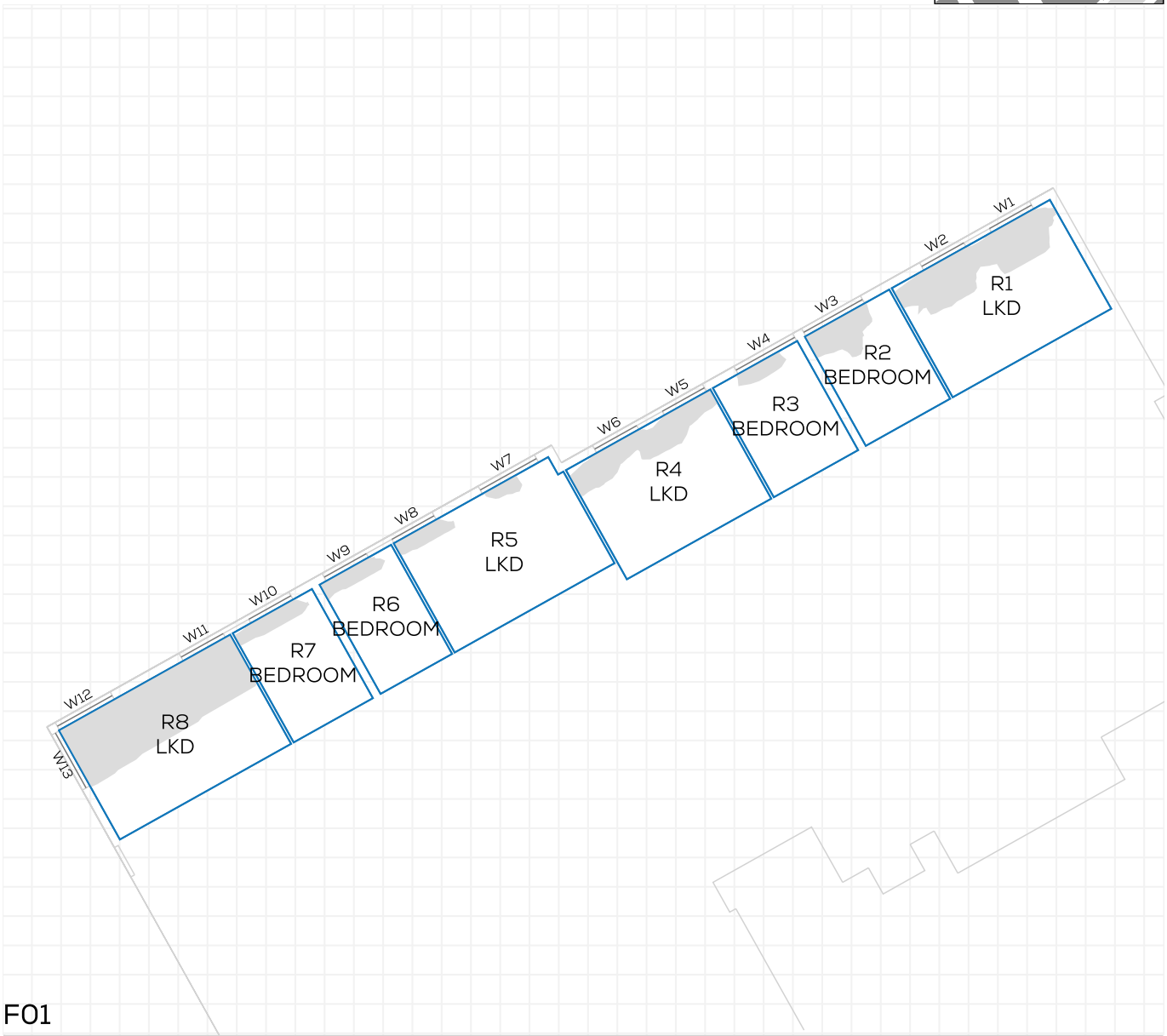
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
DEANSGATE QUAY								
F05	R5	RESIDENTIAL	LKD	21.1	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: LUMIERE BUILDING
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL50
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F01

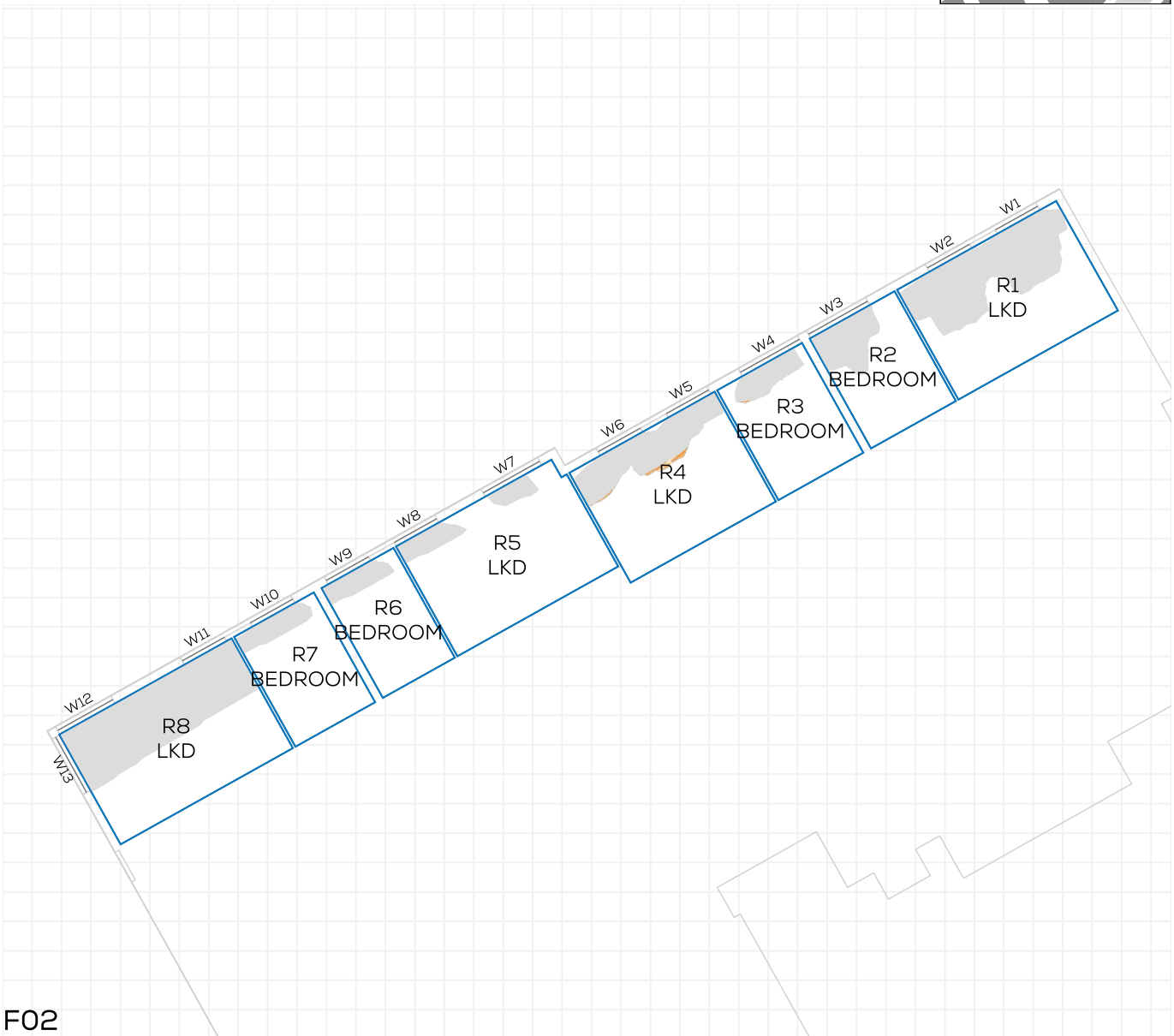
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
LUMIERE BUILDING								
F01	R1	RESIDENTIAL	LKD	26.5	28.6	28.6	0.0	0
F01	R2	RESIDENTIAL	BEDROOM	14.1	16.8	16.8	0.0	0
F01	R3	RESIDENTIAL	BEDROOM	14.1	6.4	6.4	0.0	0
F01	R4	RESIDENTIAL	LKD	24.1	20	20	0.0	0
F01	R5	RESIDENTIAL	LKD	26.6	6.1	6.1	0.0	0
F01	R6	RESIDENTIAL	BEDROOM	12.0	10.2	10.2	0.0	0
F01	R7	RESIDENTIAL	BEDROOM	13.2	10.6	10.6	0.0	0
F01	R8	RESIDENTIAL	LKD	28.6	48.6	48.6	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: LUMIERE BUILDING
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL51
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F02

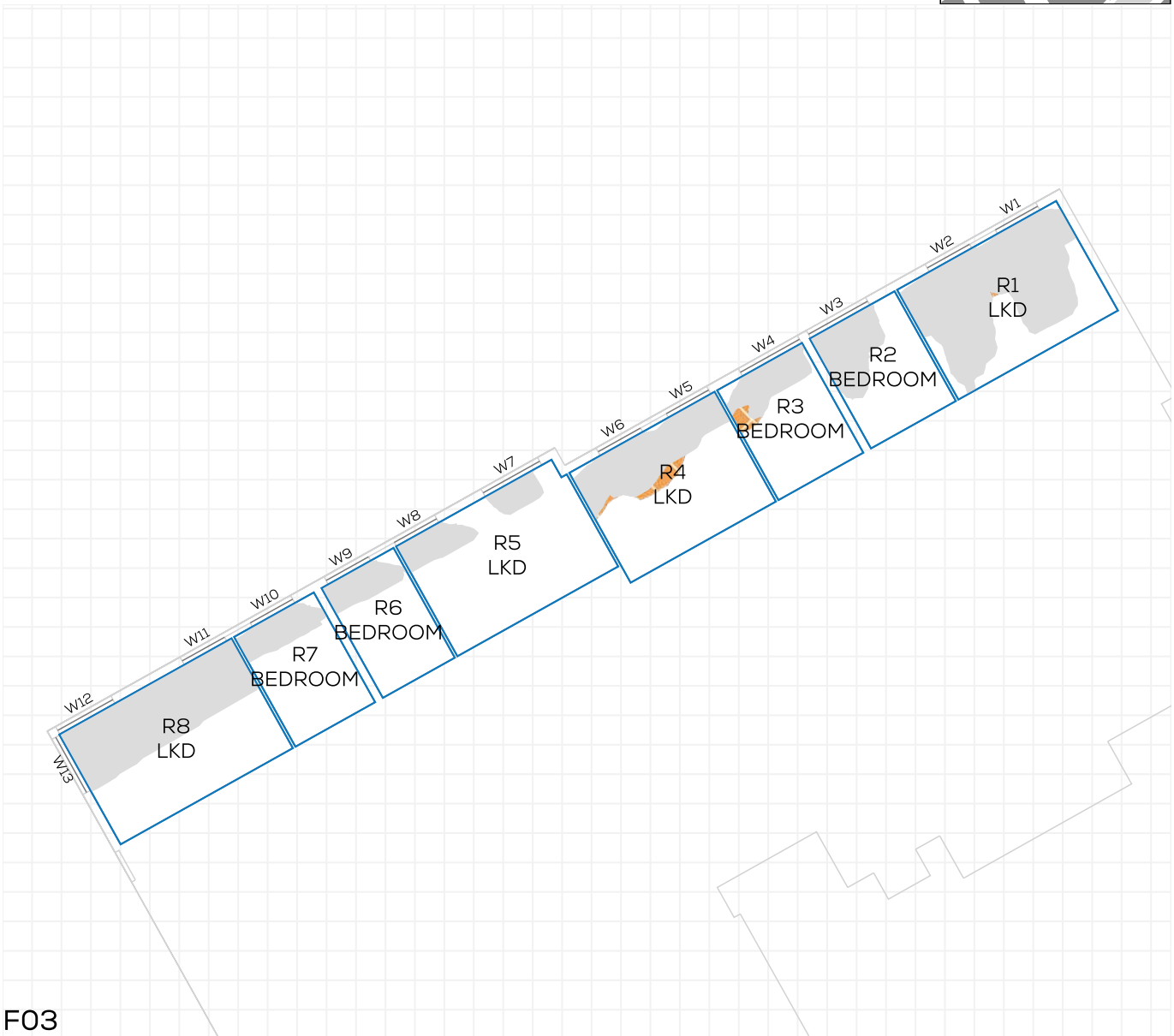
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
LUMIERE BUILDING								
F02	R1	RESIDENTIAL	LKD	26.5	42	42	0.0	0
F02	R2	RESIDENTIAL	BEDROOM	14.1	23.1	23.1	0.0	0
F02	R3	RESIDENTIAL	BEDROOM	14.1	14.4	14.1	0.0	2.4
F02	R4	RESIDENTIAL	LKD	24.1	26.6	25	0.4	5.9
F02	R5	RESIDENTIAL	LKD	26.6	9.4	9.4	0.0	0
F02	R6	RESIDENTIAL	BEDROOM	12.0	13.8	13.8	0.0	0
F02	R7	RESIDENTIAL	BEDROOM	13.2	14.2	14.2	0.0	0
F02	R8	RESIDENTIAL	LKD	28.6	48.6	48.6	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: LUMIERE BUILDING
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL52
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F03

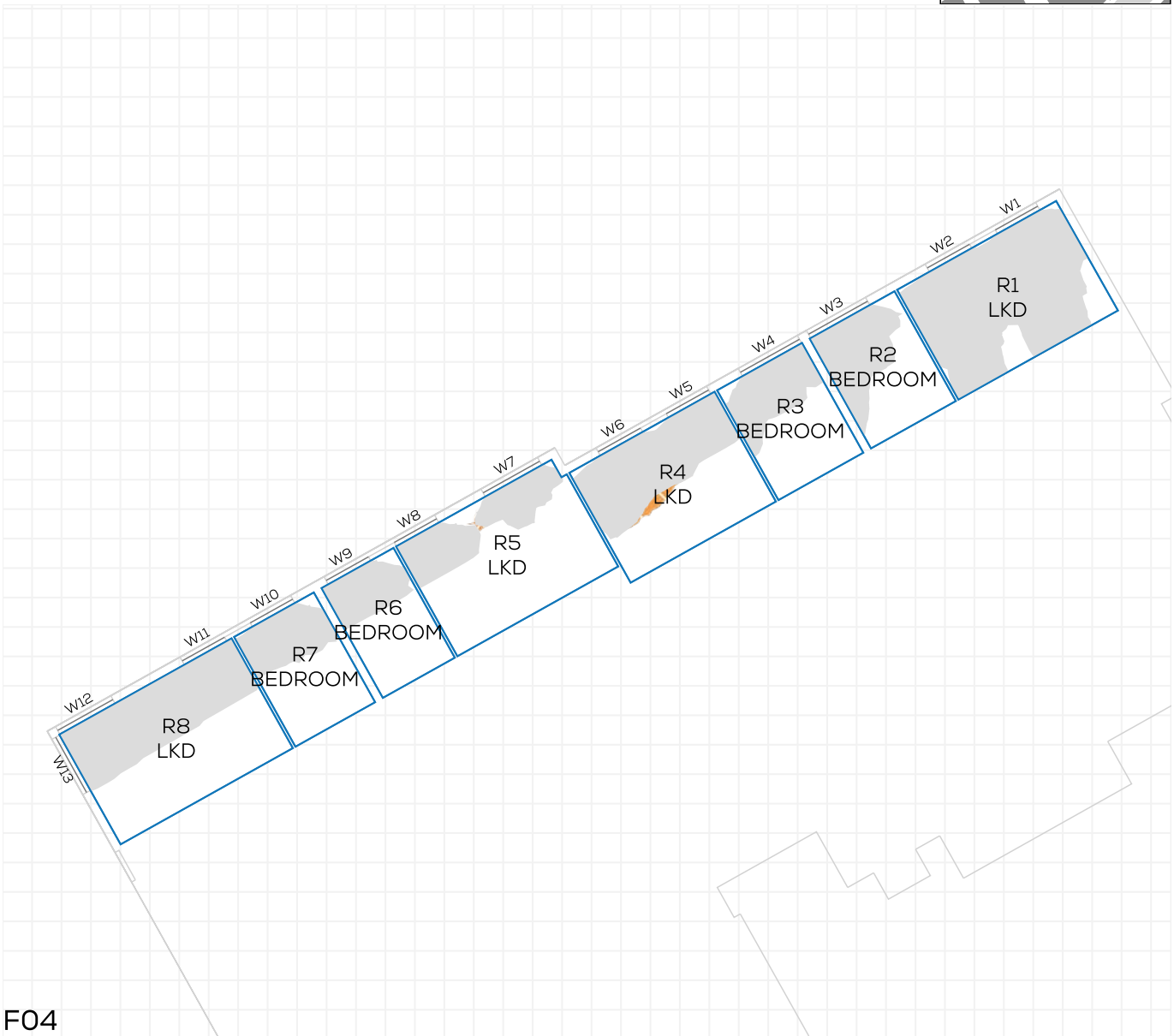
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
LUMIERE BUILDING								
F03	R1	RESIDENTIAL	LKD	26.5	70.4	70.2	0.0	0.2
F03	R2	RESIDENTIAL	BEDROOM	14.1	32.5	32.5	0.0	0
F03	R3	RESIDENTIAL	BEDROOM	14.1	27.6	24	0.5	13.2
F03	R4	RESIDENTIAL	LKD	24.1	36.8	33.3	0.8	9.5
F03	R5	RESIDENTIAL	LKD	26.6	15.5	15.5	0.0	0
F03	R6	RESIDENTIAL	BEDROOM	12.0	22.5	22.5	0.0	0
F03	R7	RESIDENTIAL	BEDROOM	13.2	23	23	0.0	0
F03	R8	RESIDENTIAL	LKD	28.6	48.7	48.7	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: LUMIERE BUILDING
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL53
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F04

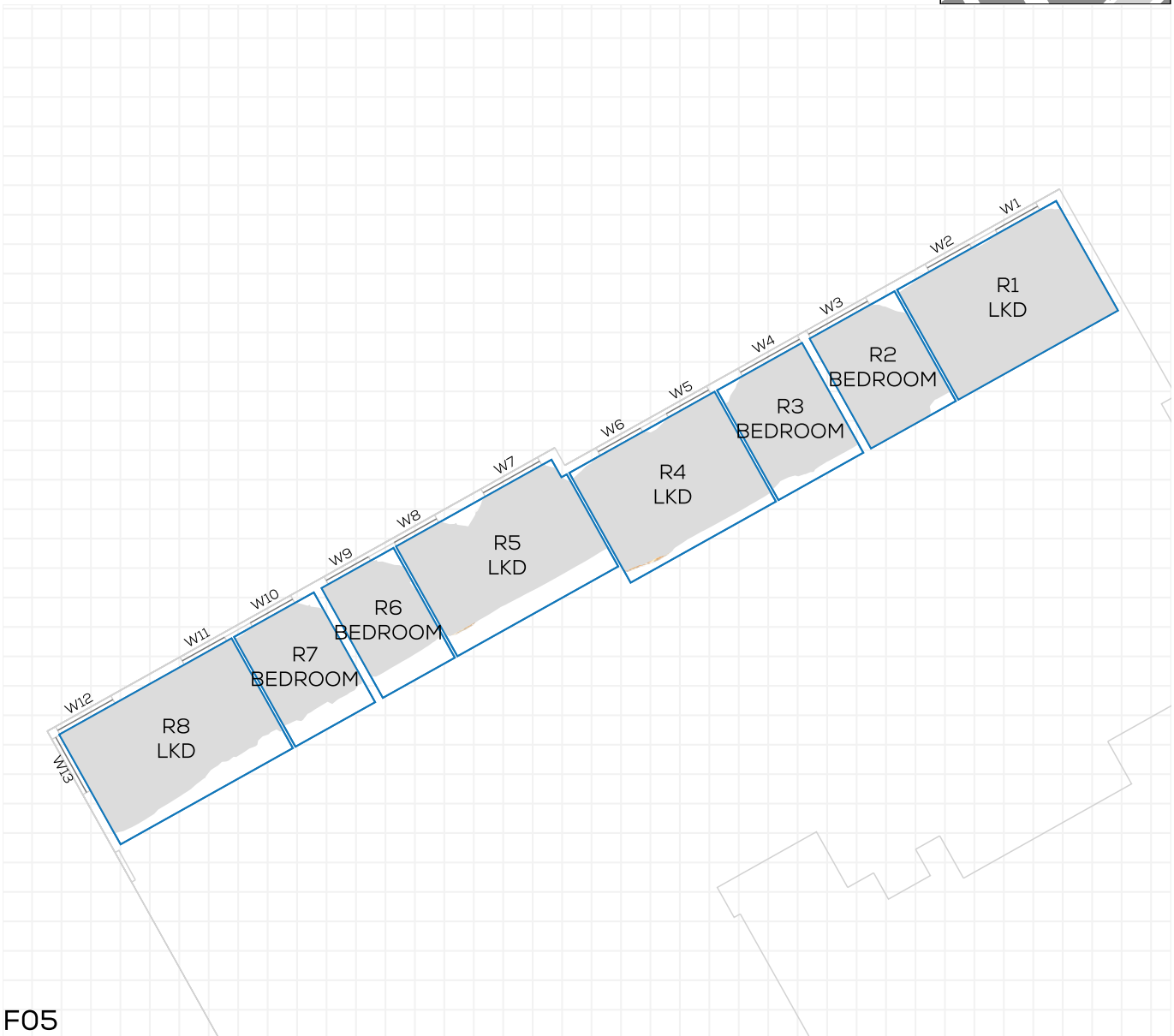
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
LUMIERE BUILDING								
F04	R1	RESIDENTIAL	LKD	26.5	89.5	89.5	0.0	0
F04	R2	RESIDENTIAL	BEDROOM	14.1	47	47	0.0	0
F04	R3	RESIDENTIAL	BEDROOM	14.1	41.5	41.4	0.0	0
F04	R4	RESIDENTIAL	LKD	24.1	51.9	49.9	0.5	3.8
F04	R5	RESIDENTIAL	LKD	26.6	28.5	28.2	0.1	0.8
F04	R6	RESIDENTIAL	BEDROOM	12.0	35.4	35.4	0.0	0
F04	R7	RESIDENTIAL	BEDROOM	13.2	38.6	38.6	0.0	0
F04	R8	RESIDENTIAL	LKD	28.6	48.6	48.6	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: LUMIERE BUILDING
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL54
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F05

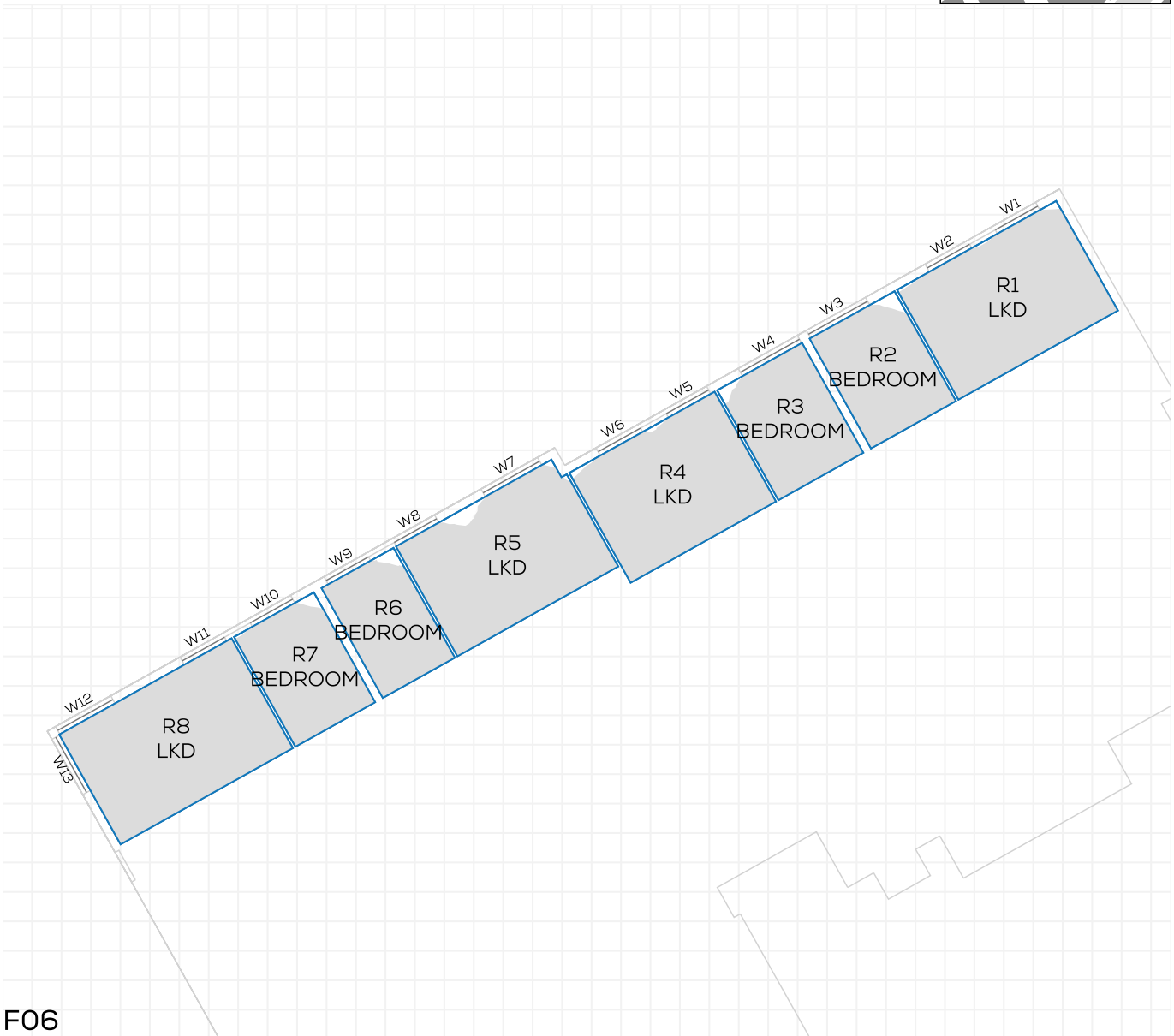
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
LUMIERE BUILDING								
F05	R1	RESIDENTIAL	LKD	26.5	99.2	99.2	0.0	0
F05	R2	RESIDENTIAL	BEDROOM	14.1	95	95	0.0	0
F05	R3	RESIDENTIAL	BEDROOM	14.1	89.4	89.4	0.0	0
F05	R4	RESIDENTIAL	LKD	24.1	92	91.5	0.1	0.5
F05	R5	RESIDENTIAL	LKD	26.6	81.2	80.9	0.1	0.3
F05	R6	RESIDENTIAL	BEDROOM	12.0	79.1	79.1	0.0	0
F05	R7	RESIDENTIAL	BEDROOM	13.2	80.6	80.6	0.0	0
F05	R8	RESIDENTIAL	LKD	28.6	86.9	86.9	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: LUMIERE BUILDING
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL55
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F06

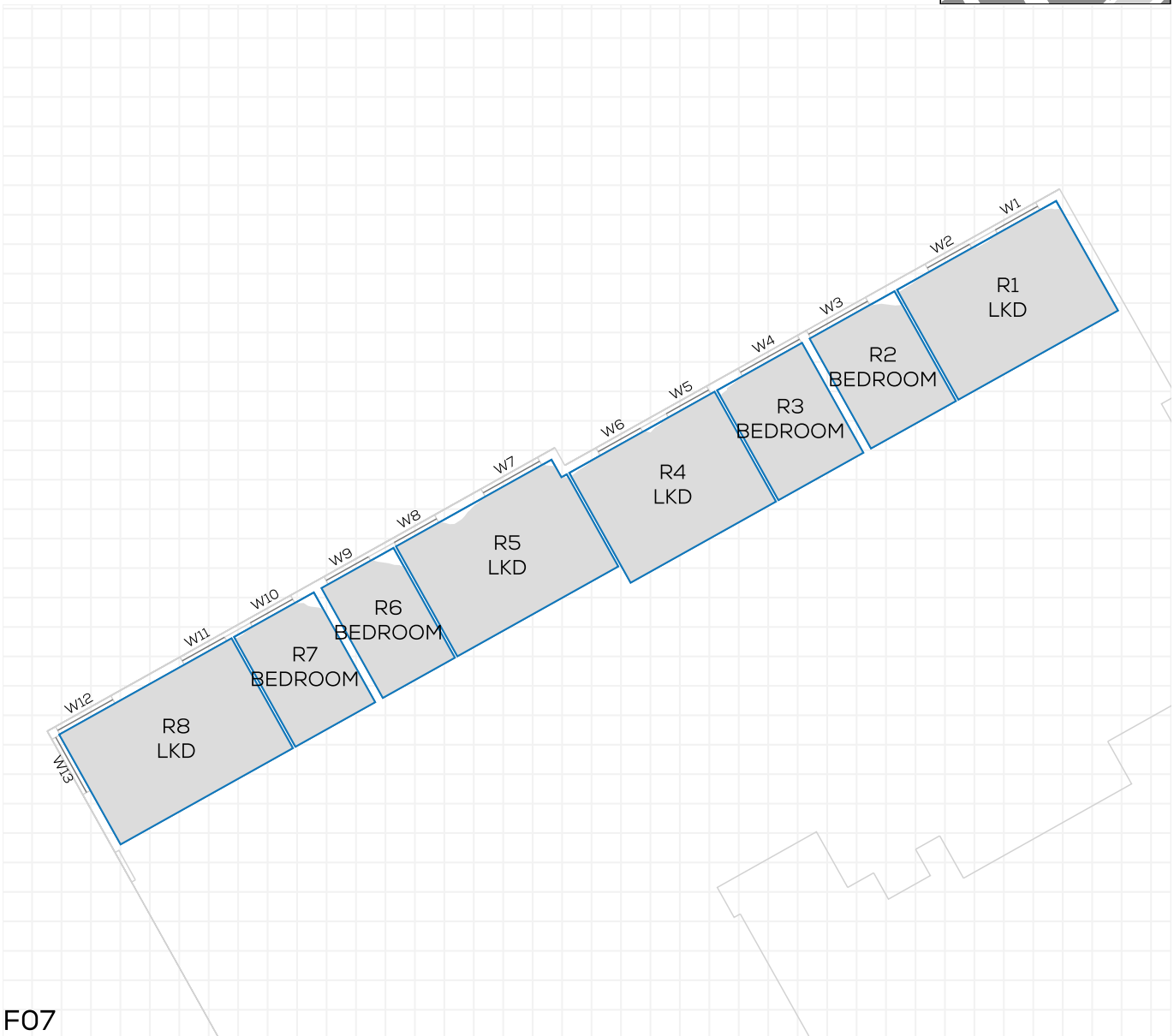
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
LUMIERE BUILDING								
F06	R1	RESIDENTIAL	LKD	26.5	99.2	99.2	0.0	0
F06	R2	RESIDENTIAL	BEDROOM	14.1	97.5	97.5	0.0	0
F06	R3	RESIDENTIAL	BEDROOM	14.1	98.1	98.1	0.0	0
F06	R4	RESIDENTIAL	LKD	24.1	99.2	99.2	0.0	0
F06	R5	RESIDENTIAL	LKD	26.6	97.8	97.7	0.0	0
F06	R6	RESIDENTIAL	BEDROOM	12.0	97.3	97.3	0.0	0
F06	R7	RESIDENTIAL	BEDROOM	13.2	98	98	0.0	0
F06	R8	RESIDENTIAL	LKD	28.6	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: LUMIERE BUILDING
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL56
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F07

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
LUMIERE BUILDING								
F07	R1	RESIDENTIAL	LKD	26.5	99.2	99.2	0.0	0
F07	R2	RESIDENTIAL	BEDROOM	14.1	98.3	98.3	0.0	0
F07	R3	RESIDENTIAL	BEDROOM	14.1	99.4	99.4	0.0	0
F07	R4	RESIDENTIAL	LKD	24.1	99.5	99.5	0.0	0
F07	R5	RESIDENTIAL	LKD	26.6	98.7	98.7	0.0	0
F07	R6	RESIDENTIAL	BEDROOM	12.0	97.4	97.4	0.0	0
F07	R7	RESIDENTIAL	BEDROOM	13.2	98.1	98.1	0.0	0
F07	R8	RESIDENTIAL	LKD	28.6	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE DANUBE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL57
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE DANUBE								
F00	R1	RESIDENTIAL	LKD	24.5	62.4	56	1.6	10.3
F00	R2	RESIDENTIAL	BEDROOM	7.6	23	21.2	0.1	8
F00	R3	RESIDENTIAL	BEDROOM	8.4	35.5	35.5	0.0	0
F00	R4	RESIDENTIAL	BEDROOM	9.1	35.2	35.2	0.0	0
F00	R5	RESIDENTIAL	BEDROOM	7.4	11	11	0.0	0
F00	R6	RESIDENTIAL	LKD	30.1	34.7	34.7	0.0	0
F00	R7	RESIDENTIAL	BEDROOM	11.3	36.2	36.2	0.0	0
F00	R8	RESIDENTIAL	LKD	27.2	64.9	64.9	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE DANUBE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL58
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE DANUBE								
F01	R1	RESIDENTIAL	BEDROOM	9.1	42.5	42.5	0.0	0
F01	R2	RESIDENTIAL	BEDROOM	7.5	25.6	25.6	0.0	0
F01	R3	RESIDENTIAL	LKD	21.1	67.6	67.6	0.0	0
F01	R4	RESIDENTIAL	LKD	24.5	64.1	58.8	1.3	8.2
F01	R5	RESIDENTIAL	BEDROOM	7.6	34.2	34.2	0.0	0
F01	R6	RESIDENTIAL	BEDROOM	8.4	40.2	40.2	0.0	0
F01	R7	RESIDENTIAL	BEDROOM	9.1	39.6	39.6	0.0	0
F01	R8	RESIDENTIAL	BEDROOM	7.4	21.6	21.6	0.0	0
F01	R9	RESIDENTIAL	LKD	30.1	35.3	35.3	0.0	0
F01	R10	RESIDENTIAL	BEDROOM	11.3	38.4	38.4	0.0	0
F01	R11	RESIDENTIAL	LKD	27.2	66.5	66.5	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE DANUBE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL59
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F02

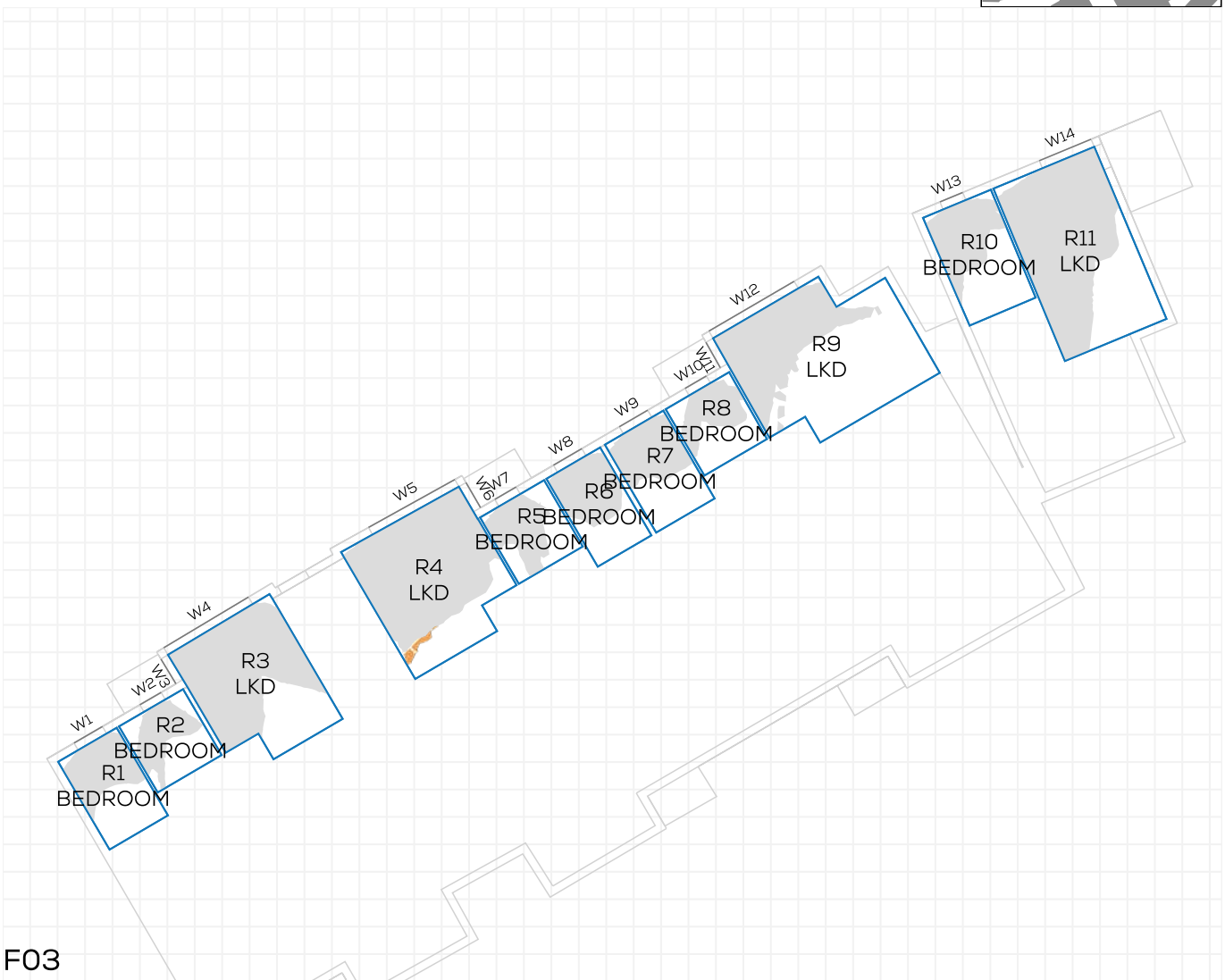
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE DANUBE								
F02	R1	RESIDENTIAL	BEDROOM	9.1	47.9	47.9	0.0	0
F02	R2	RESIDENTIAL	BEDROOM	7.5	36.5	36.5	0.0	0
F02	R3	RESIDENTIAL	LKD	21.1	70.9	70.9	0.0	0
F02	R4	RESIDENTIAL	LKD	24.5	68.7	65.1	0.9	5.2
F02	R5	RESIDENTIAL	BEDROOM	7.6	45.5	45.5	0.0	0
F02	R6	RESIDENTIAL	BEDROOM	8.4	46.8	46.8	0.0	0
F02	R7	RESIDENTIAL	BEDROOM	9.1	45.9	45.9	0.0	0
F02	R8	RESIDENTIAL	BEDROOM	7.4	34.1	34.1	0.0	0
F02	R9	RESIDENTIAL	LKD	30.1	36.9	36.9	0.0	0
F02	R10	RESIDENTIAL	BEDROOM	11.3	42.4	42.4	0.0	0
F02	R11	RESIDENTIAL	LKD	27.2	68.5	68.5	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE DANUBE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL60
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F03

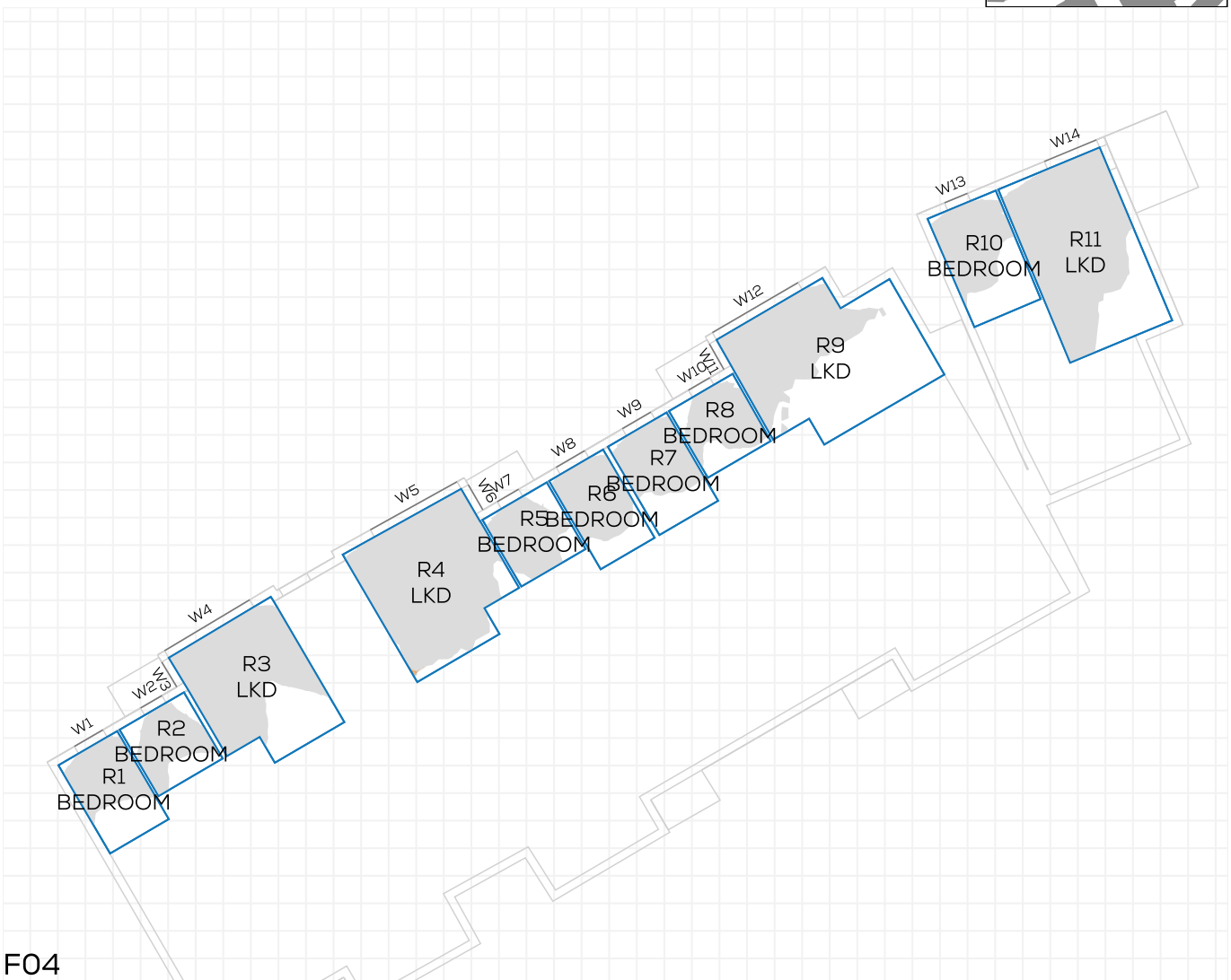
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE DANUBE								
F03	R1	RESIDENTIAL	BEDROOM	9.1	51.8	51.8	0.0	0
F03	R2	RESIDENTIAL	BEDROOM	7.5	46.9	46.9	0.0	0
F03	R3	RESIDENTIAL	LKD	21.1	73.5	73.5	0.0	0
F03	R4	RESIDENTIAL	LKD	24.5	79.2	77.5	0.4	2.1
F03	R5	RESIDENTIAL	BEDROOM	7.6	54.3	54.3	0.0	0
F03	R6	RESIDENTIAL	BEDROOM	8.4	58.1	58.1	0.0	0
F03	R7	RESIDENTIAL	BEDROOM	9.1	53.9	53.9	0.0	0
F03	R8	RESIDENTIAL	BEDROOM	7.4	46.9	46.9	0.0	0
F03	R9	RESIDENTIAL	LKD	30.1	39.6	39.6	0.0	0
F03	R10	RESIDENTIAL	BEDROOM	11.3	49.4	49.4	0.0	0
F03	R11	RESIDENTIAL	LKD	27.2	72	72	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE DANUBE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL61
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F04

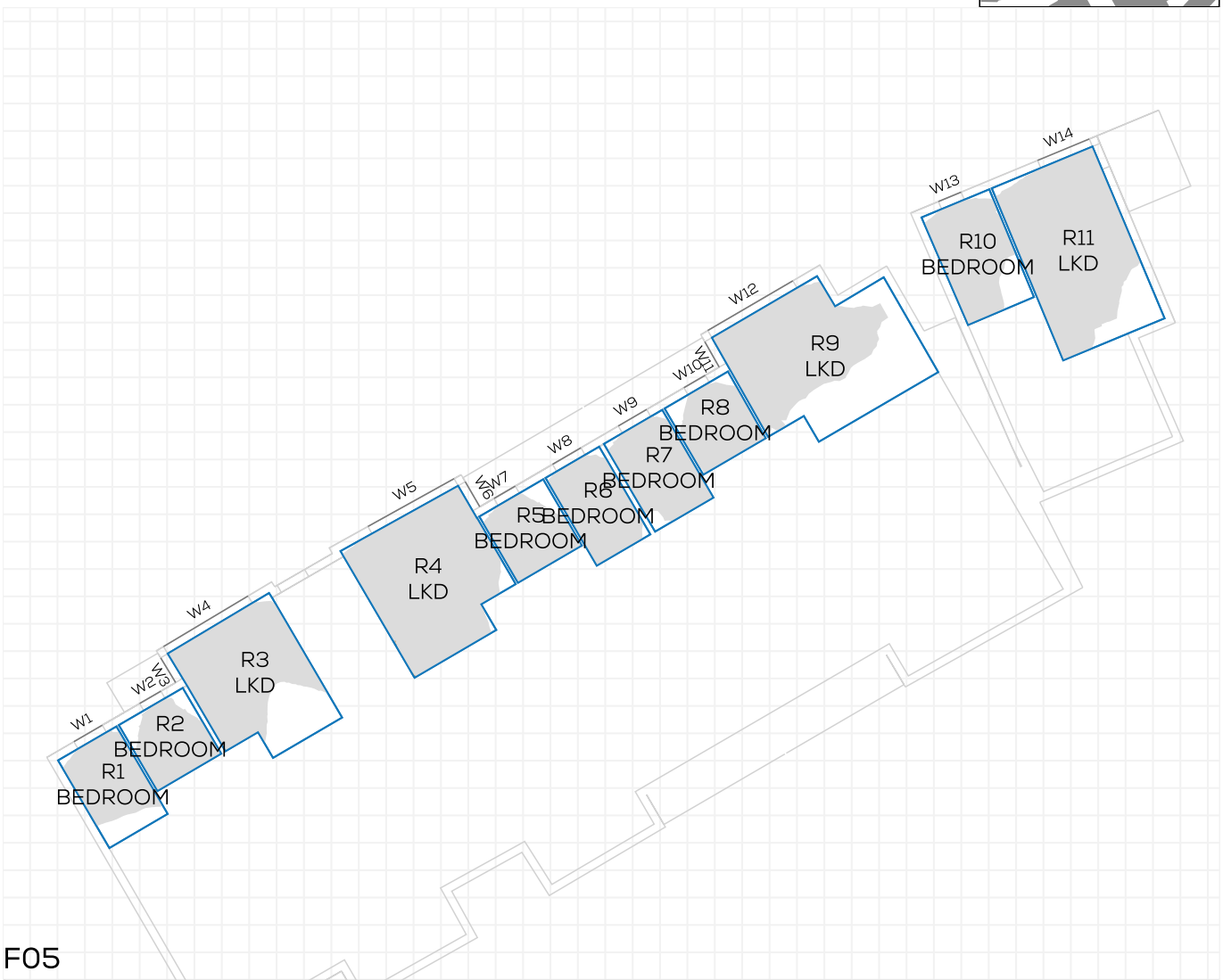
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE DANUBE								
F04	R1	RESIDENTIAL	BEDROOM	9.1	61.8	61.8	0.0	0
F04	R2	RESIDENTIAL	BEDROOM	7.5	66.5	66.5	0.0	0
F04	R3	RESIDENTIAL	LKD	21.1	74.7	74.7	0.0	0
F04	R4	RESIDENTIAL	LKD	24.5	93.3	93.1	0.1	0.2
F04	R5	RESIDENTIAL	BEDROOM	7.6	75.3	75.3	0.0	0
F04	R6	RESIDENTIAL	BEDROOM	8.4	73.8	73.8	0.0	0
F04	R7	RESIDENTIAL	BEDROOM	9.1	67.6	67.6	0.0	0
F04	R8	RESIDENTIAL	BEDROOM	7.4	71.9	71.9	0.0	0
F04	R9	RESIDENTIAL	LKD	30.1	45.1	45.1	0.0	0
F04	R10	RESIDENTIAL	BEDROOM	11.3	61	61	0.0	0
F04	R11	RESIDENTIAL	LKD	27.2	78	78	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE DANUBE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL62
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F05

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE DANUBE								
F05	R1	RESIDENTIAL	BEDROOM	9.1	79.7	79.7	0.0	0
F05	R2	RESIDENTIAL	BEDROOM	7.5	85.1	85.1	0.0	0
F05	R3	RESIDENTIAL	LKD	21.1	76.4	76.4	0.0	0
F05	R4	RESIDENTIAL	LKD	24.5	97.8	97.7	0.0	0.1
F05	R5	RESIDENTIAL	BEDROOM	7.6	87.7	87.7	0.0	0
F05	R6	RESIDENTIAL	BEDROOM	8.4	96.6	96.6	0.0	0
F05	R7	RESIDENTIAL	BEDROOM	9.1	93.9	93.9	0.0	0
F05	R8	RESIDENTIAL	BEDROOM	7.4	89.2	89.2	0.0	0
F05	R9	RESIDENTIAL	LKD	30.1	61.3	61.3	0.0	0
F05	R10	RESIDENTIAL	BEDROOM	11.3	84.1	84.1	0.0	0
F05	R11	RESIDENTIAL	LKD	27.2	86.6	86.6	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: THE DANUBE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL63
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





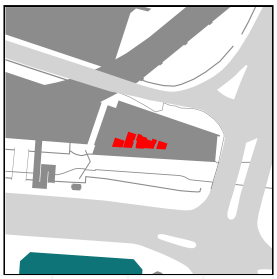
F06

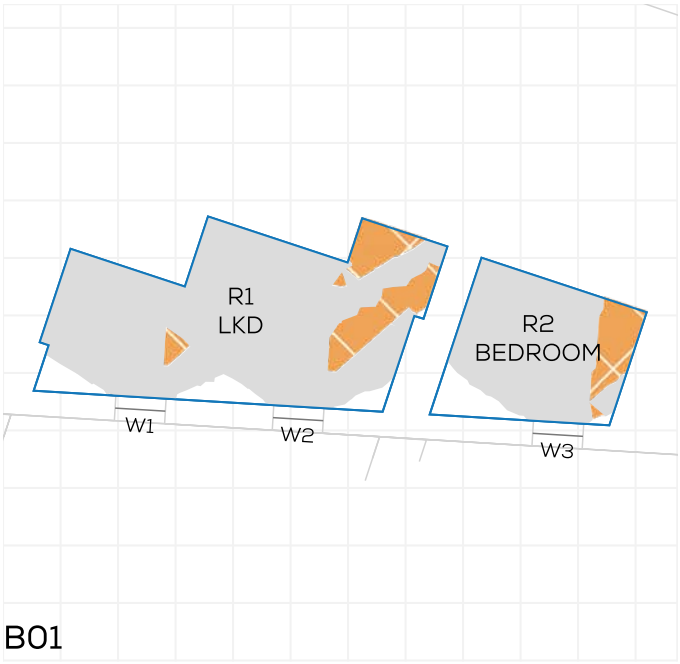
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
THE DANUBE								
F06	R1	RESIDENTIAL	BEDROOM	9.1	98.7	98.7	0.0	0
F06	R2	RESIDENTIAL	BEDROOM	7.5	94.2	94.2	0.0	0
F06	R3	RESIDENTIAL	LKD	21.1	87.9	87.9	0.0	0
F06	R4	RESIDENTIAL	LKD	24.5	99.8	99.8	0.0	0
F06	R5	RESIDENTIAL	BEDROOM	7.6	93.3	93.3	0.0	0
F06	R6	RESIDENTIAL	BEDROOM	8.4	98.2	98.2	0.0	0
F06	R7	RESIDENTIAL	BEDROOM	9.1	98.6	98.6	0.0	0
F06	R8	RESIDENTIAL	BEDROOM	7.4	93.7	93.7	0.0	0
F06	R9	RESIDENTIAL	LKD	30.1	90.9	90.9	0.0	0
F06	R10	RESIDENTIAL	BEDROOM	11.3	96.9	96.9	0.0	0
F06	R11	RESIDENTIAL	LKD	27.2	99	99	0.0	0

NSL CONTOURS

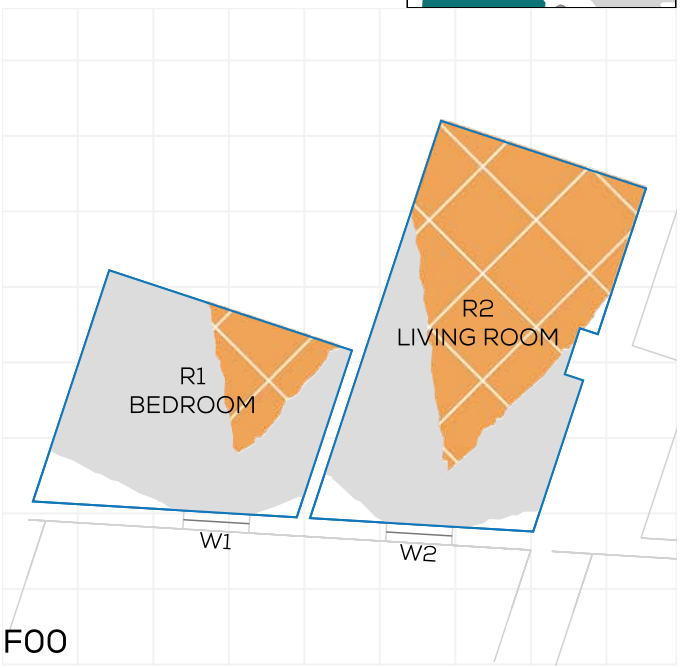
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL64
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

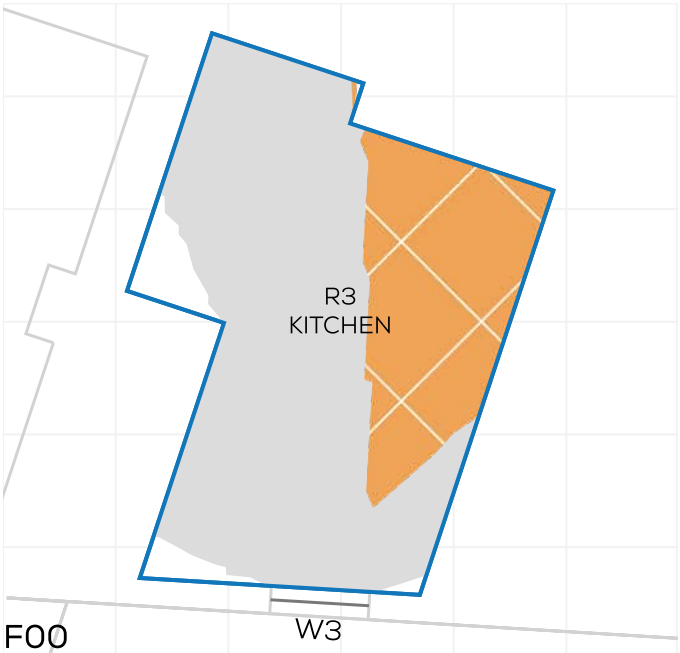




B01



F00



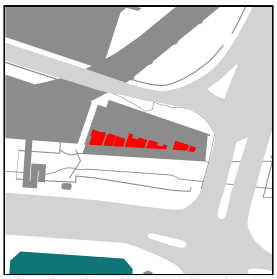
F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
B01	R1	RESIDENTIAL	LKD	17.1	93.3	80.6	2.2	13.6
B01	R2	RESIDENTIAL	BEDROOM	7.5	89.7	76.1	1.0	15.1
F00	R1	RESIDENTIAL	BEDROOM	9.4	92.1	73.8	1.7	19.9
F00	R2	RESIDENTIAL	LIVING ROOM	14.6	96.6	39.3	8.4	59.4
F00	R3	RESIDENTIAL	KITCHEN	12.2	94.7	65.8	3.5	30.6

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL65
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





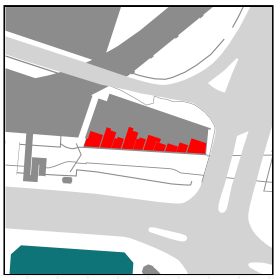
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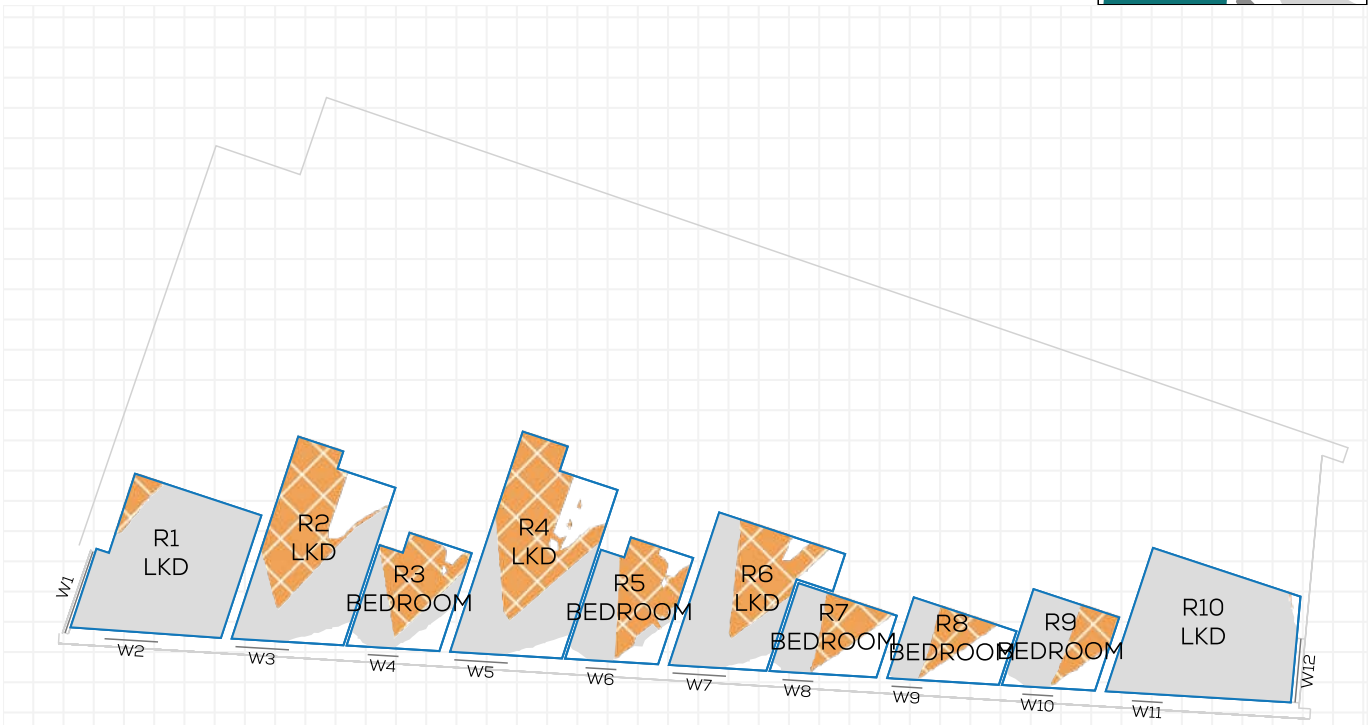
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F01	R1	RESIDENTIAL	LKD	21.0	82.6	41.9	8.5	49.3
F01	R2	RESIDENTIAL	BEDROOM	11.9	76	38.9	4.4	48.8
F01	R3	RESIDENTIAL	BEDROOM	10.4	67.5	39.1	3.0	42.1
F01	R4	RESIDENTIAL	LKD	22.2	74.3	55.4	4.2	25.4
F01	R5	RESIDENTIAL	BEDROOM	12.2	72.2	55.9	2.0	22.6
F01	R6	RESIDENTIAL	LIVING ROOM	12.1	79	59.4	2.4	24.8
F01	R7	RESIDENTIAL	BEDROOM	3.4	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL66
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





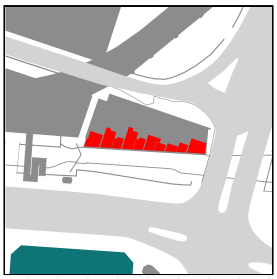
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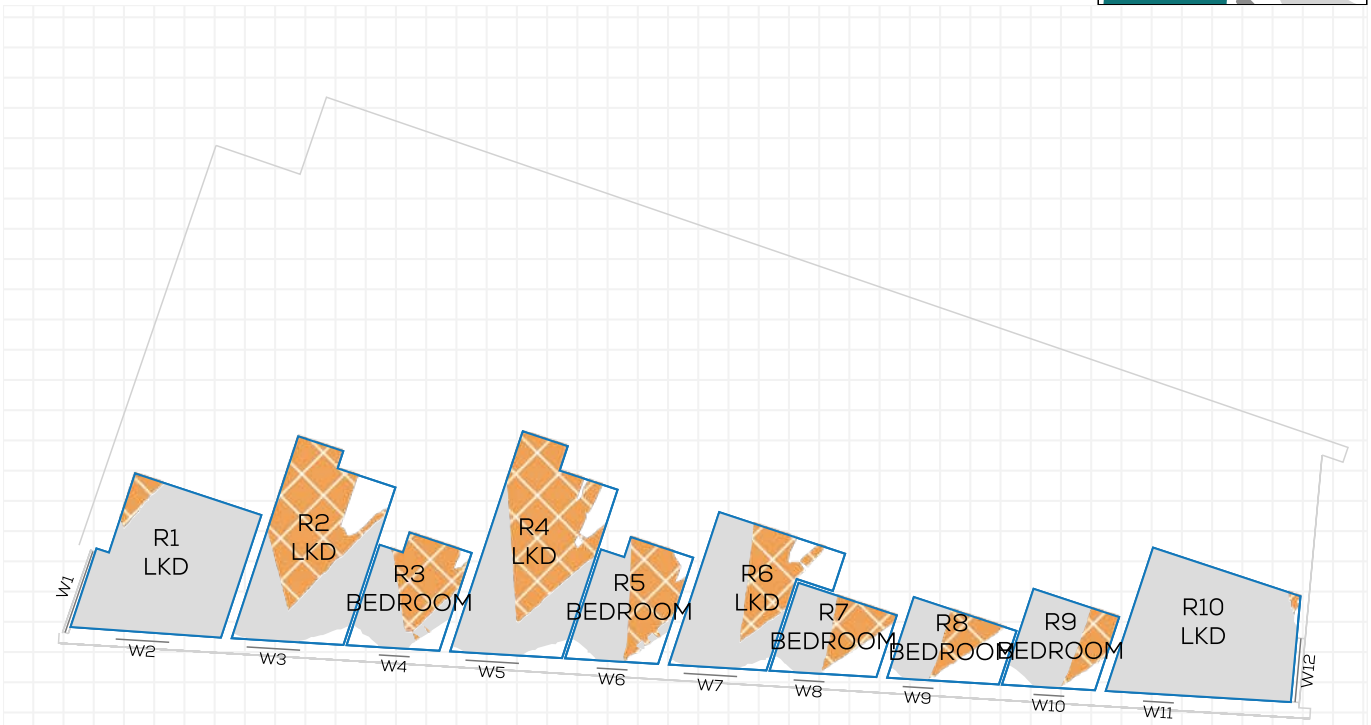
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F02	R1	RESIDENTIAL	LKD	22.4	100	94.6	1.2	5.4
F02	R2	RESIDENTIAL	LKD	22.3	85.3	42	9.6	50.8
F02	R3	RESIDENTIAL	BEDROOM	10.7	85.3	35.6	5.3	58.2
F02	R4	RESIDENTIAL	LKD	24.1	84.8	36.7	11.6	56.8
F02	R5	RESIDENTIAL	BEDROOM	11.6	83.7	36.9	5.4	55.9
F02	R6	RESIDENTIAL	LKD	16.9	88.5	51.7	6.2	41.6
F02	R7	RESIDENTIAL	BEDROOM	8.9	72.2	36.9	3.1	48.9
F02	R8	RESIDENTIAL	BEDROOM	8.4	61.6	31.1	2.6	49.5
F02	R9	RESIDENTIAL	BEDROOM	8.8	85.5	55.5	2.6	35.1
F02	R10	RESIDENTIAL	LKD	23.6	99	98.9	0.0	0.1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL67
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





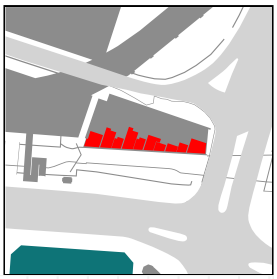
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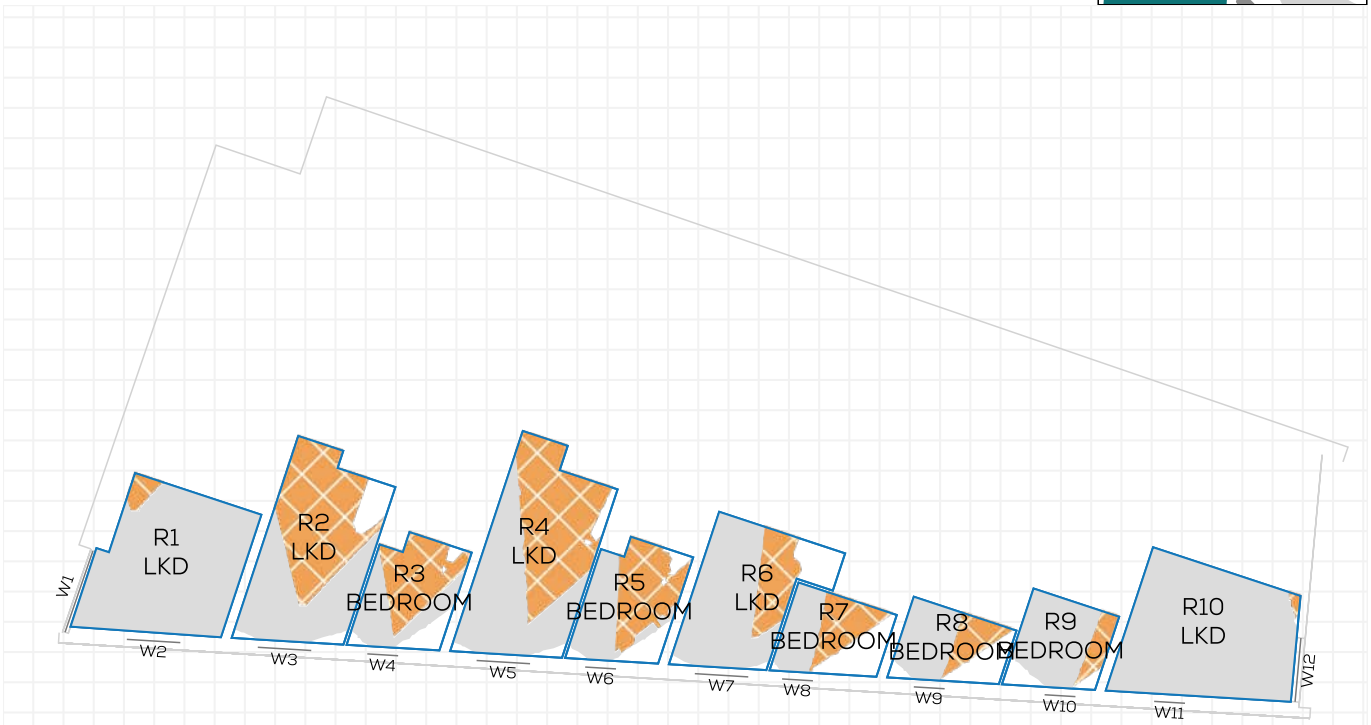
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F03	R1	RESIDENTIAL	LKD	22.4	100	95	1.1	5
F03	R2	RESIDENTIAL	LKD	22.3	88.7	40.3	10.8	54.5
F03	R3	RESIDENTIAL	BEDROOM	10.7	88.8	41.5	5.1	53.2
F03	R4	RESIDENTIAL	LKD	24.1	92.8	41.2	12.4	55.6
F03	R5	RESIDENTIAL	BEDROOM	11.6	88.3	45.2	5.0	48.8
F03	R6	RESIDENTIAL	LKD	16.9	88.2	58.6	5.0	33.5
F03	R7	RESIDENTIAL	BEDROOM	8.9	78.6	46.1	2.9	41.4
F03	R8	RESIDENTIAL	BEDROOM	8.4	68.8	40.7	2.3	40.8
F03	R9	RESIDENTIAL	BEDROOM	8.8	88.2	64.4	2.1	26.9
F03	R10	RESIDENTIAL	LKD	23.6	99.6	98.9	0.2	0.7

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL68
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





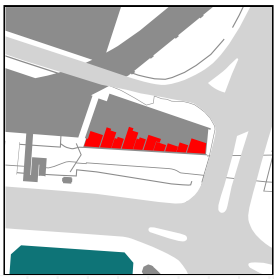
F04

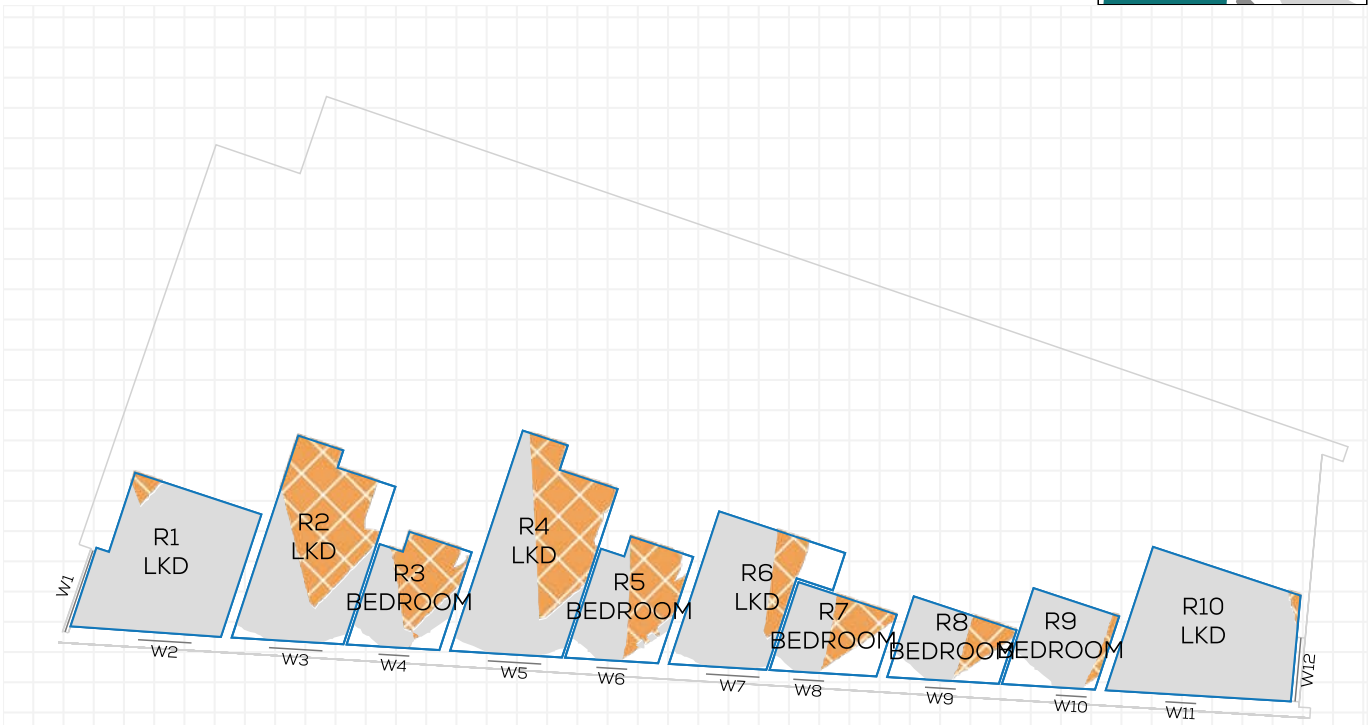
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F04	R1	RESIDENTIAL	LKD	22.4	100	96.2	0.9	3.8
F04	R2	RESIDENTIAL	LKD	22.3	91.3	41	11.2	55.1
F04	R3	RESIDENTIAL	BEDROOM	10.7	86	35.4	5.4	58.8
F04	R4	RESIDENTIAL	LKD	24.1	96.1	46.6	11.9	51.5
F04	R5	RESIDENTIAL	BEDROOM	11.6	84.9	36.9	5.6	56.5
F04	R6	RESIDENTIAL	LKD	16.9	87.6	65.4	3.8	25.4
F04	R7	RESIDENTIAL	BEDROOM	8.9	71.9	36.7	3.1	49
F04	R8	RESIDENTIAL	BEDROOM	8.4	75.2	50	2.1	33.5
F04	R9	RESIDENTIAL	BEDROOM	8.8	89.1	72.6	1.4	18.5
F04	R10	RESIDENTIAL	LKD	23.6	99.8	98.9	0.2	0.9

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL69
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





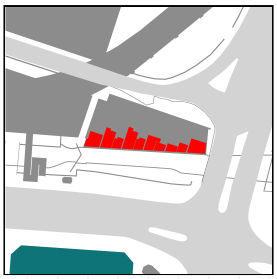
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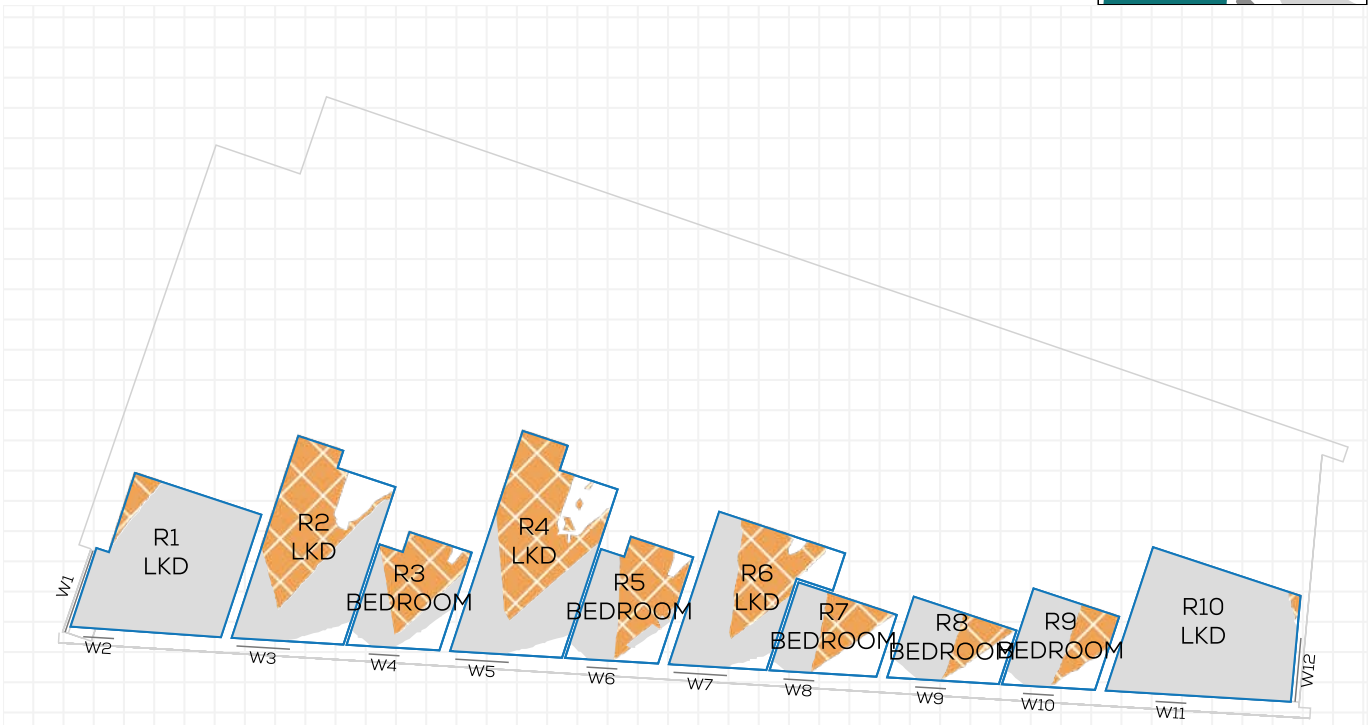
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F05	R1	RESIDENTIAL	LKD	22.4	100	97.3	0.6	2.7
F05	R2	RESIDENTIAL	LKD	22.3	94	43.1	11.4	54.2
F05	R3	RESIDENTIAL	BEDROOM	10.7	89.1	41.5	5.1	53.4
F05	R4	RESIDENTIAL	LKD	24.1	97.6	55.3	10.2	43.3
F05	R5	RESIDENTIAL	BEDROOM	11.6	89	44.9	5.1	49.6
F05	R6	RESIDENTIAL	LKD	16.9	89.1	73.2	2.7	17.8
F05	R7	RESIDENTIAL	BEDROOM	8.9	78.4	45.8	2.9	41.6
F05	R8	RESIDENTIAL	BEDROOM	8.4	79.5	56.6	1.9	28.8
F05	R9	RESIDENTIAL	BEDROOM	8.8	87	79.8	0.6	8.2
F05	R10	RESIDENTIAL	LKD	23.6	100	98.9	0.3	1.1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL70
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





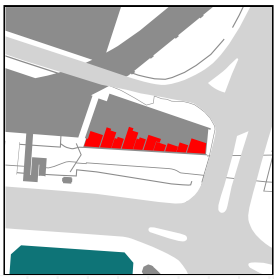
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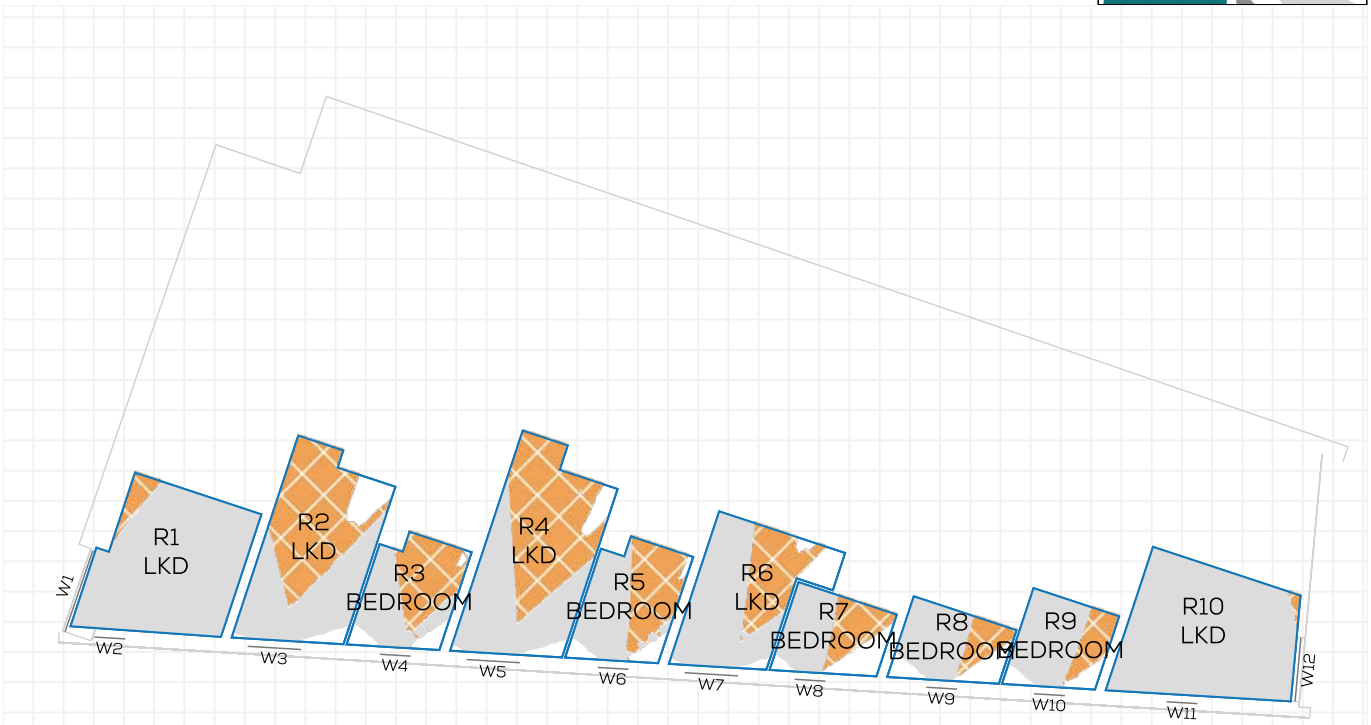
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F06	R1	RESIDENTIAL	LKD	22.4	100	94.6	1.2	5.4
F06	R2	RESIDENTIAL	LKD	22.3	88.1	43.2	10.0	51
F06	R3	RESIDENTIAL	BEDROOM	10.7	86.9	36.3	5.4	58.3
F06	R4	RESIDENTIAL	LKD	24.1	87.8	37.1	12.2	57.7
F06	R5	RESIDENTIAL	BEDROOM	11.6	86.1	37.6	5.6	56.4
F06	R6	RESIDENTIAL	LKD	16.9	89.5	52.8	6.2	40.9
F06	R7	RESIDENTIAL	BEDROOM	8.9	72.8	37.6	3.1	48.3
F06	R8	RESIDENTIAL	BEDROOM	8.4	75.4	50.4	2.1	33.2
F06	R9	RESIDENTIAL	BEDROOM	8.8	85.6	56.1	2.6	34.4
F06	R10	RESIDENTIAL	LKD	23.6	99.8	98.9	0.2	0.9

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL71
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





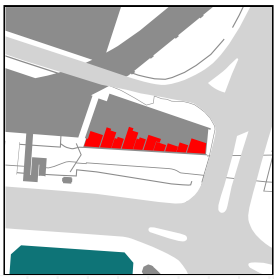
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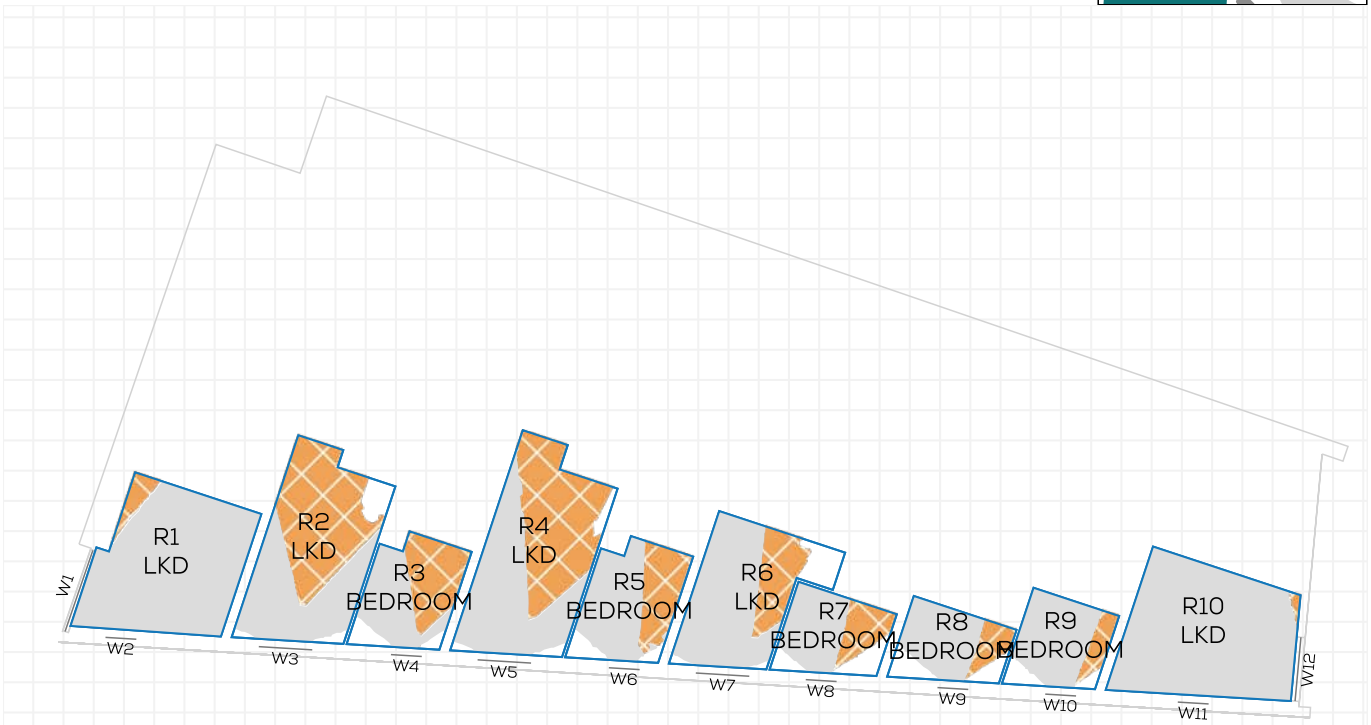
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F07	R1	RESIDENTIAL	LKD	22.4	100	94.6	1.2	5.4
F07	R2	RESIDENTIAL	LKD	22.3	90.3	40.6	11.1	55.1
F07	R3	RESIDENTIAL	BEDROOM	10.7	89.6	42.3	5.1	52.8
F07	R4	RESIDENTIAL	LKD	24.1	94	41.3	12.7	56
F07	R5	RESIDENTIAL	BEDROOM	11.6	90.2	46.1	5.1	48.9
F07	R6	RESIDENTIAL	LKD	16.9	90	59.4	5.2	34
F07	R7	RESIDENTIAL	BEDROOM	8.9	79.4	46.9	2.9	40.9
F07	R8	RESIDENTIAL	BEDROOM	8.4	79.7	57.4	1.9	28
F07	R9	RESIDENTIAL	BEDROOM	8.8	88.5	65	2.1	26.6
F07	R10	RESIDENTIAL	LKD	23.6	100	98.9	0.3	1.1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL72
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





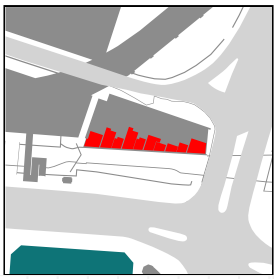
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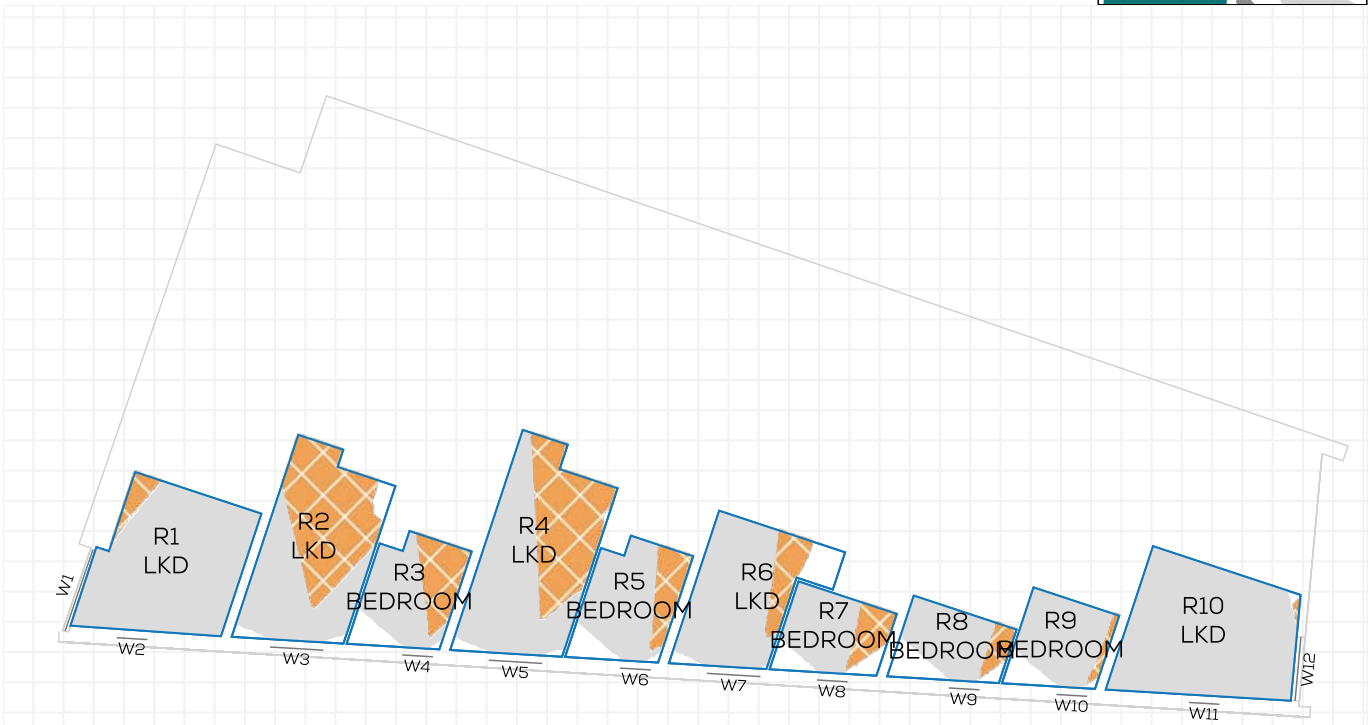
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F08	R1	RESIDENTIAL	LKD	22.4	100	94.6	1.2	5.4
F08	R2	RESIDENTIAL	LKD	22.3	93.3	41.4	11.6	55.6
F08	R3	RESIDENTIAL	BEDROOM	10.7	90.6	46.9	4.7	48.2
F08	R4	RESIDENTIAL	LKD	24.1	96.6	47.7	11.7	50.6
F08	R5	RESIDENTIAL	BEDROOM	11.6	91.6	56.8	4.0	37.9
F08	R6	RESIDENTIAL	LKD	16.9	89.3	65.9	4.0	26.2
F08	R7	RESIDENTIAL	BEDROOM	8.9	82.7	55	2.5	33.5
F08	R8	RESIDENTIAL	BEDROOM	8.4	81.1	62.7	1.5	22.7
F08	R9	RESIDENTIAL	BEDROOM	8.8	88.9	73	1.4	17.9
F08	R10	RESIDENTIAL	LKD	23.6	99.9	98.9	0.2	1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL73
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





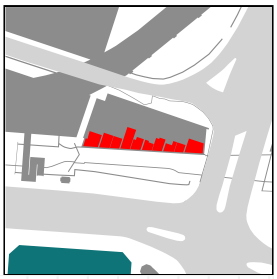
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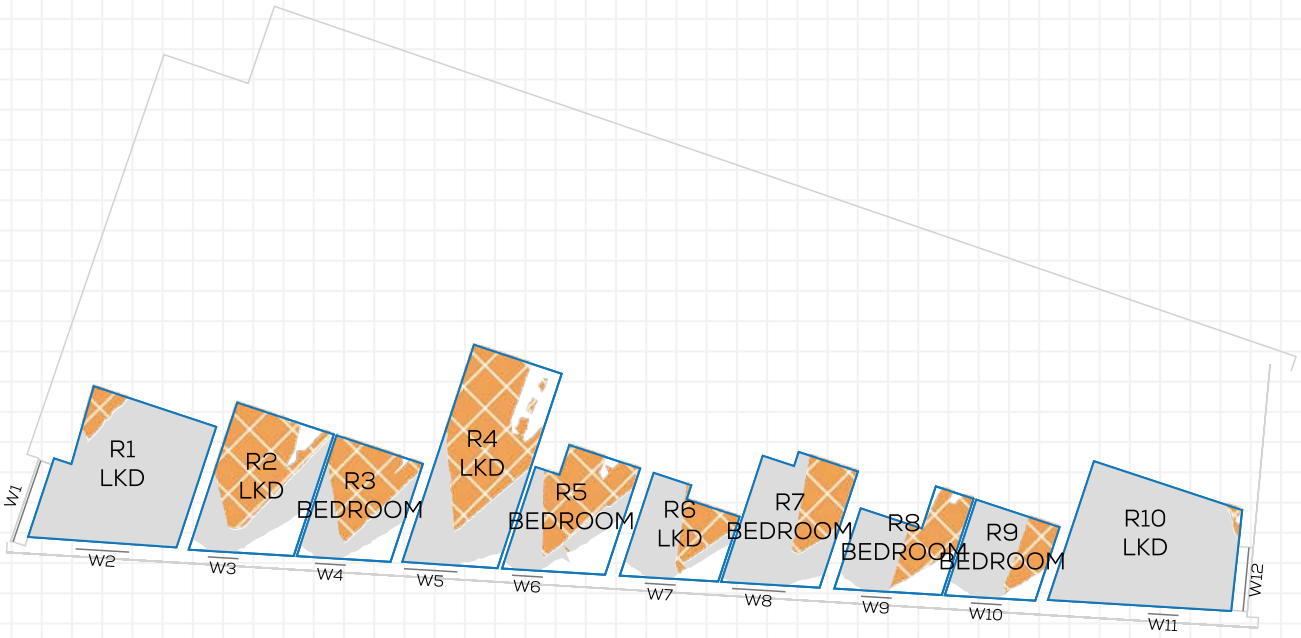
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F09	R1	RESIDENTIAL	LKD	22.4	100	94.6	1.2	5.4
F09	R2	RESIDENTIAL	LKD	22.3	95.5	43.3	11.6	54.6
F09	R3	RESIDENTIAL	BEDROOM	10.7	88.8	55	3.6	38
F09	R4	RESIDENTIAL	LKD	24.1	98	55.9	10.1	43
F09	R5	RESIDENTIAL	BEDROOM	11.6	89.8	66.7	2.7	25.7
F09	R6	RESIDENTIAL	LKD	16.9	89.6	73.8	2.7	17.6
F09	R7	RESIDENTIAL	BEDROOM	8.9	84.2	61.6	2.0	26.8
F09	R8	RESIDENTIAL	BEDROOM	8.4	80.1	66.6	1.1	16.9
F09	R9	RESIDENTIAL	BEDROOM	8.8	86.6	80	0.6	7.7
F09	R10	RESIDENTIAL	LKD	23.6	99.5	98.9	0.1	0.6

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL74
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





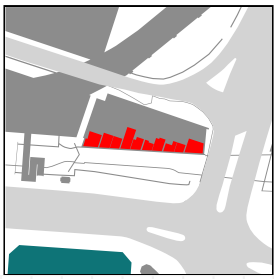
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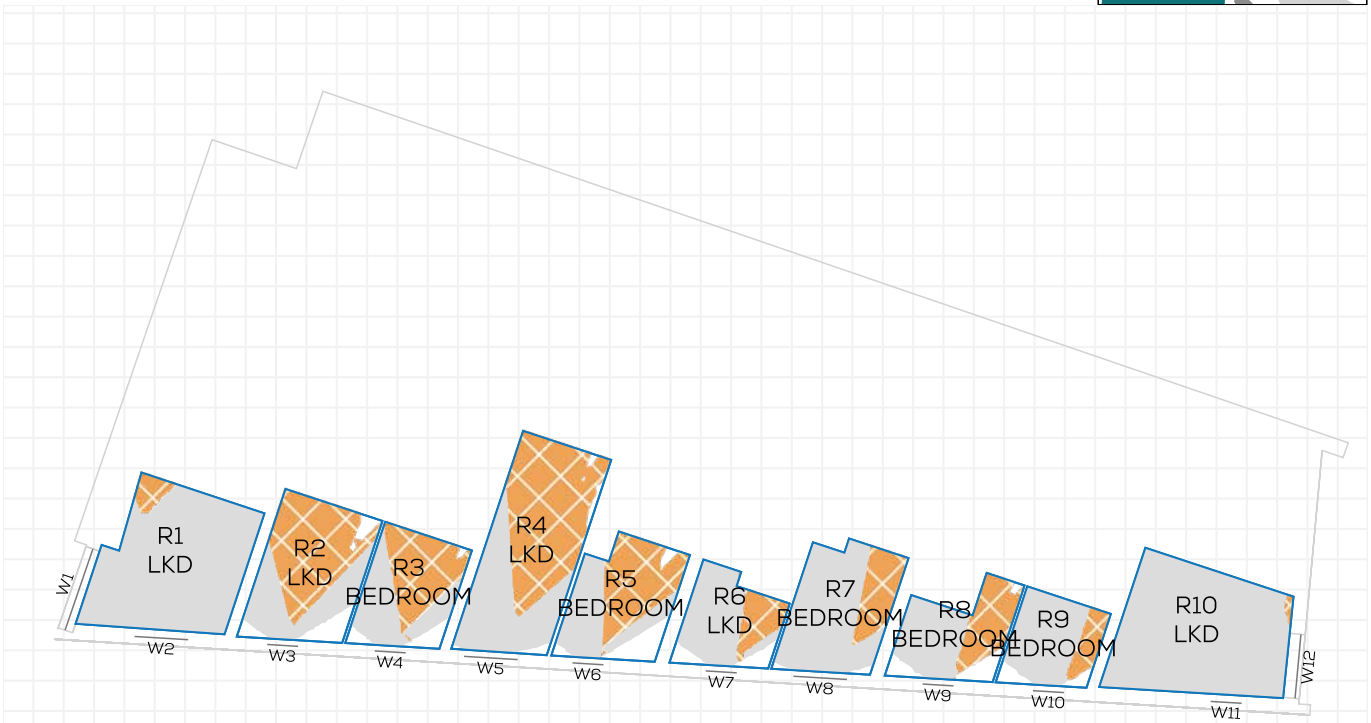
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F10	R1	RESIDENTIAL	LKD	21.4	100	93.7	1.3	6.3
F10	R2	RESIDENTIAL	LKD	15.7	84.9	32.8	8.2	61.3
F10	R3	RESIDENTIAL	BEDROOM	11.5	88.9	36.6	6.0	58.8
F10	R4	RESIDENTIAL	LKD	21.9	88.4	33.4	12.0	62.2
F10	R5	RESIDENTIAL	BEDROOM	12.8	82.1	33.2	6.3	59.6
F10	R6	RESIDENTIAL	LKD	9.1	86.5	56.9	2.7	34.2
F10	R7	RESIDENTIAL	BEDROOM	13.5	97.9	67.1	4.2	31.5
F10	R8	RESIDENTIAL	BEDROOM	10.0	81.1	41.8	3.9	48.5
F10	R9	RESIDENTIAL	BEDROOM	8.5	89.8	62.5	2.3	30.4
F10	R10	RESIDENTIAL	LKD	22.6	99.7	98.6	0.2	1.1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL75
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





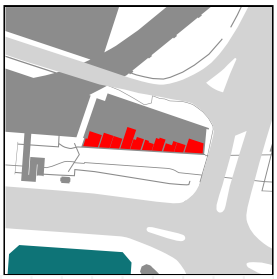
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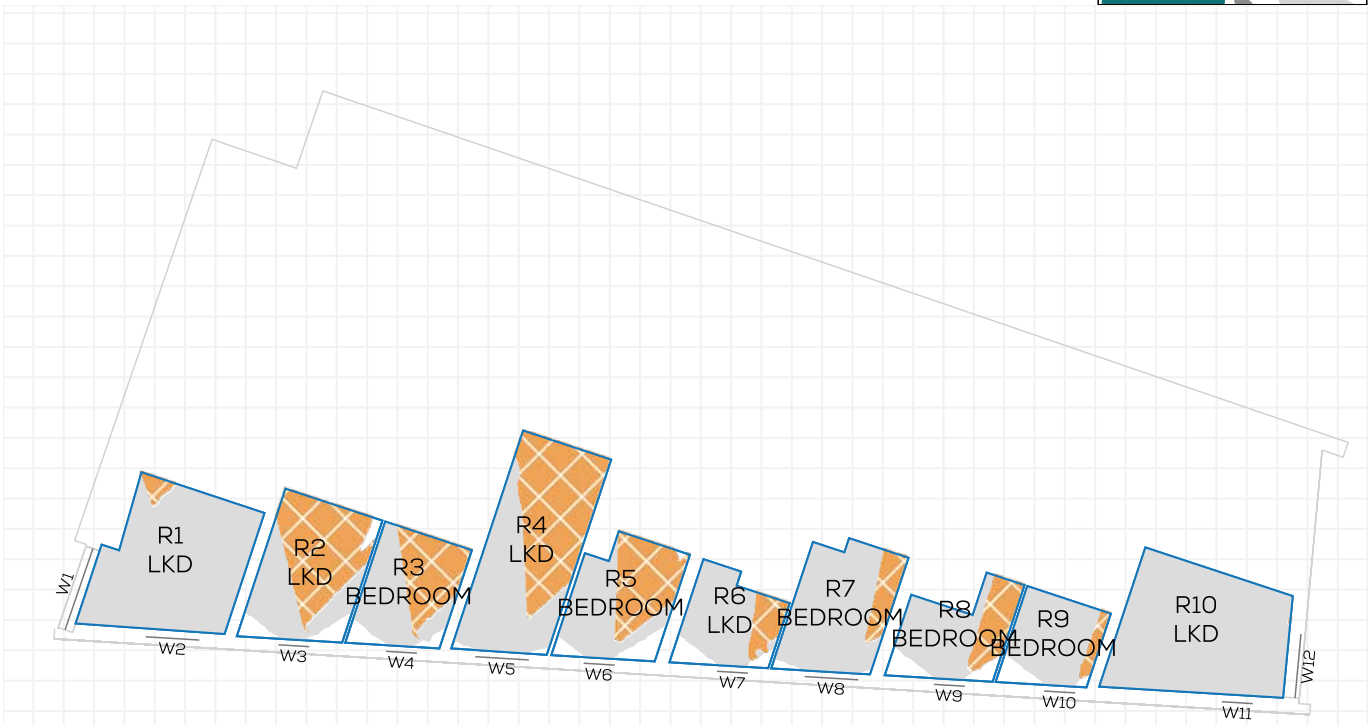
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F11	R1	RESIDENTIAL	LKD	21.4	100	95	1.1	5
F11	R2	RESIDENTIAL	LKD	15.7	88.5	32.6	8.8	63.1
F11	R3	RESIDENTIAL	BEDROOM	11.5	91.1	41	5.7	55
F11	R4	RESIDENTIAL	LKD	21.9	97.4	38.1	13.0	60.9
F11	R5	RESIDENTIAL	BEDROOM	12.8	86.1	37.9	6.2	56
F11	R6	RESIDENTIAL	LKD	9.1	88.7	63.9	2.3	28
F11	R7	RESIDENTIAL	BEDROOM	13.5	98.4	74.3	3.3	24.5
F11	R8	RESIDENTIAL	BEDROOM	10.0	85.6	48.1	3.7	43.8
F11	R9	RESIDENTIAL	BEDROOM	8.5	90.9	71.6	1.6	21.2
F11	R10	RESIDENTIAL	LKD	22.6	100	99	0.2	1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL76
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





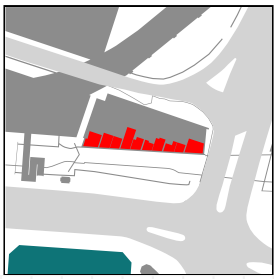
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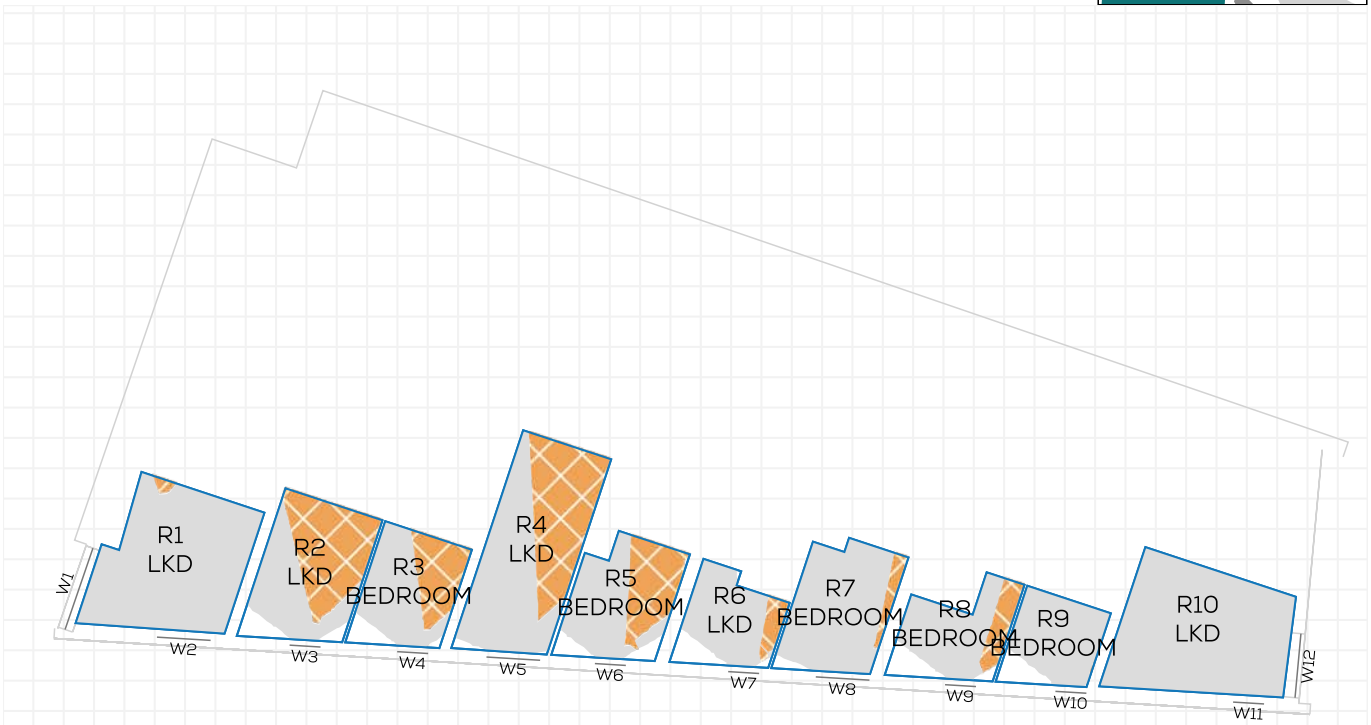
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F12	R1	RESIDENTIAL	LKD	21.4	100	96.9	0.7	3.1
F12	R2	RESIDENTIAL	LKD	15.7	90.3	34.6	8.8	61.6
F12	R3	RESIDENTIAL	BEDROOM	11.5	92.7	48.6	5.0	47.5
F12	R4	RESIDENTIAL	LKD	21.9	99.1	45.3	11.8	54.3
F12	R5	RESIDENTIAL	BEDROOM	12.8	89.7	45.6	5.7	49.2
F12	R6	RESIDENTIAL	LKD	9.1	88.7	68.5	1.8	22.8
F12	R7	RESIDENTIAL	BEDROOM	13.5	98.4	82.9	2.1	15.7
F12	R8	RESIDENTIAL	BEDROOM	10.0	87.6	57.3	3.0	34.6
F12	R9	RESIDENTIAL	BEDROOM	8.5	89.6	79.6	0.9	11.2
F12	R10	RESIDENTIAL	LKD	22.6	100	99.9	0.0	0.1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL77
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





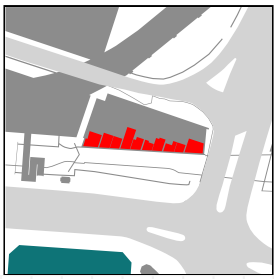
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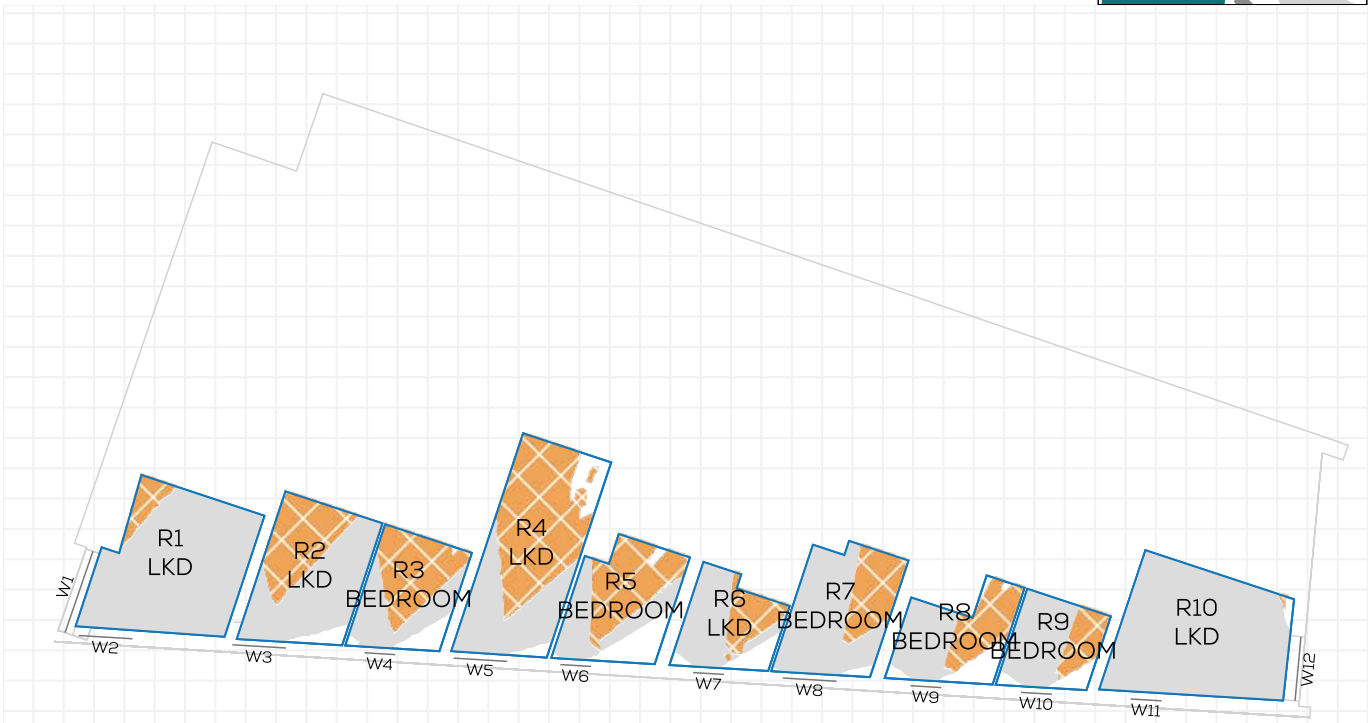
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F13	R1	RESIDENTIAL	LKD	21.4	100	98.7	0.3	1.3
F13	R2	RESIDENTIAL	LKD	15.7	92.3	39.6	8.3	57.1
F13	R3	RESIDENTIAL	BEDROOM	11.5	91.5	56.8	4.0	37.9
F13	R4	RESIDENTIAL	LKD	21.9	98.9	54.2	9.8	45.2
F13	R5	RESIDENTIAL	BEDROOM	12.8	91.1	53.4	4.8	41.4
F13	R6	RESIDENTIAL	LKD	9.1	86.4	74	1.1	14.4
F13	R7	RESIDENTIAL	BEDROOM	13.5	97.6	90	1.0	7.7
F13	R8	RESIDENTIAL	BEDROOM	10.0	86	66.3	2.0	22.9
F13	R9	RESIDENTIAL	BEDROOM	8.5	86.5	86.1	0.0	0.5
F13	R10	RESIDENTIAL	LKD	22.8	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL78
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





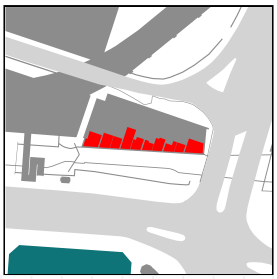
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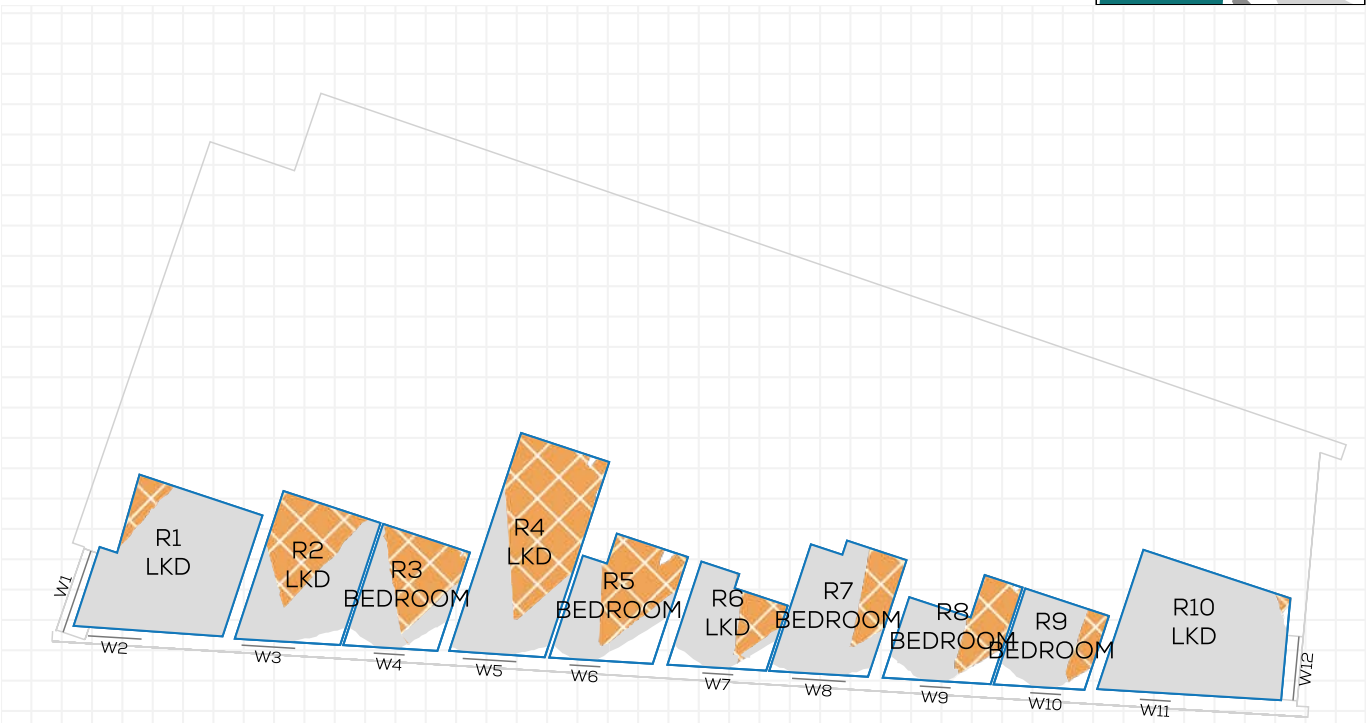
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F14	R1	RESIDENTIAL	LKD	21.4	100	92.8	1.5	7.2
F14	R2	RESIDENTIAL	LKD	15.7	95.7	58.1	5.9	39.3
F14	R3	RESIDENTIAL	BEDROOM	11.5	89.6	37	6.0	58.7
F14	R4	RESIDENTIAL	LKD	21.9	91.3	33.8	12.6	62.9
F14	R5	RESIDENTIAL	BEDROOM	12.8	81.6	32.6	6.3	60
F14	R6	RESIDENTIAL	LKD	9.1	86.2	55.1	2.8	36
F14	R7	RESIDENTIAL	BEDROOM	13.5	97.9	67.6	4.1	31
F14	R8	RESIDENTIAL	BEDROOM	10.0	81.5	42.2	3.9	48.2
F14	R9	RESIDENTIAL	BEDROOM	8.5	89.4	62.1	2.3	30.6
F14	R10	RESIDENTIAL	LKD	22.6	98.9	98.6	0.1	0.3

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL79
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





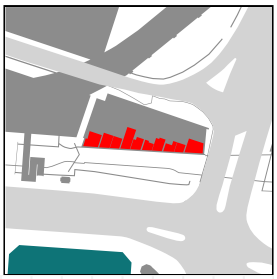
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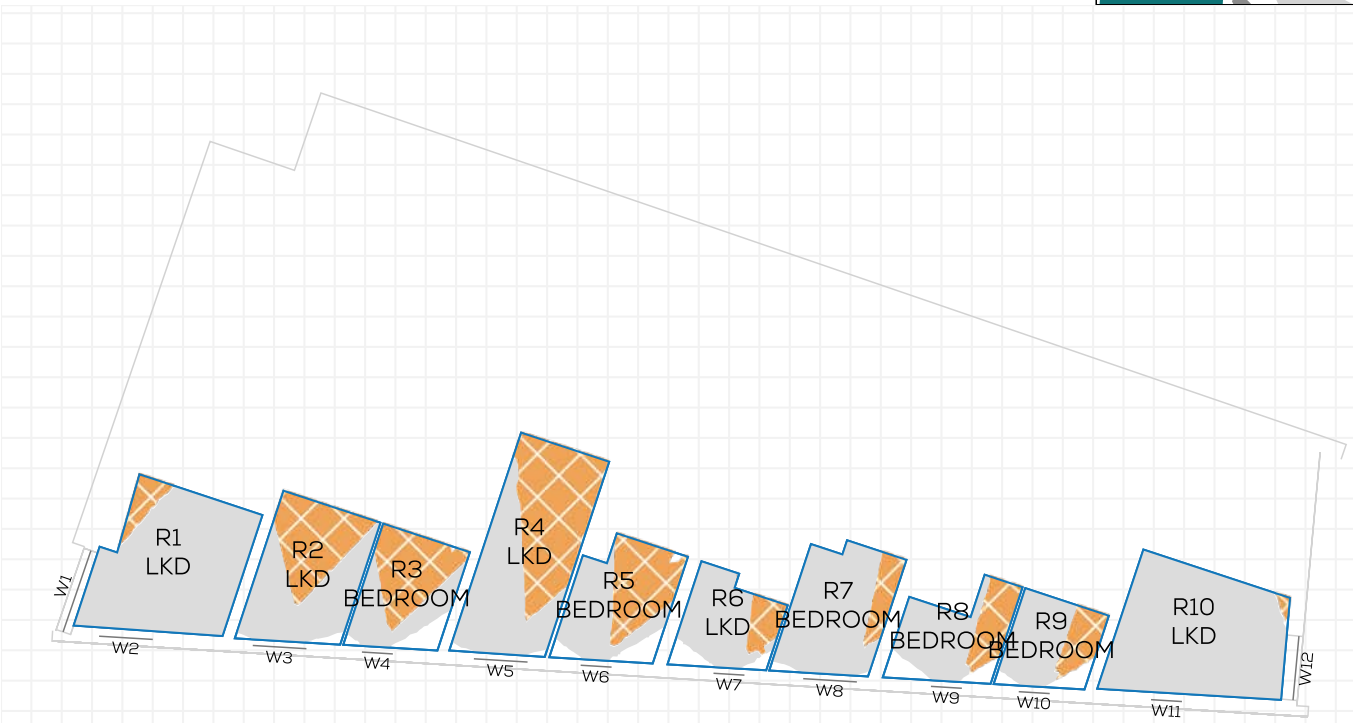
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F15	R1	RESIDENTIAL	LKD	21.4	100	92.8	1.5	7.2
F15	R2	RESIDENTIAL	LKD	15.7	97.1	55.7	6.5	42.7
F15	R3	RESIDENTIAL	BEDROOM	11.5	91.6	42.6	5.6	53.5
F15	R4	RESIDENTIAL	LKD	21.9	98.4	38.4	13.1	61
F15	R5	RESIDENTIAL	BEDROOM	12.8	86.5	37.7	6.2	56.4
F15	R6	RESIDENTIAL	LKD	9.1	88.5	63.4	2.3	28.3
F15	R7	RESIDENTIAL	BEDROOM	13.5	98.4	74.7	3.2	24.1
F15	R8	RESIDENTIAL	BEDROOM	10.0	85.9	48.1	3.8	44.1
F15	R9	RESIDENTIAL	BEDROOM	8.5	90.7	71.2	1.7	21.5
F15	R10	RESIDENTIAL	LKD	22.5	99.5	98.7	0.2	0.8

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL80
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





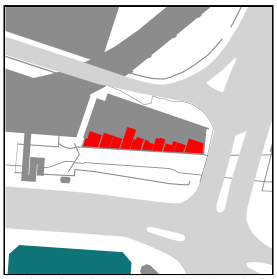
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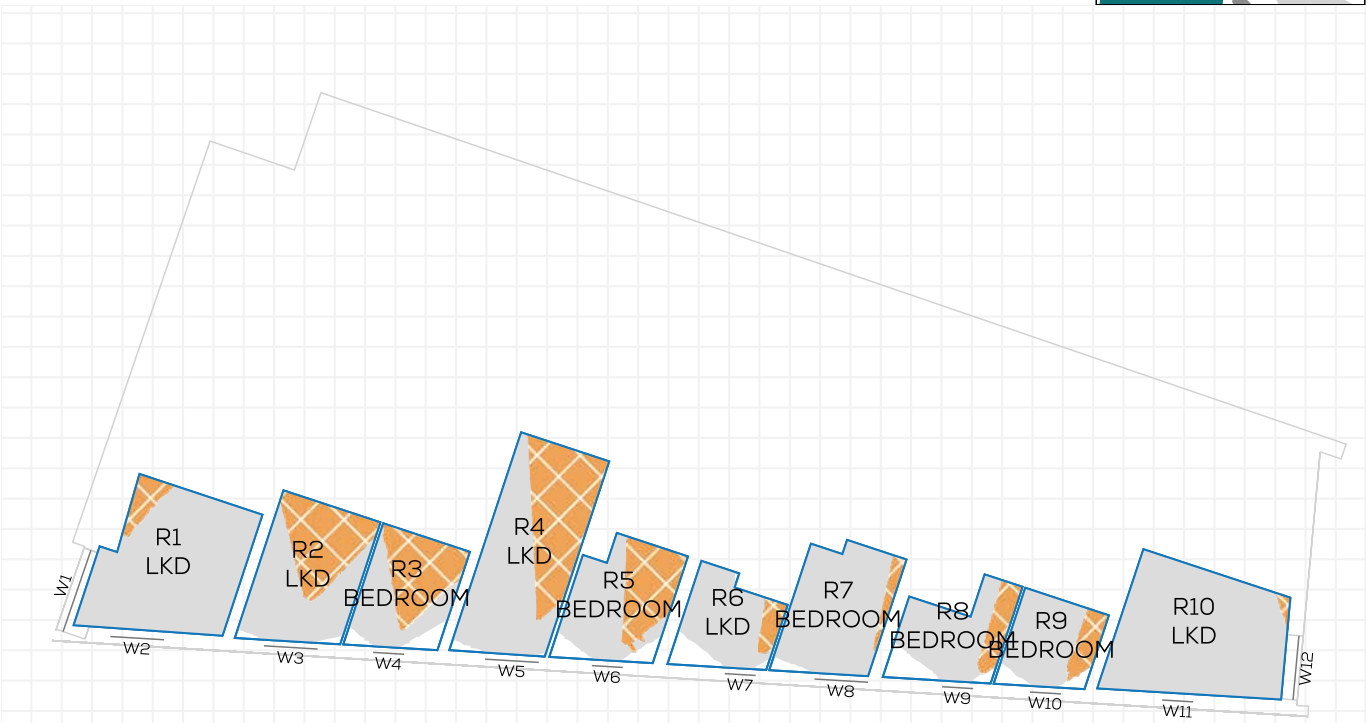
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F16	R1	RESIDENTIAL	LKD	21.4	100	92.8	1.5	7.2
F16	R2	RESIDENTIAL	LKD	15.7	97.9	55	6.8	43.8
F16	R3	RESIDENTIAL	BEDROOM	11.5	89.5	36.8	6.0	58.8
F16	R4	RESIDENTIAL	LKD	21.9	99.1	45.9	11.7	53.7
F16	R5	RESIDENTIAL	BEDROOM	12.8	89.3	44.3	5.8	50.4
F16	R6	RESIDENTIAL	LKD	9.1	88.7	69	1.8	22.1
F16	R7	RESIDENTIAL	BEDROOM	13.5	98.3	83.3	2.0	15.2
F16	R8	RESIDENTIAL	BEDROOM	10.0	87.2	56.3	3.1	35.4
F16	R9	RESIDENTIAL	BEDROOM	8.5	89.4	62.1	2.3	30.5
F16	R10	RESIDENTIAL	LKD	22.5	99.8	98.7	0.3	1.2

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL81
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





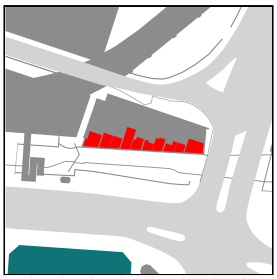
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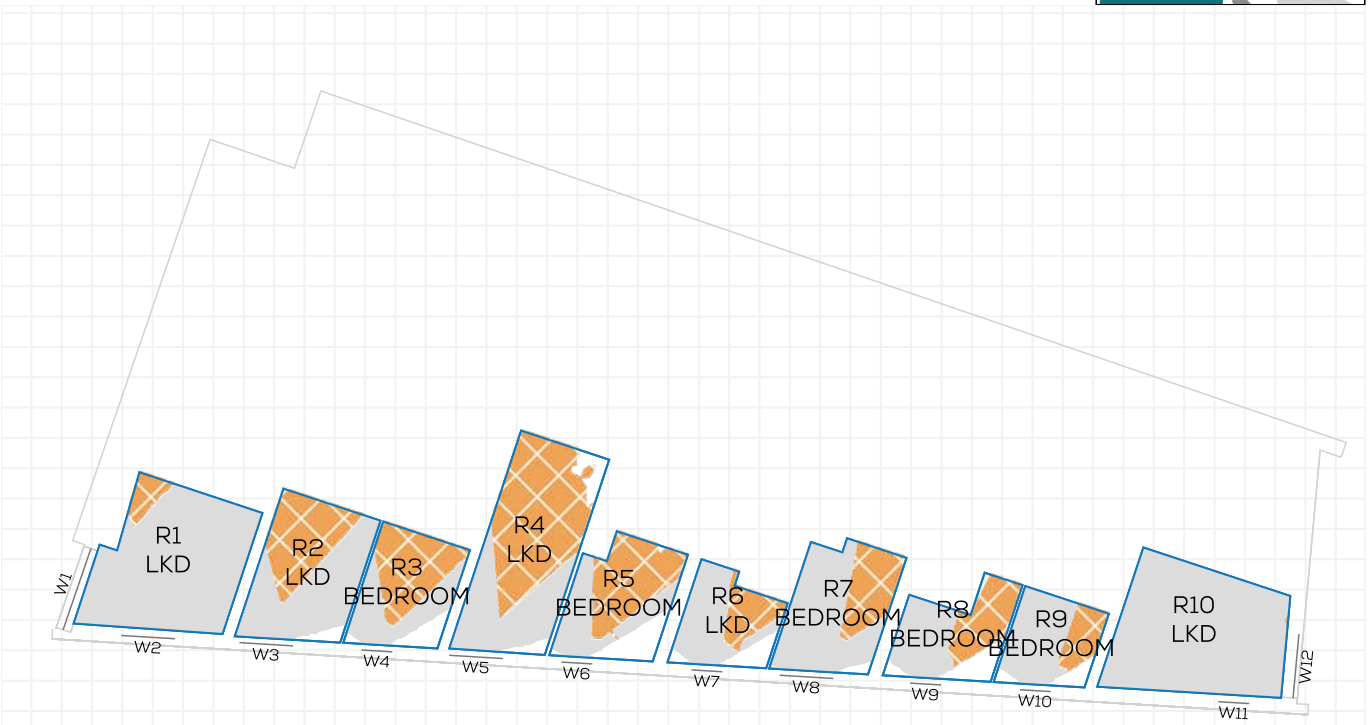
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F17	R1	RESIDENTIAL	LKD	21.4	100	93.1	1.5	6.9
F17	R2	RESIDENTIAL	LKD	15.7	98.2	56.5	6.6	42.5
F17	R3	RESIDENTIAL	BEDROOM	11.5	91.7	42.1	5.7	54.1
F17	R4	RESIDENTIAL	LKD	21.9	98.9	54.7	9.7	44.7
F17	R5	RESIDENTIAL	BEDROOM	12.8	91.2	51.5	5.1	43.5
F17	R6	RESIDENTIAL	LKD	9.1	86.9	74.5	1.1	14.2
F17	R7	RESIDENTIAL	BEDROOM	13.5	97.5	90.4	1.0	7.2
F17	R8	RESIDENTIAL	BEDROOM	10.0	86.5	66.1	2.0	23.5
F17	R9	RESIDENTIAL	BEDROOM	8.5	90.8	71.2	1.7	21.5
F17	R10	RESIDENTIAL	LKD	22.5	100	98.7	0.3	1.3

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL82
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





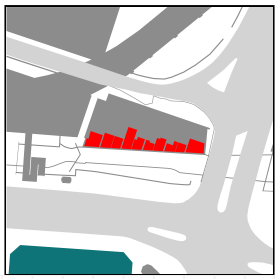
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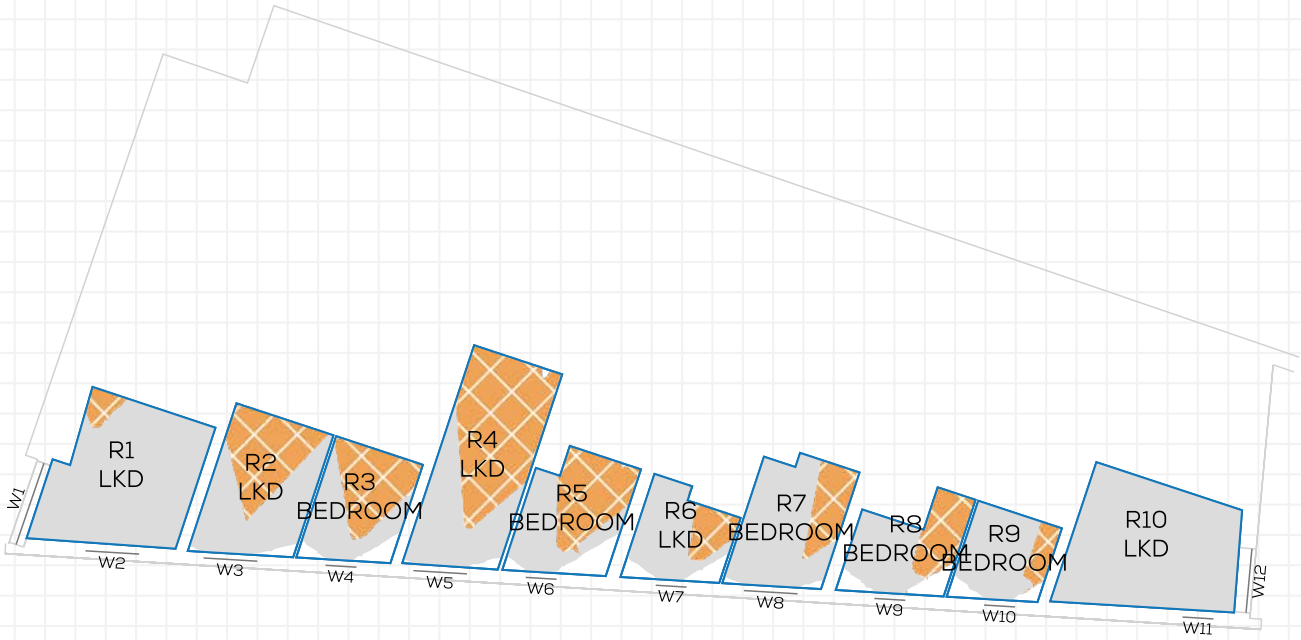
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F18	R1	RESIDENTIAL	LKD	21.4	100	93.8	1.3	6.2
F18	R2	RESIDENTIAL	LKD	15.7	96.9	56.5	6.4	41.7
F18	R3	RESIDENTIAL	BEDROOM	11.5	89.6	37.1	6.0	58.6
F18	R4	RESIDENTIAL	LKD	21.9	93.3	32.9	13.2	64.7
F18	R5	RESIDENTIAL	BEDROOM	12.8	84.2	15.7	8.8	81.3
F18	R6	RESIDENTIAL	LKD	9.1	86.2	56.6	2.7	34.4
F18	R7	RESIDENTIAL	BEDROOM	13.5	97.9	67.1	4.2	31.5
F18	R8	RESIDENTIAL	BEDROOM	10.0	82.9	44.3	3.8	46.5
F18	R9	RESIDENTIAL	BEDROOM	8.5	89.7	64.1	2.2	28.5
F18	R10	RESIDENTIAL	LKD	22.5	100	99.8	0.0	0.2

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL83
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





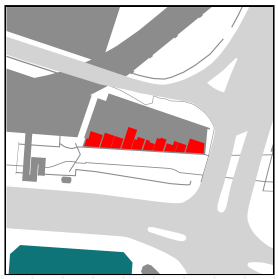
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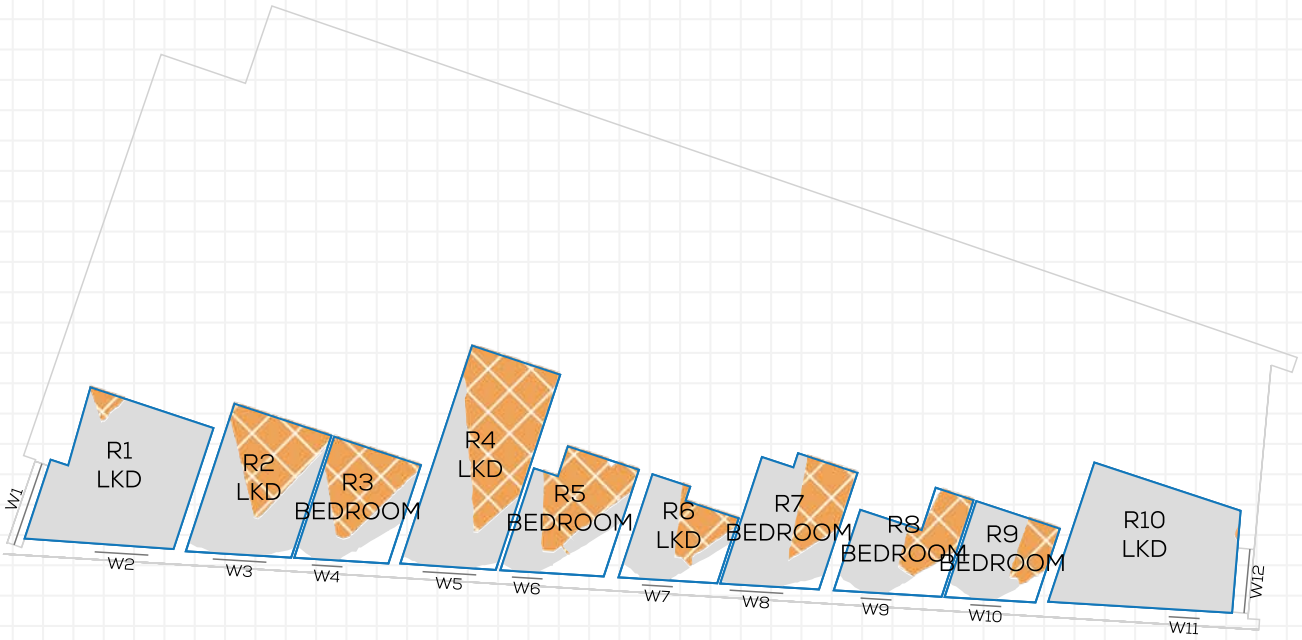
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F19	R1	RESIDENTIAL	LKD	21.4	100	95	1.1	5
F19	R2	RESIDENTIAL	LKD	15.7	97.7	54.9	6.7	43.8
F19	R3	RESIDENTIAL	BEDROOM	11.5	91.8	41.9	5.7	54.3
F19	R4	RESIDENTIAL	LKD	21.9	98.5	37.5	13.4	62
F19	R5	RESIDENTIAL	BEDROOM	12.8	88.3	40	6.2	54.6
F19	R6	RESIDENTIAL	LKD	9.1	88.6	65	2.1	26.6
F19	R7	RESIDENTIAL	BEDROOM	13.5	98.5	74.2	3.3	24.7
F19	R8	RESIDENTIAL	BEDROOM	10.0	87.1	50.4	3.7	42.1
F19	R9	RESIDENTIAL	BEDROOM	8.5	90.9	73.8	1.5	18.7
F19	R10	RESIDENTIAL	LKD	22.5	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL84
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





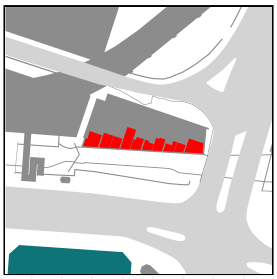
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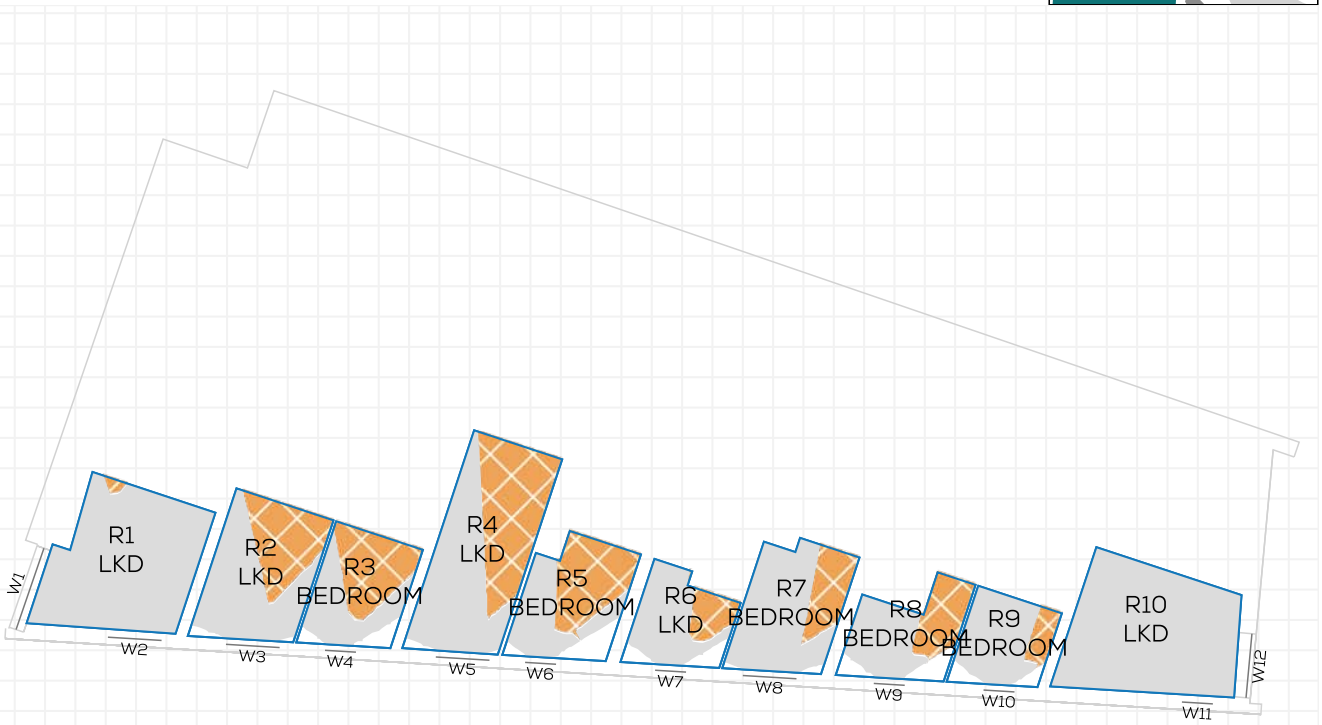
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F20	R1	RESIDENTIAL	LKD	21.4	100	96.9	0.7	3.1
F20	R2	RESIDENTIAL	LKD	15.7	98.3	55.8	6.7	43.2
F20	R3	RESIDENTIAL	BEDROOM	11.5	89.1	36.6	6.0	58.9
F20	R4	RESIDENTIAL	LKD	21.9	99.1	43.8	12.1	55.8
F20	R5	RESIDENTIAL	BEDROOM	12.8	84.1	14.8	8.9	82.4
F20	R6	RESIDENTIAL	LKD	9.1	86.1	56.5	2.7	34.4
F20	R7	RESIDENTIAL	BEDROOM	13.5	97.7	65.9	4.3	32.5
F20	R8	RESIDENTIAL	BEDROOM	10.0	82.4	44.7	3.8	45.8
F20	R9	RESIDENTIAL	BEDROOM	8.5	89.4	64.3	2.1	28.1
F20	R10	RESIDENTIAL	LKD	22.5	100	99.8	0.1	0.2

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL85
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





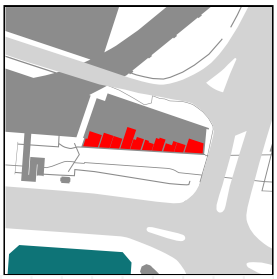
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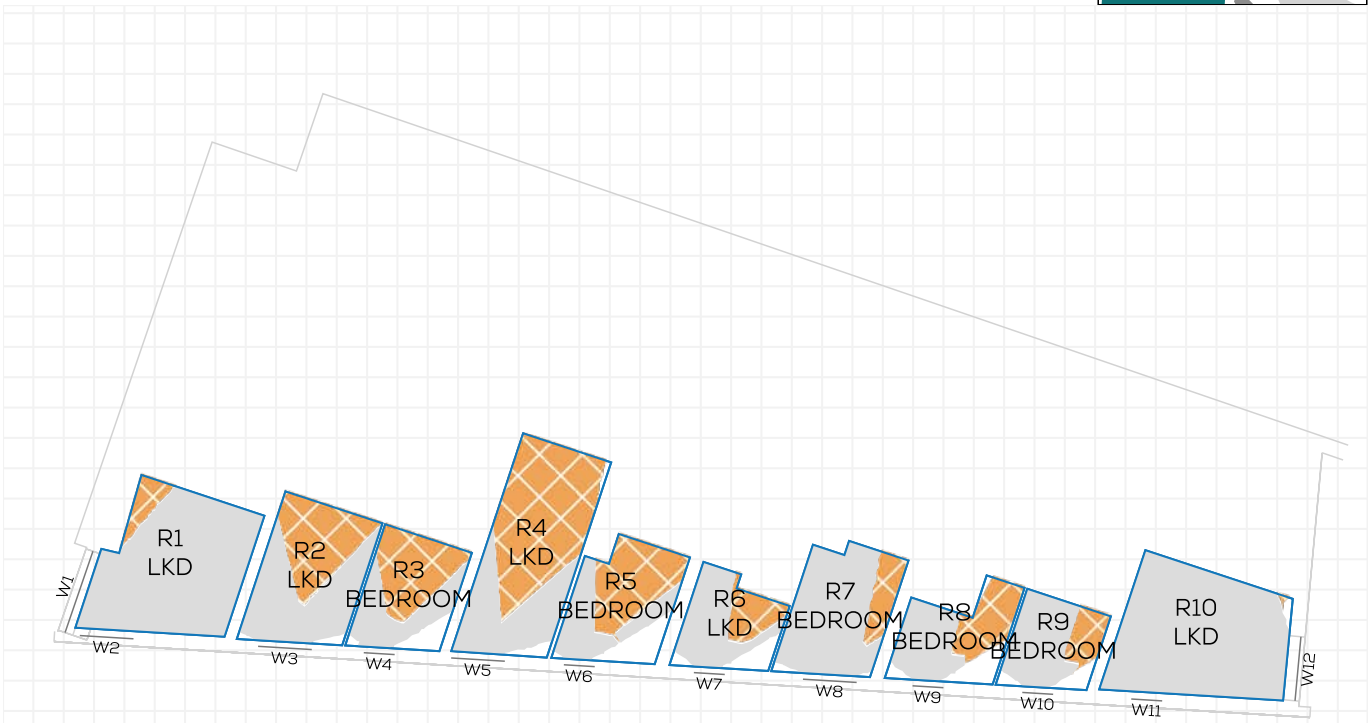
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F21	R1	RESIDENTIAL	LKD	21.4	100	98.7	0.3	1.3
F21	R2	RESIDENTIAL	LKD	15.7	98.1	60.3	6.0	38.6
F21	R3	RESIDENTIAL	BEDROOM	11.5	91.7	42.2	5.7	53.9
F21	R4	RESIDENTIAL	LKD	21.9	98.9	52.9	10.1	46.5
F21	R5	RESIDENTIAL	BEDROOM	12.8	88.3	39.9	6.2	54.8
F21	R6	RESIDENTIAL	LKD	9.1	88.5	65.8	2.1	25.6
F21	R7	RESIDENTIAL	BEDROOM	13.5	98.3	73.5	3.4	25.3
F21	R8	RESIDENTIAL	BEDROOM	10.0	86.6	50.9	3.6	41.2
F21	R9	RESIDENTIAL	BEDROOM	8.5	90.6	74.3	1.4	18
F21	R10	RESIDENTIAL	LKD	22.4	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL86
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





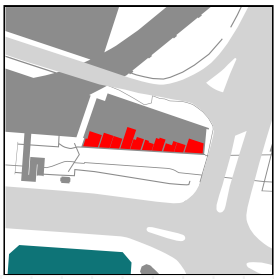
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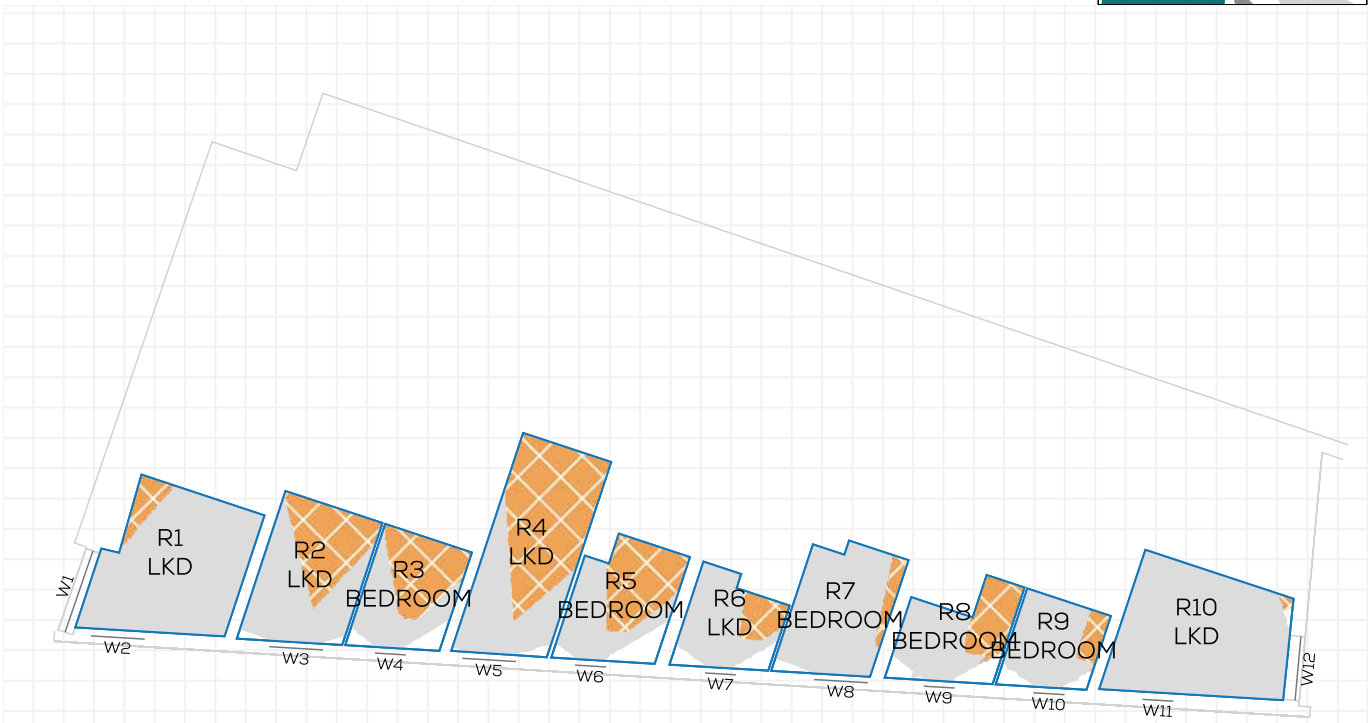
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F22	R1	RESIDENTIAL	LKD	21.5	100	93	1.5	7
F22	R2	RESIDENTIAL	LKD	15.7	98.1	55.5	6.7	43.4
F22	R3	RESIDENTIAL	BEDROOM	11.5	89.8	38.4	5.9	57.3
F22	R4	RESIDENTIAL	LKD	21.9	97.4	32.9	14.1	66.2
F22	R5	RESIDENTIAL	BEDROOM	12.8	84.8	34.9	6.4	58.9
F22	R6	RESIDENTIAL	LKD	9.1	86.4	59.1	2.5	31.5
F22	R7	RESIDENTIAL	BEDROOM	13.5	98.4	81.5	2.3	17.2
F22	R8	RESIDENTIAL	BEDROOM	10.0	83.1	46.2	3.7	44.4
F22	R9	RESIDENTIAL	BEDROOM	8.5	89.9	66.8	2.0	25.6
F22	R10	RESIDENTIAL	LKD	22.6	99.1	98.7	0.1	0.4

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL87
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





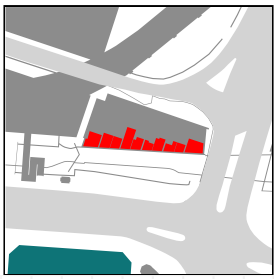
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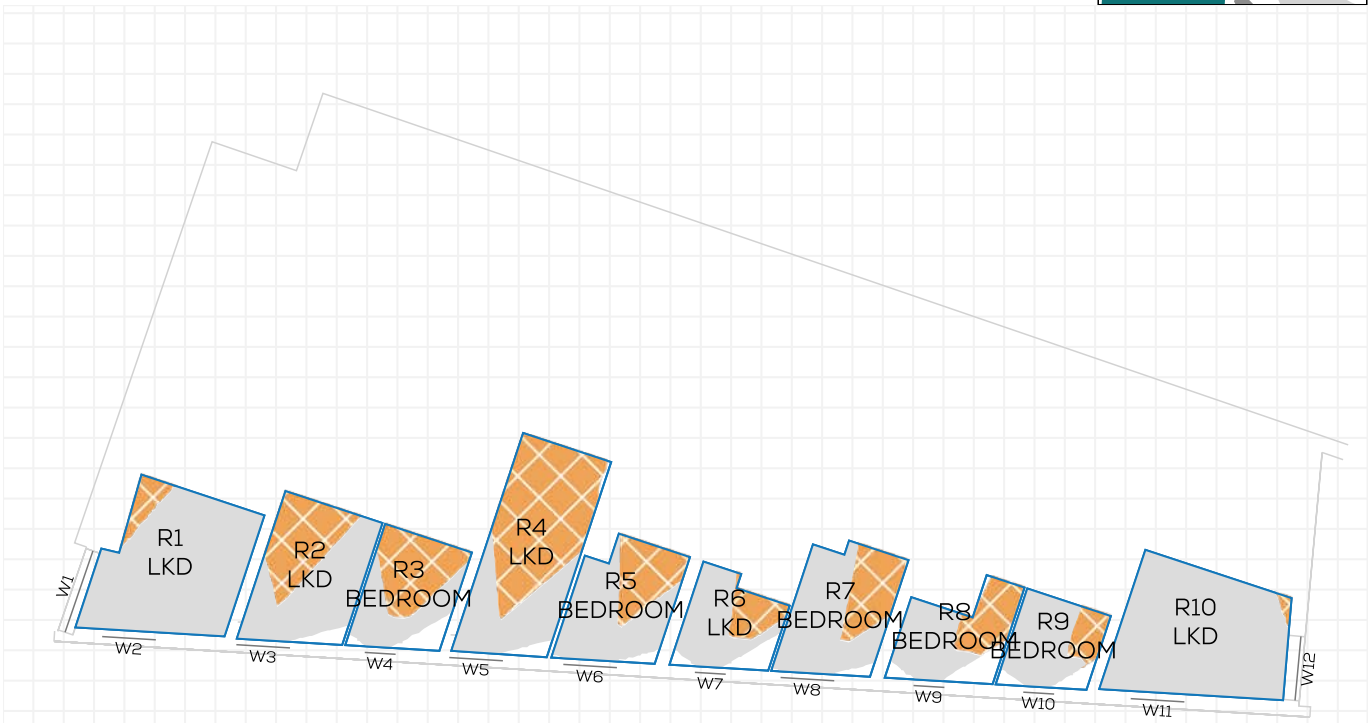
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F23	R1	RESIDENTIAL	LKD	21.5	100	93	1.5	7
F23	R2	RESIDENTIAL	LKD	15.7	98.2	57.6	6.4	41.4
F23	R3	RESIDENTIAL	BEDROOM	11.5	91.8	43.5	5.5	52.6
F23	R4	RESIDENTIAL	LKD	21.9	98.8	37.4	13.4	62.1
F23	R5	RESIDENTIAL	BEDROOM	12.8	88.6	41.5	6.0	53.1
F23	R6	RESIDENTIAL	LKD	9.1	88.8	67.6	1.9	23.8
F23	R7	RESIDENTIAL	BEDROOM	13.5	97.7	89.3	1.1	8.6
F23	R8	RESIDENTIAL	BEDROOM	10.0	87.3	53.2	3.4	39.1
F23	R9	RESIDENTIAL	BEDROOM	8.5	91.1	77.1	1.2	15.4
F23	R10	RESIDENTIAL	LKD	22.6	99.5	98.7	0.2	0.8

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL88
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





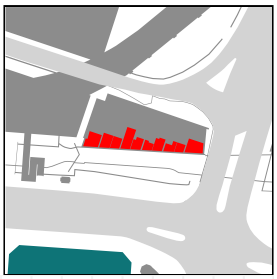
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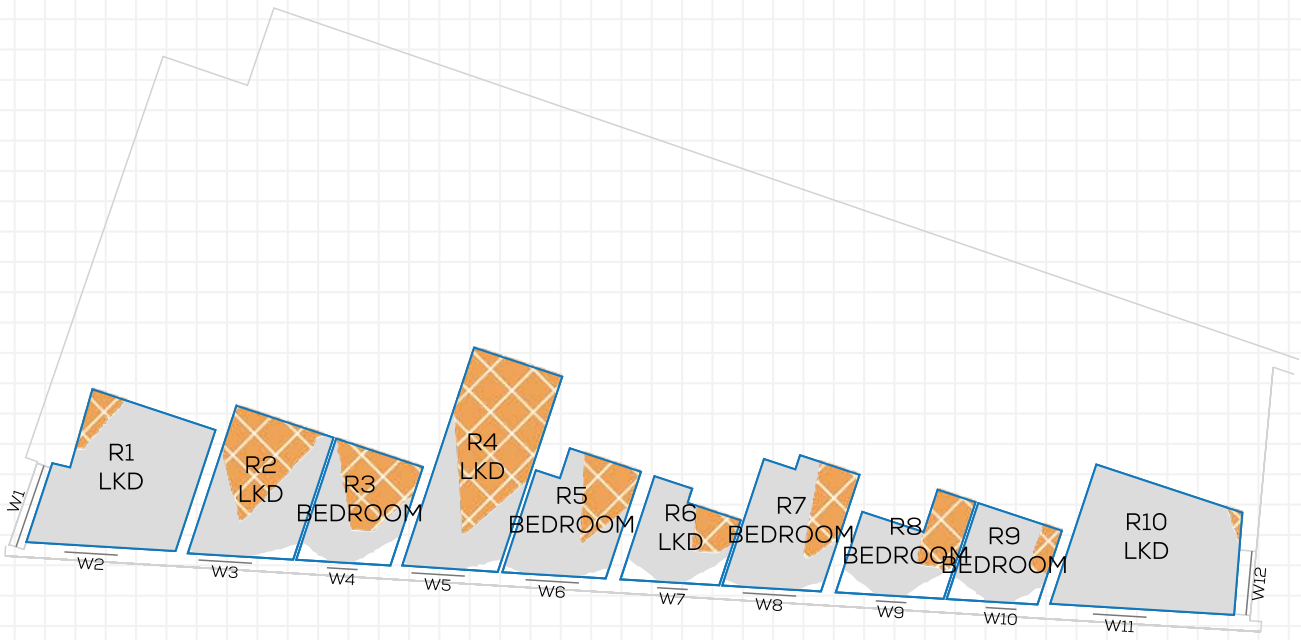
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F24	R1	RESIDENTIAL	LKD	21.5	100	93	1.5	7
F24	R2	RESIDENTIAL	LKD	15.7	96.2	57.7	6.1	40
F24	R3	RESIDENTIAL	BEDROOM	11.5	89.9	38.9	5.8	56.7
F24	R4	RESIDENTIAL	LKD	21.9	97.3	32.4	14.2	66.7
F24	R5	RESIDENTIAL	BEDROOM	12.8	97.4	63.8	4.3	34.5
F24	R6	RESIDENTIAL	LKD	9.1	86.6	61.3	2.3	29.2
F24	R7	RESIDENTIAL	BEDROOM	13.5	97.7	66.3	4.2	32.1
F24	R8	RESIDENTIAL	BEDROOM	10.0	83.4	48.5	3.5	41.9
F24	R9	RESIDENTIAL	BEDROOM	8.5	89.9	69.3	1.8	22.8
F24	R10	RESIDENTIAL	LKD	22.5	100	98.7	0.3	1.3

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL89
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





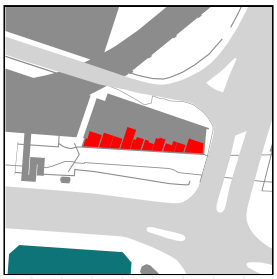
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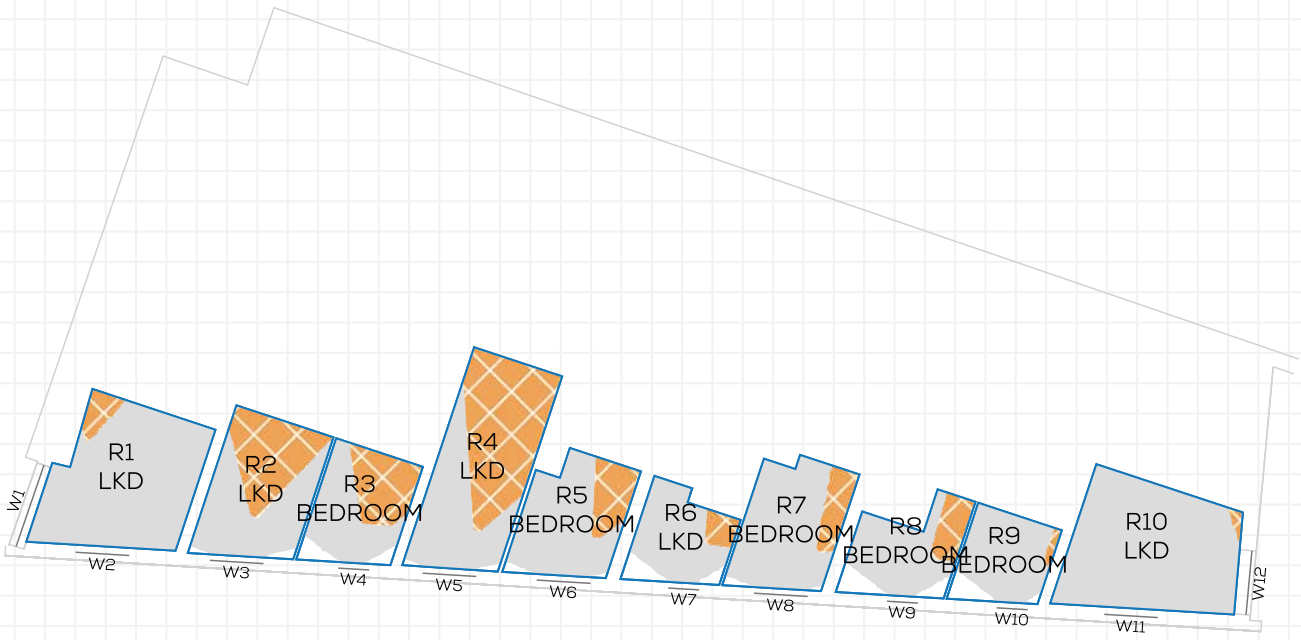
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F25	R1	RESIDENTIAL	LKD	21.5	100	93.3	1.4	6.7
F25	R2	RESIDENTIAL	LKD	15.7	97.4	54.8	6.7	43.7
F25	R3	RESIDENTIAL	BEDROOM	11.5	91.9	44.8	5.4	51.2
F25	R4	RESIDENTIAL	LKD	21.9	98.7	36.6	13.6	62.9
F25	R5	RESIDENTIAL	BEDROOM	12.8	98.1	69.6	3.6	29
F25	R6	RESIDENTIAL	LKD	9.1	88.6	68.4	1.8	22.8
F25	R7	RESIDENTIAL	BEDROOM	13.5	98.3	73.6	3.3	25.1
F25	R8	RESIDENTIAL	BEDROOM	10.0	87.3	54.7	3.2	37.3
F25	R9	RESIDENTIAL	BEDROOM	8.5	90.7	78.4	1.1	13.6
F25	R10	RESIDENTIAL	LKD	22.5	100	98.6	0.3	1.4

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL90
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





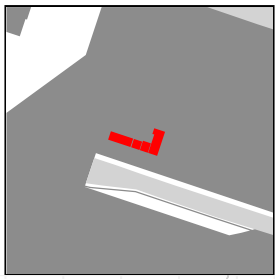
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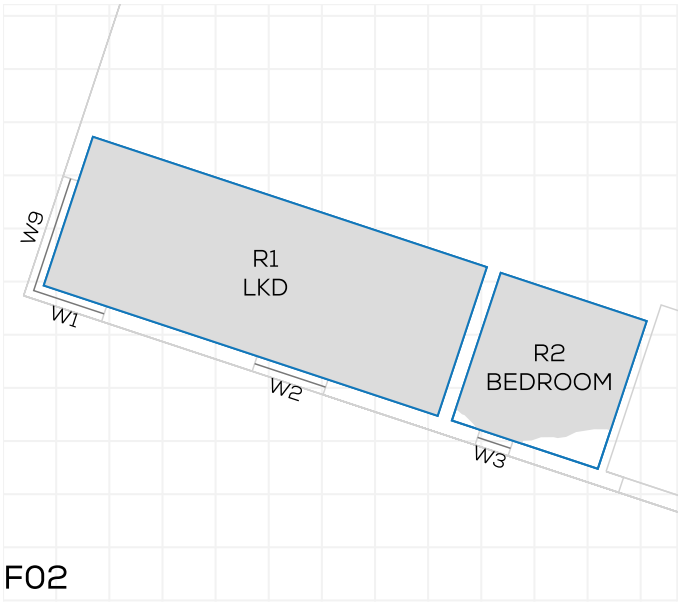
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
AXIS TOWER								
F26	R1	RESIDENTIAL	LKD	21.5	100	94	1.3	6
F26	R2	RESIDENTIAL	LKD	15.7	98.1	55.6	6.7	43.4
F26	R3	RESIDENTIAL	BEDROOM	11.5	92.3	53.4	4.5	42.1
F26	R4	RESIDENTIAL	LKD	21.9	99.1	42	12.5	57.6
F26	R5	RESIDENTIAL	BEDROOM	12.8	98	75.5	2.9	22.9
F26	R6	RESIDENTIAL	LKD	9.1	88.7	76.5	1.1	13.8
F26	R7	RESIDENTIAL	BEDROOM	13.5	98.3	82.2	2.2	16.4
F26	R8	RESIDENTIAL	BEDROOM	10.0	87.3	66.7	2.1	23.6
F26	R9	RESIDENTIAL	BEDROOM	8.5	89.4	85.5	0.3	4.4
F26	R10	RESIDENTIAL	LKD	22.5	100	98.7	0.3	1.3

NSL CONTOURS

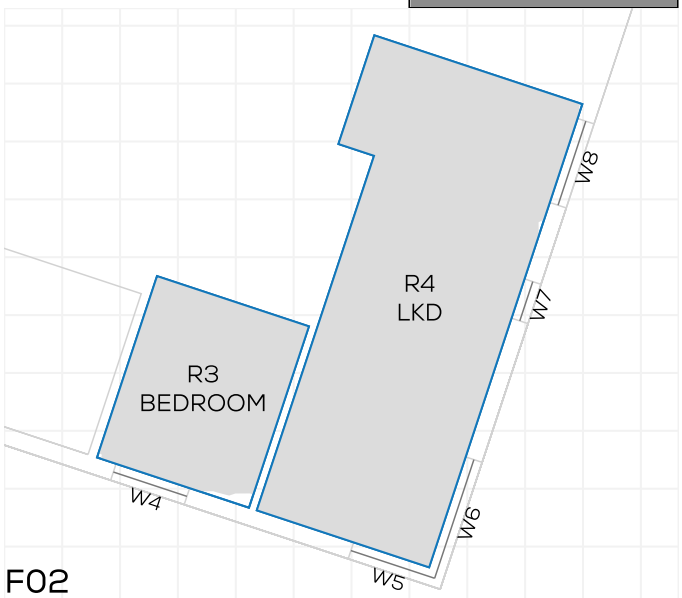
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL91
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





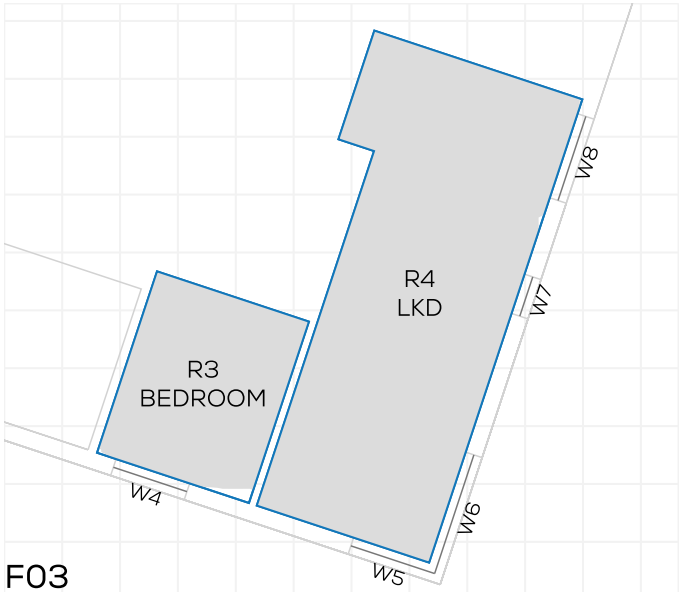
F02



F02



F03



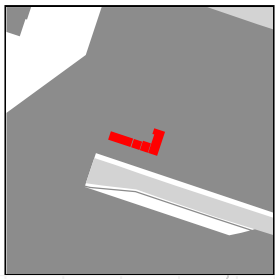
F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F02	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F02	R2	RESIDENTIAL	BEDROOM	8.5	91.6	91.6	0.0	0
F02	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F02	R4	RESIDENTIAL	LKD	27.7	99.9	99.9	0.0	0
F03	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F03	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F03	R3	RESIDENTIAL	BEDROOM	9.1	98.7	98.7	0.0	0
F03	R4	RESIDENTIAL	LKD	27.7	99.9	99.9	0.0	0

NSL CONTOURS

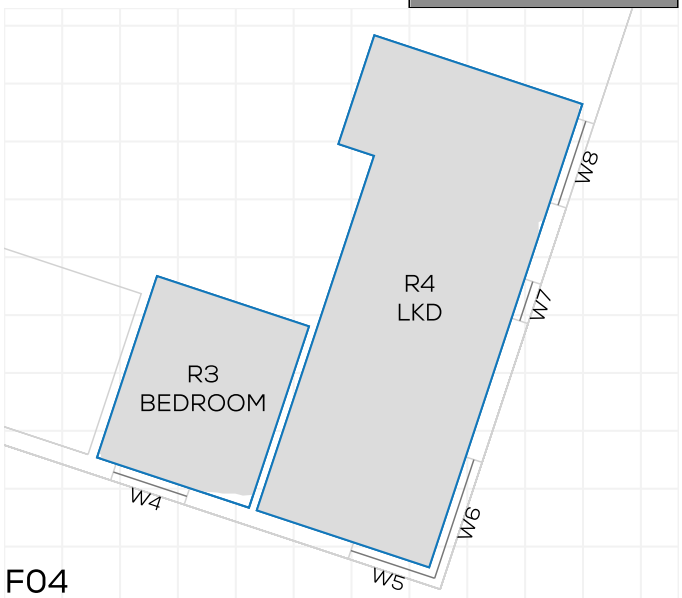
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL92
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

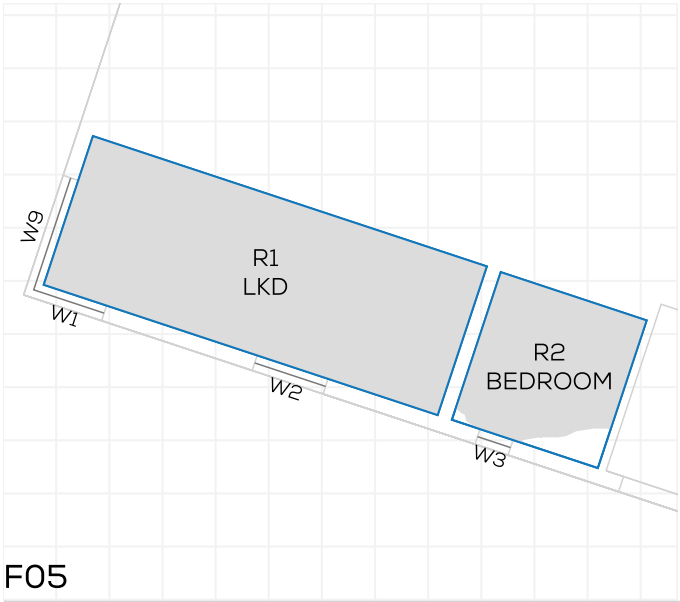




F04



F04



F05



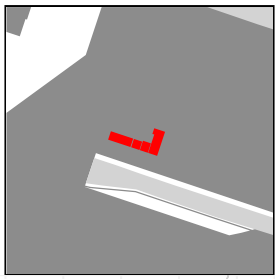
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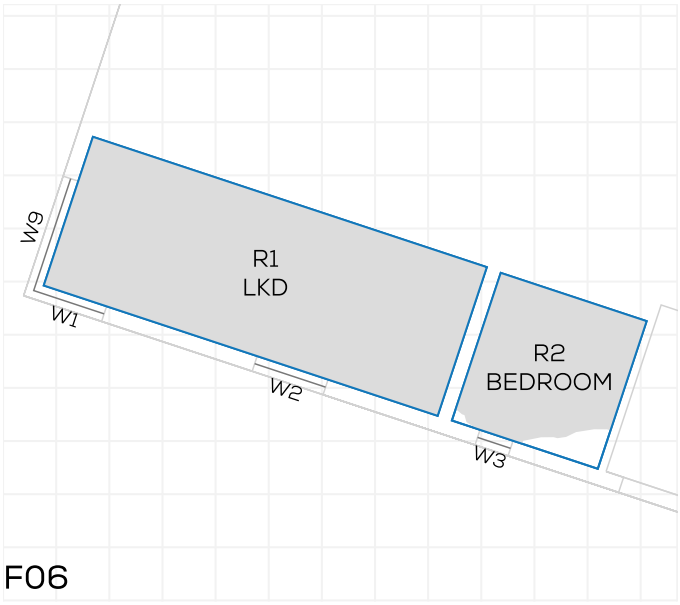
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F04	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F04	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F04	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F04	R4	RESIDENTIAL	LKD	27.7	99.9	99.9	0.0	0
F05	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F05	R2	RESIDENTIAL	BEDROOM	8.5	91.8	91.8	0.0	0
F05	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F05	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0

NSL CONTOURS

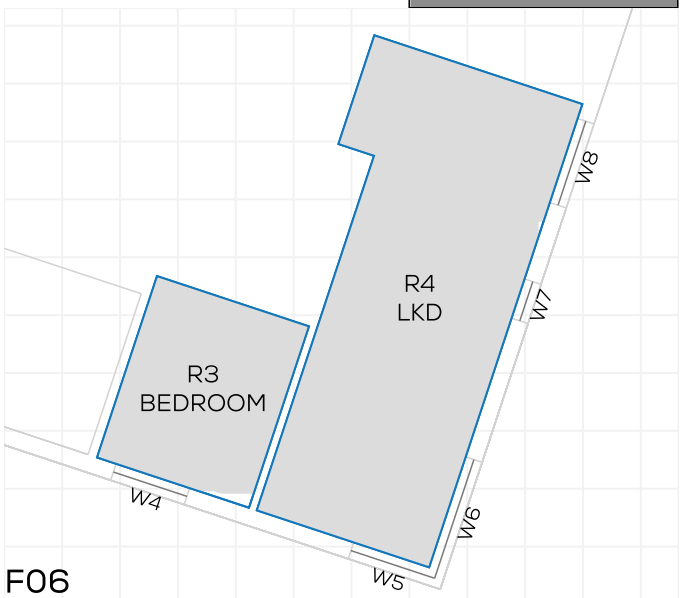
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL93
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





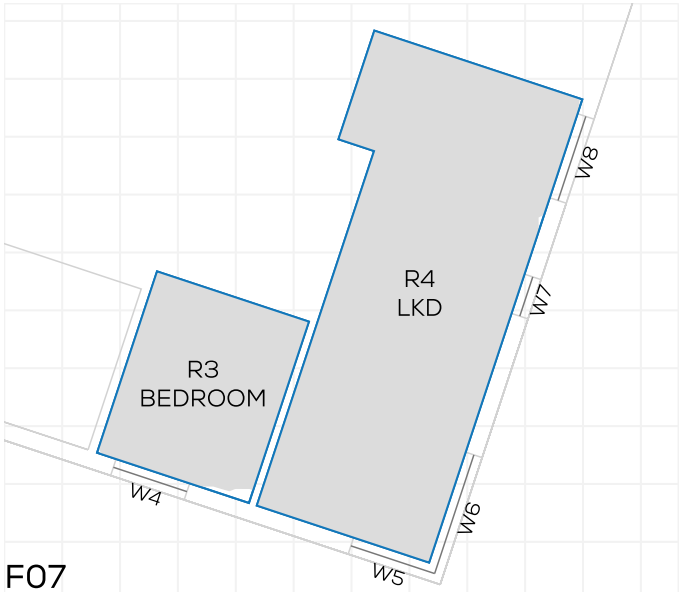
F06



F06



F07



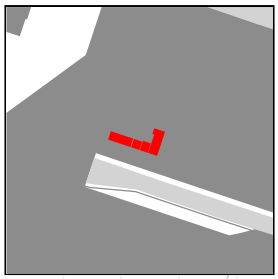
F07

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F06	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F06	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F06	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F06	R4	RESIDENTIAL	LKD	27.7	99.9	99.9	0.0	0
F07	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F07	R2	RESIDENTIAL	BEDROOM	8.5	91.6	91.6	0.0	0
F07	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F07	R4	RESIDENTIAL	LKD	27.7	99.9	99.9	0.0	0

NSL CONTOURS

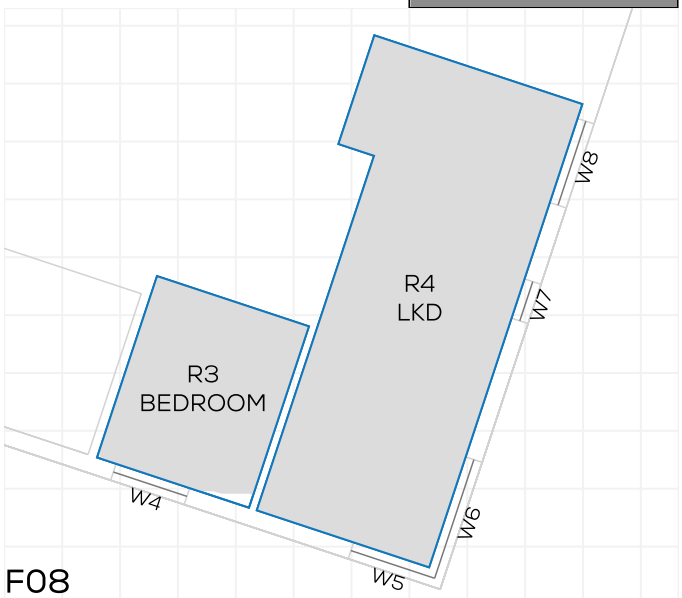
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REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL94
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F08



F08



F09



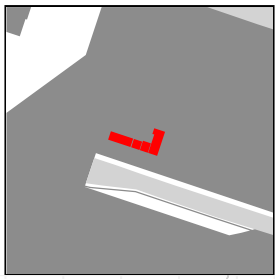
F09

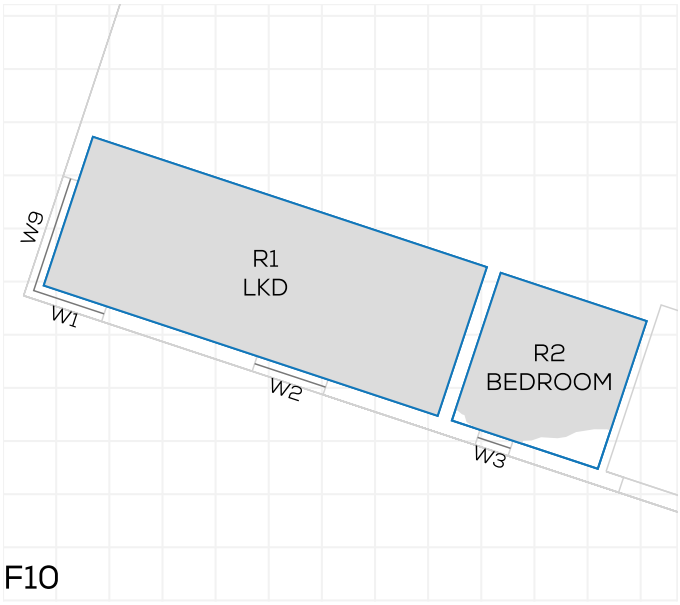
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F08	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F08	R2	RESIDENTIAL	BEDROOM	8.5	91.8	91.8	0.0	0
F08	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F08	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0
F09	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F09	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F09	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F09	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL95
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

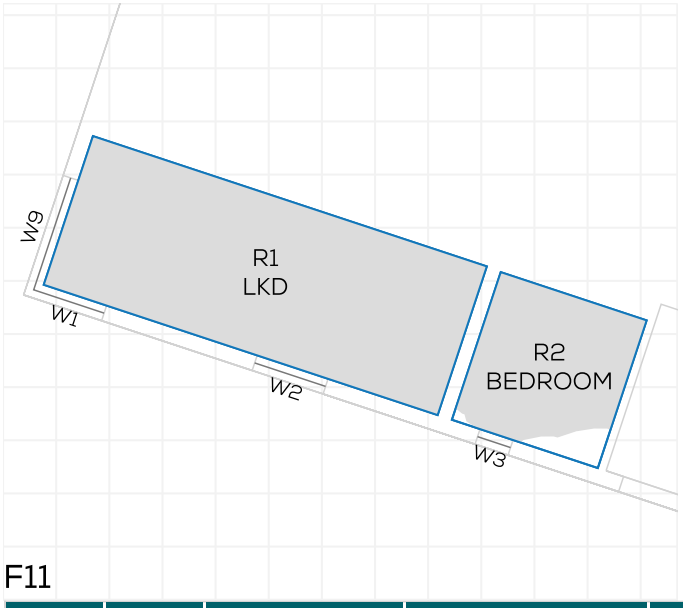




F10



F10



F11



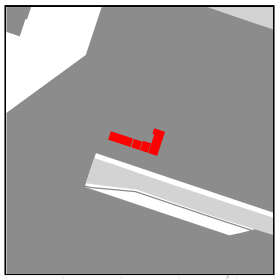
F11

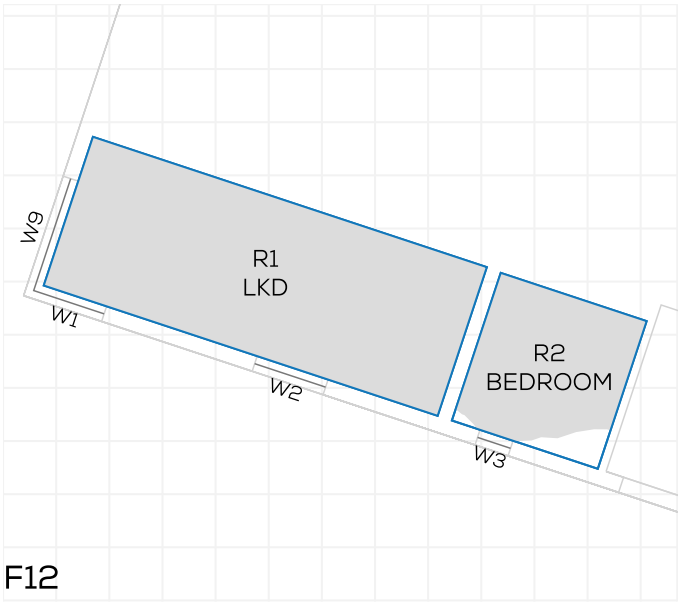
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F10	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F10	R2	RESIDENTIAL	BEDROOM	8.5	91.8	91.8	0.0	0
F10	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F10	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0
F11	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F11	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F11	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F11	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL96
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F12



F12



F13



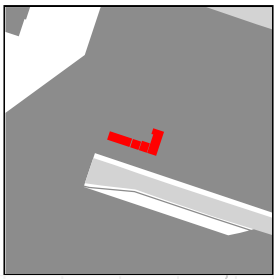
F13

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F12	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F12	R2	RESIDENTIAL	BEDROOM	8.5	91.6	91.6	0.0	0
F12	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F12	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0
F13	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F13	R2	RESIDENTIAL	BEDROOM	8.5	91.6	91.6	0.0	0
F13	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F13	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0

NSL CONTOURS

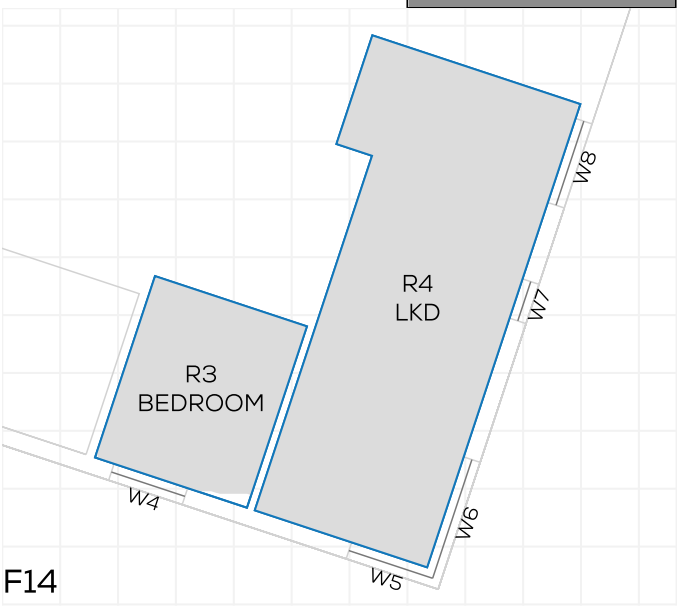
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL97
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F14



F14



F15



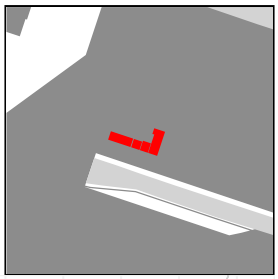
F15

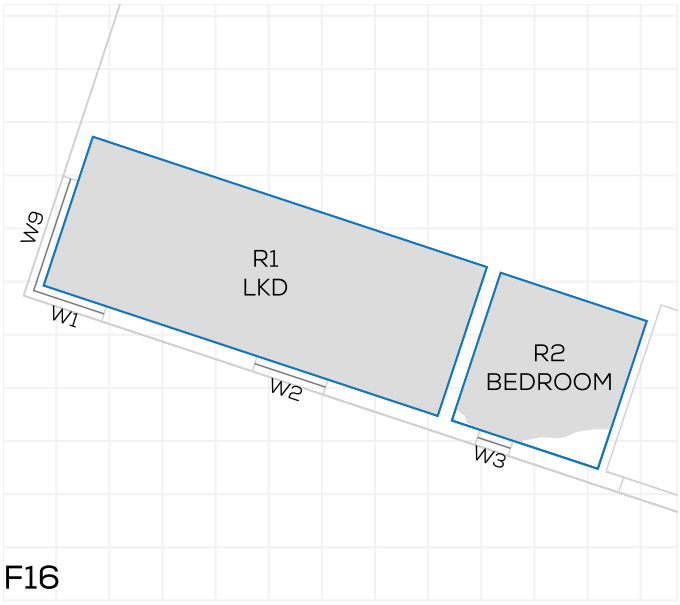
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F14	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F14	R2	RESIDENTIAL	BEDROOM	8.5	91.6	91.6	0.0	0
F14	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F14	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0
F15	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F15	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F15	R3	RESIDENTIAL	BEDROOM	9.1	98.9	98.9	0.0	0
F15	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0

NSL CONTOURS

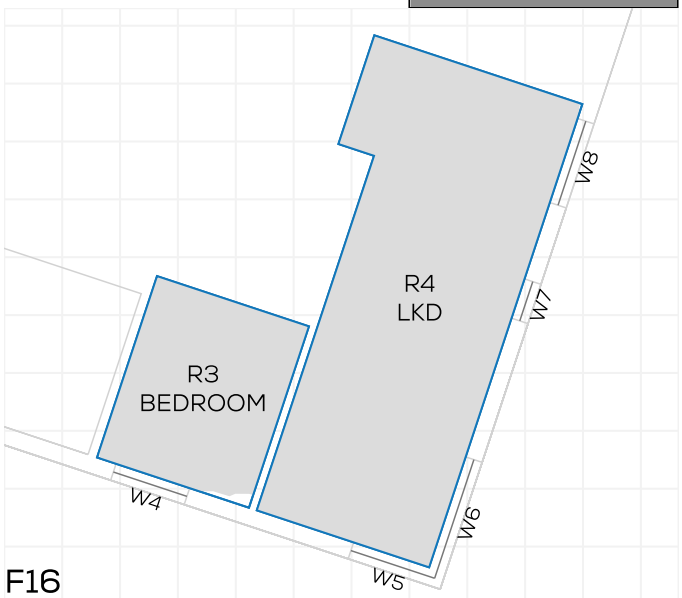
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL98
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

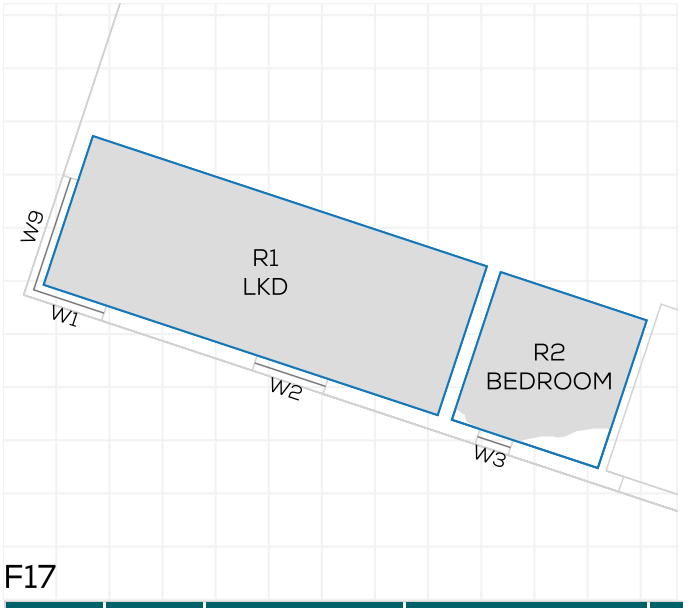




F16



F16



F17



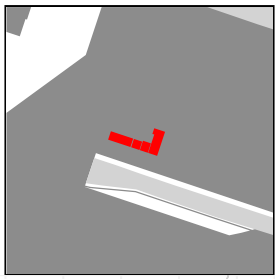
F17

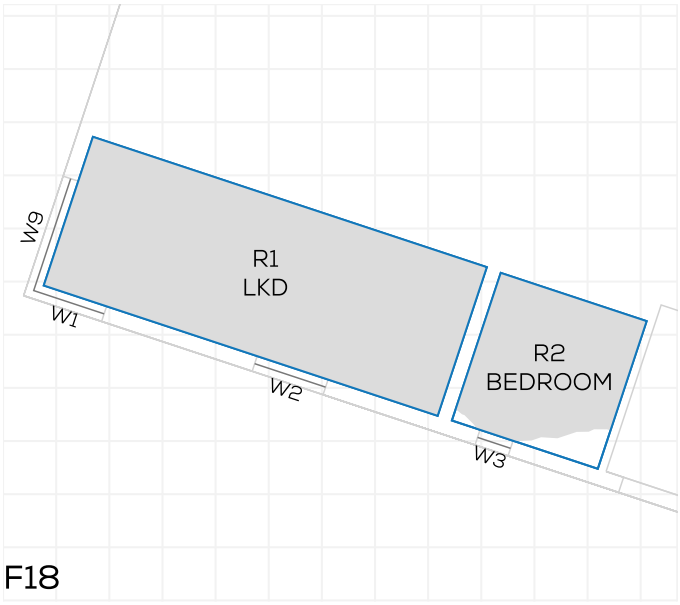
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F16	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F16	R2	RESIDENTIAL	BEDROOM	8.5	91.8	91.8	0.0	0
F16	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F16	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0
F17	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F17	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F17	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F17	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0

NSL CONTOURS

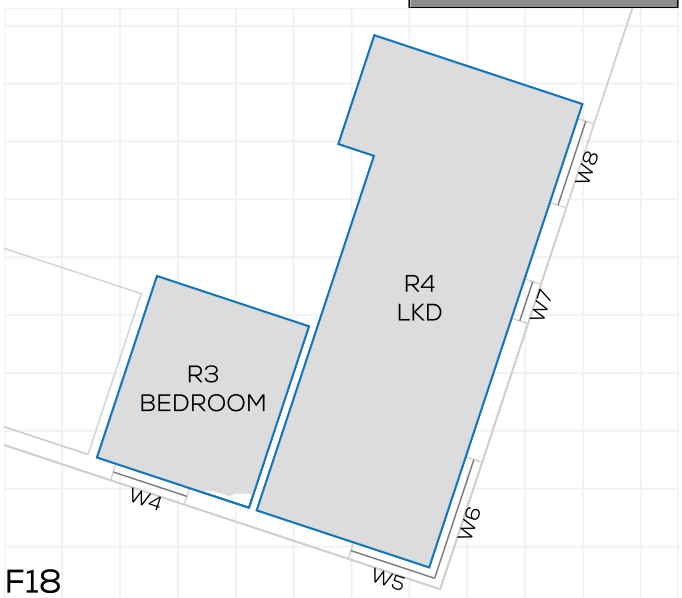
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL99
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F18



F18



F19



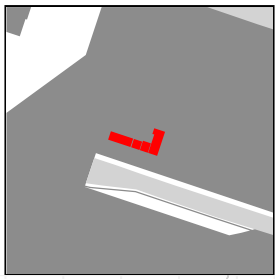
F19

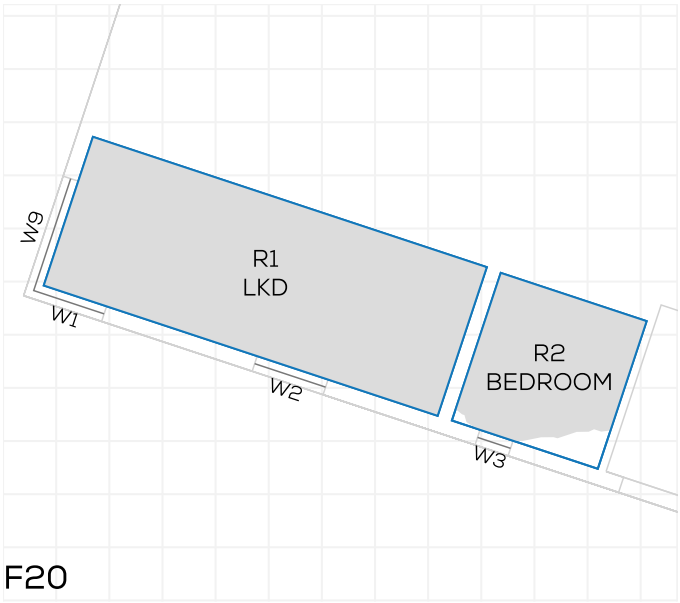
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F18	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F18	R2	RESIDENTIAL	BEDROOM	8.5	91.6	91.6	0.0	0
F18	R3	RESIDENTIAL	BEDROOM	9.1	98.9	98.9	0.0	0
F18	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0
F19	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F19	R2	RESIDENTIAL	BEDROOM	8.5	91.9	91.9	0.0	0
F19	R3	RESIDENTIAL	BEDROOM	9.1	98.9	98.9	0.0	0
F19	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL100
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

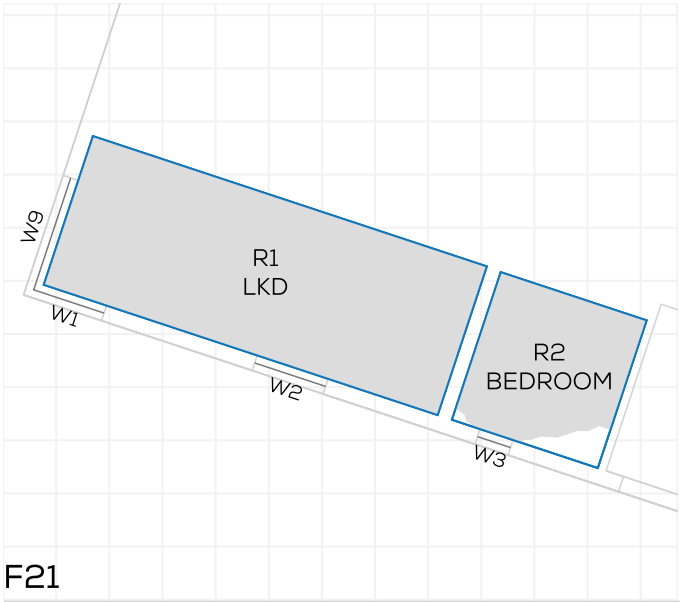




F20



F20



F21



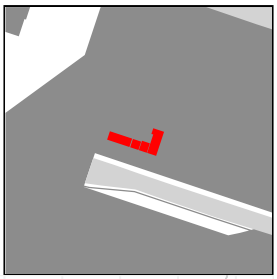
F21

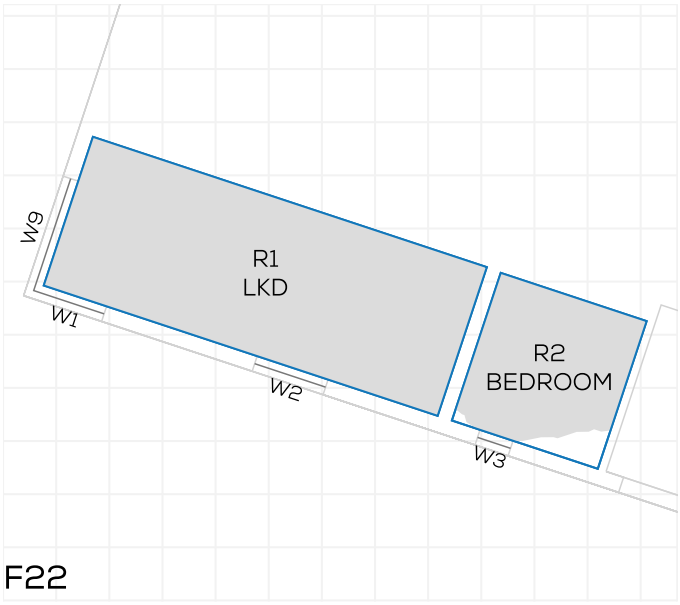
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F20	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F20	R2	RESIDENTIAL	BEDROOM	8.5	91.8	91.8	0.0	0
F20	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F20	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0
F21	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F21	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F21	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F21	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0

NSL CONTOURS

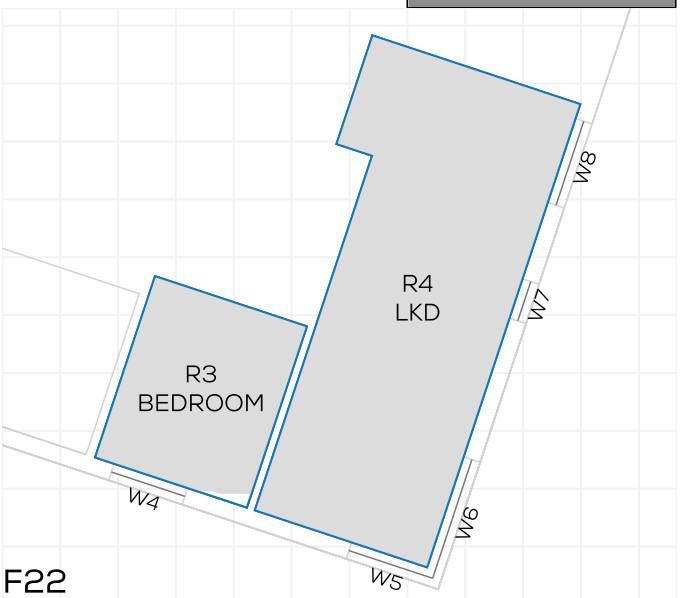
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL101
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

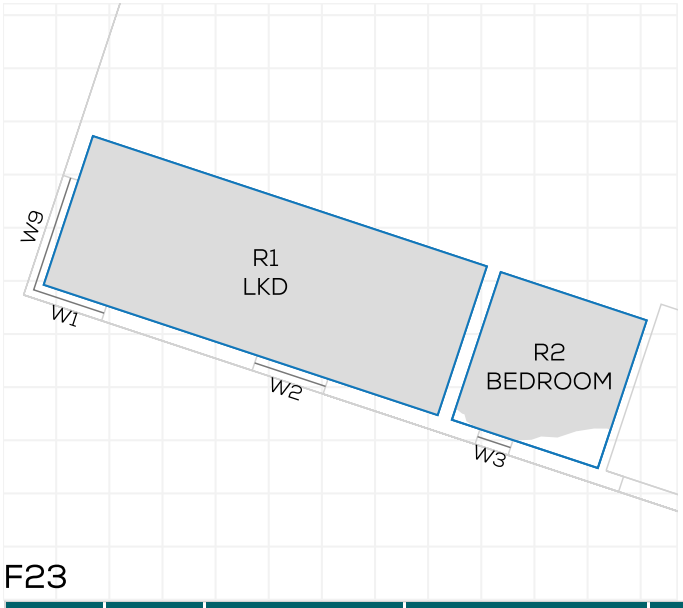




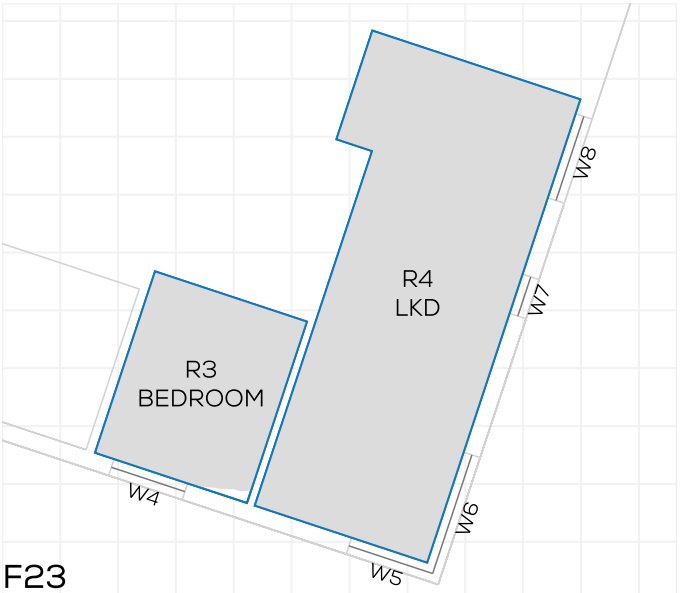
F22



F22



F23



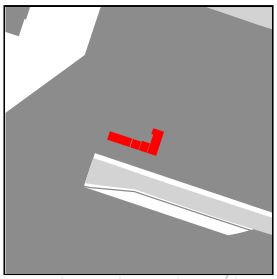
F23

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F22	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F22	R2	RESIDENTIAL	BEDROOM	8.5	91.8	91.8	0.0	0
F22	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F22	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0
F23	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F23	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F23	R3	RESIDENTIAL	BEDROOM	9.1	98.9	98.9	0.0	0
F23	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0

NSL CONTOURS

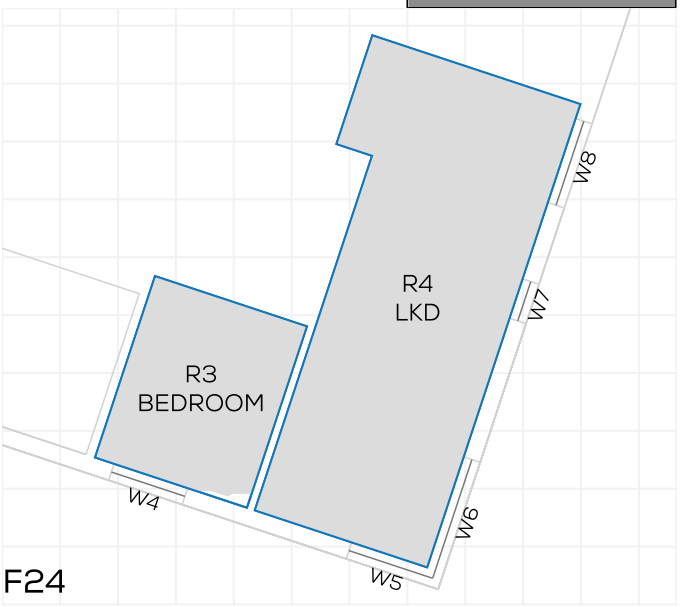
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL102
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F24



F24



F25



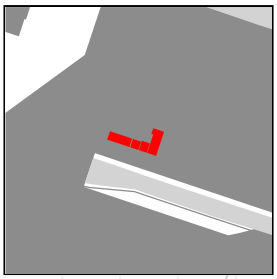
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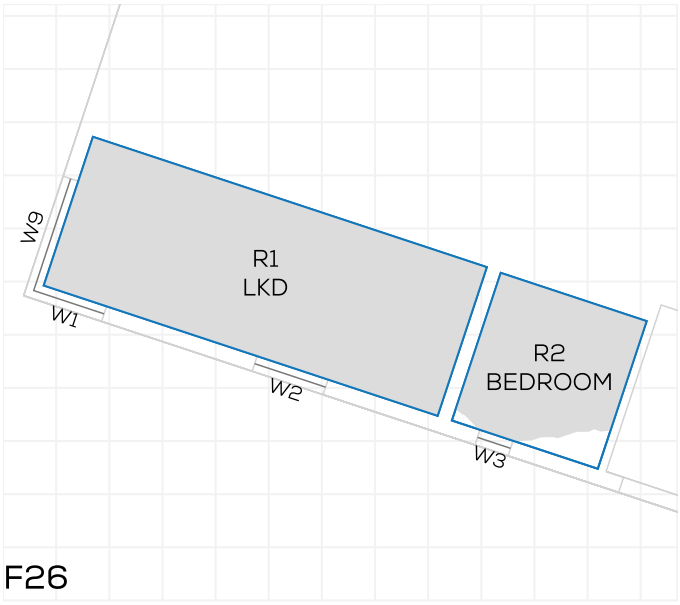
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F24	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F24	R2	RESIDENTIAL	BEDROOM	8.5	91.8	91.8	0.0	0
F24	R3	RESIDENTIAL	BEDROOM	9.1	98.9	98.9	0.0	0
F24	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0
F25	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F25	R2	RESIDENTIAL	BEDROOM	8.5	91.6	91.6	0.0	0
F25	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F25	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0

NSL CONTOURS

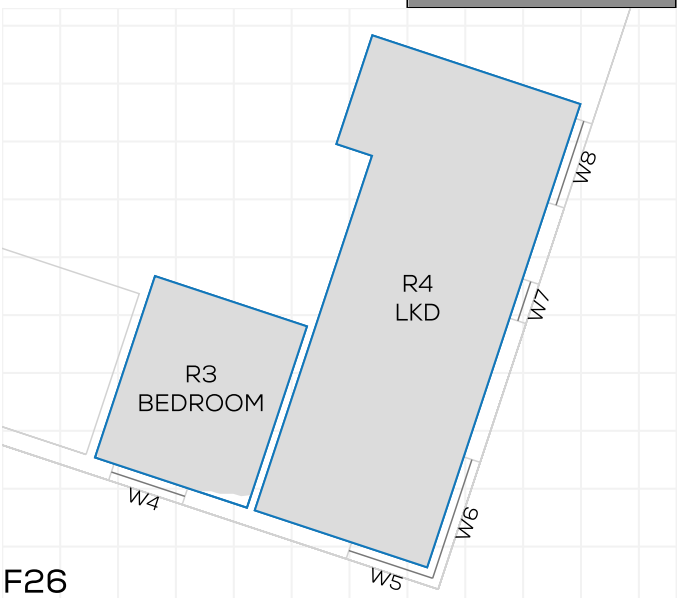
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL103
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

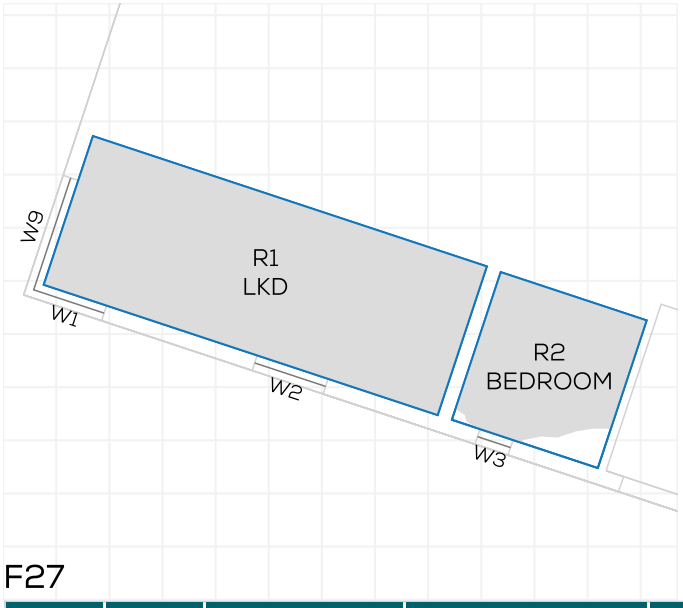




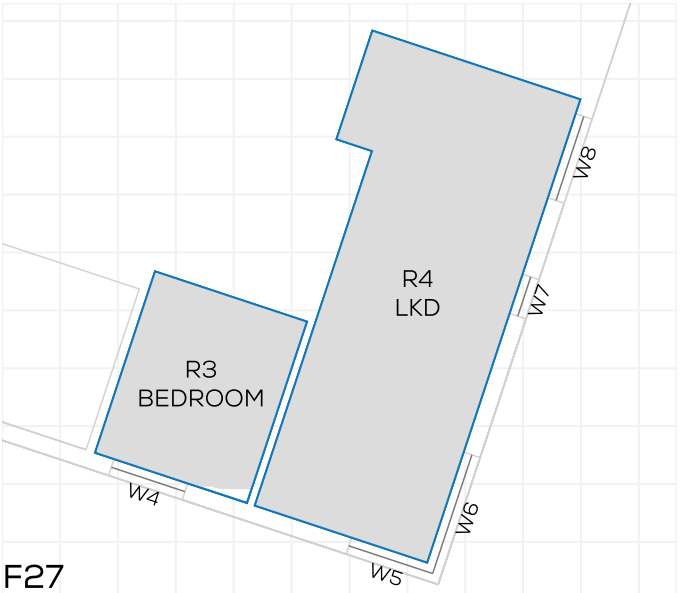
F26



F26



F27



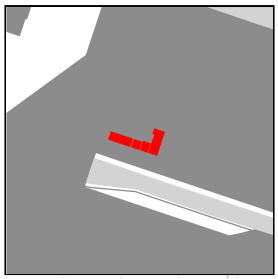
F27

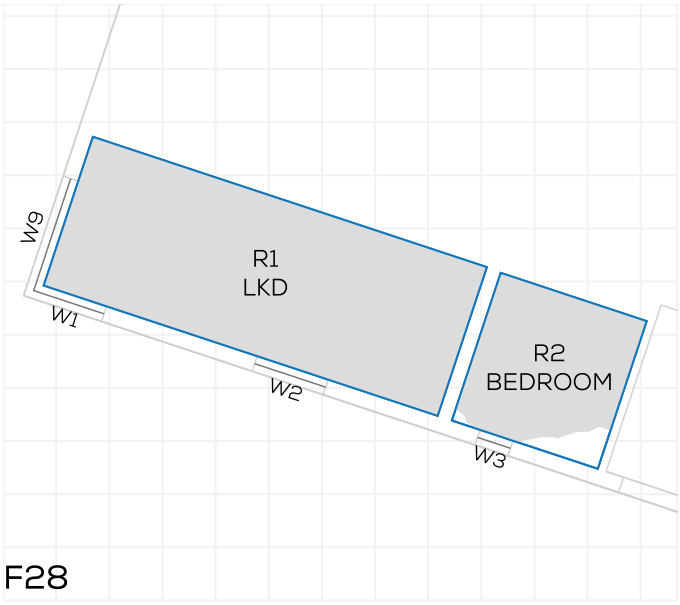
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F26	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F26	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F26	R3	RESIDENTIAL	BEDROOM	9.1	98.9	98.9	0.0	0
F26	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0
F27	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F27	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F27	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F27	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0

NSL CONTOURS

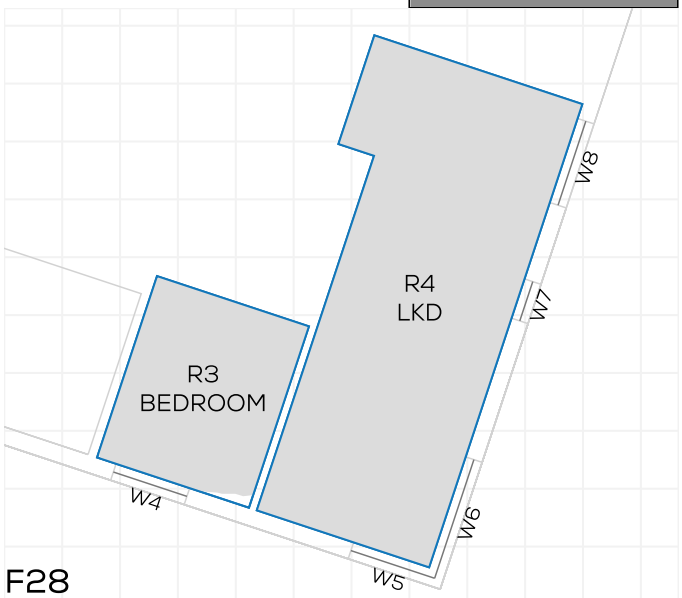
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL104
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





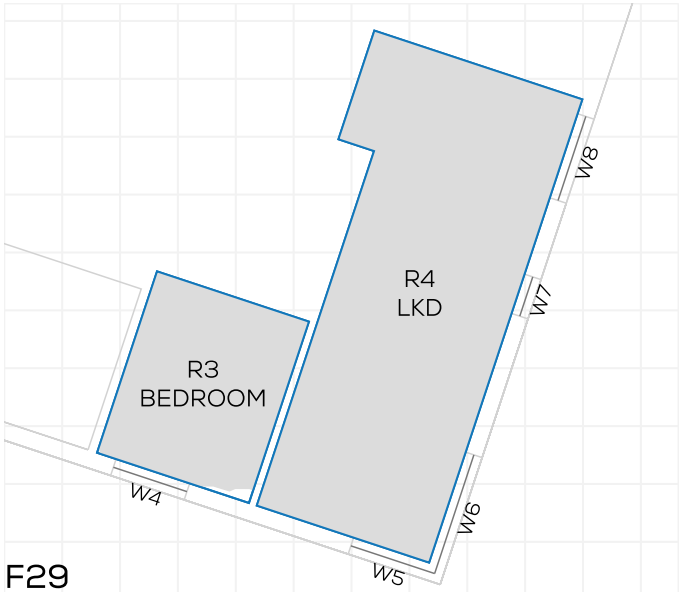
F28



F28



F29



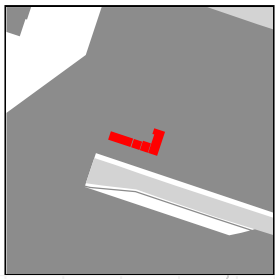
F29

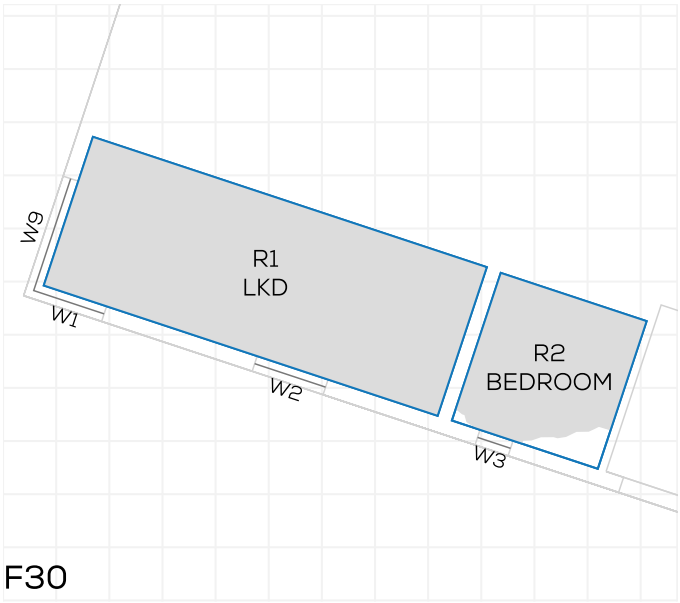
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F28	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F28	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F28	R3	RESIDENTIAL	BEDROOM	9.1	98.9	98.9	0.0	0
F28	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0
F29	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F29	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F29	R3	RESIDENTIAL	BEDROOM	9.1	98.9	98.9	0.0	0
F29	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0

NSL CONTOURS

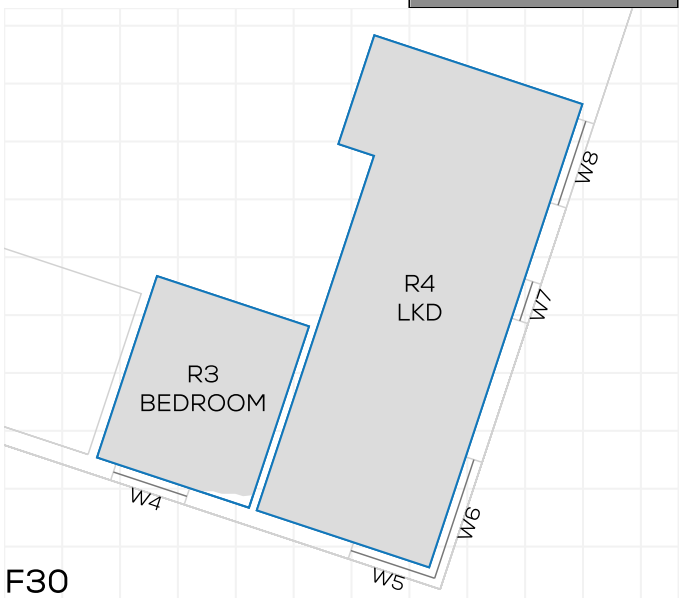
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL105
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

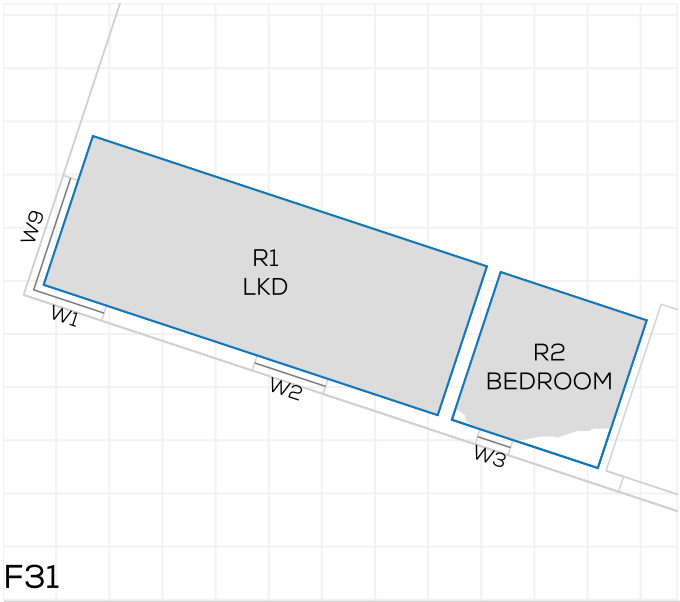




F30



F30



F31



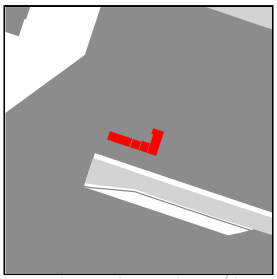
F31

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F30	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F30	R2	RESIDENTIAL	BEDROOM	8.5	91.8	91.8	0.0	0
F30	R3	RESIDENTIAL	BEDROOM	9.1	98.9	98.9	0.0	0
F30	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0
F31	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F31	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F31	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F31	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0

NSL CONTOURS

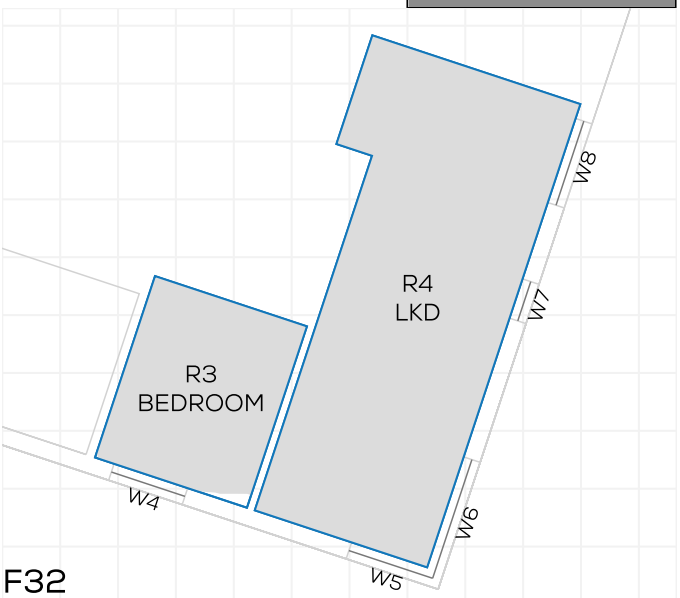
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL106
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





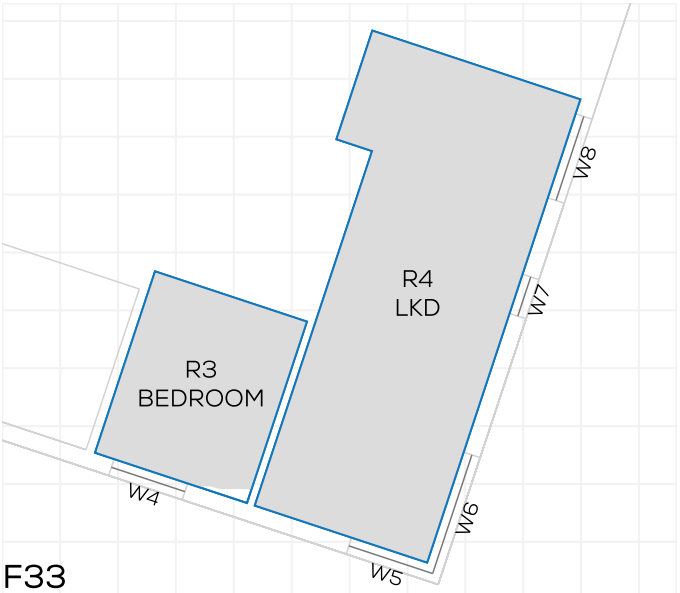
F32



F32



F33



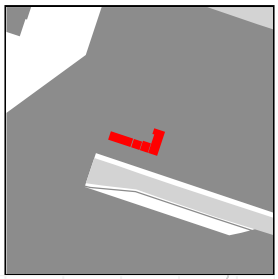
F33

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F32	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F32	R2	RESIDENTIAL	BEDROOM	8.5	91.8	91.8	0.0	0
F32	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F32	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0
F33	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F33	R2	RESIDENTIAL	BEDROOM	8.5	91.8	91.8	0.0	0
F33	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F33	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0

NSL CONTOURS

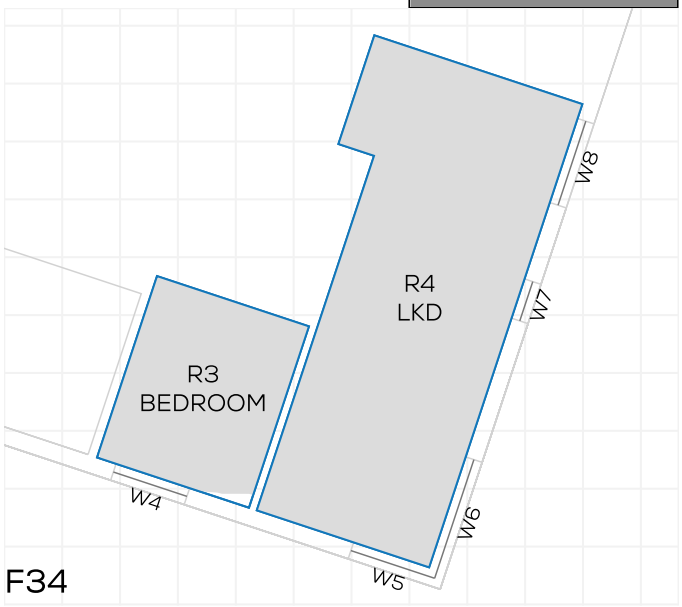
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL107
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F34



F34



F35



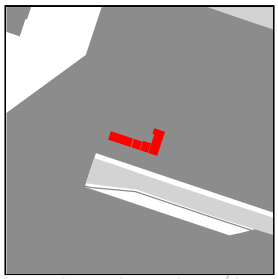
F35

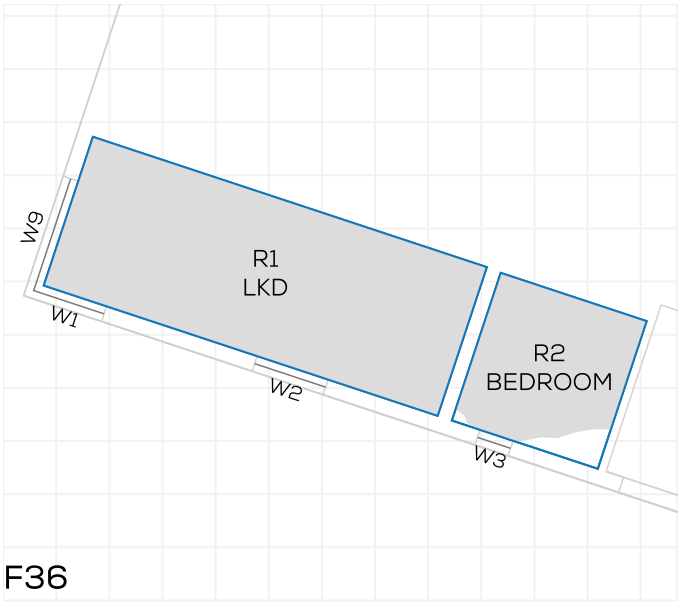
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F34	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F34	R2	RESIDENTIAL	BEDROOM	8.5	91.6	91.6	0.0	0
F34	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F34	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0
F35	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F35	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F35	R3	RESIDENTIAL	BEDROOM	9.1	98.9	98.9	0.0	0
F35	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0

NSL CONTOURS

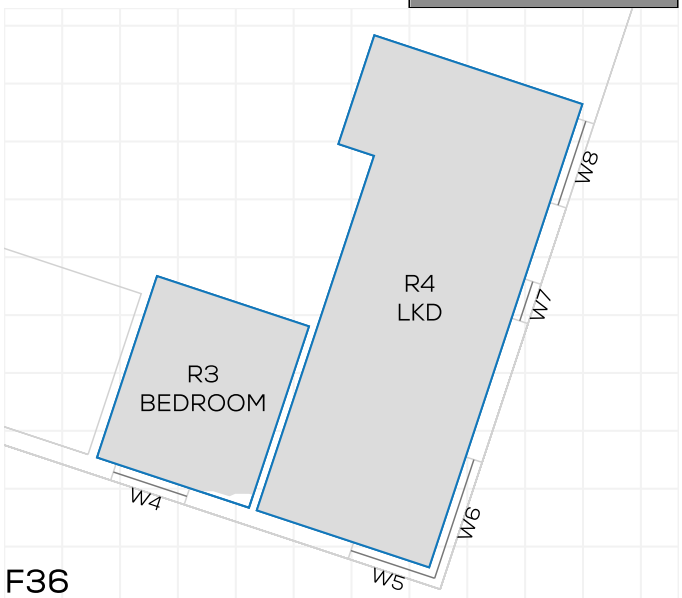
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL108
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

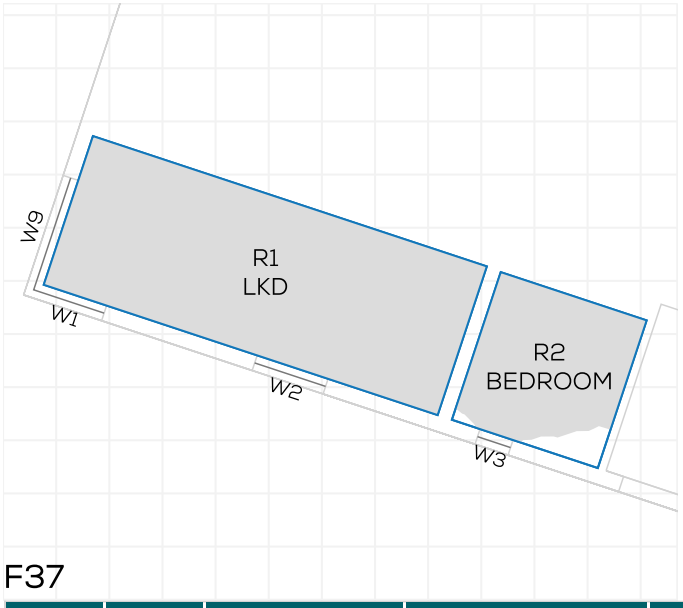




F36



F36



F37



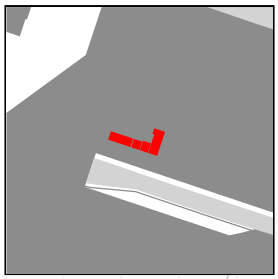
F37

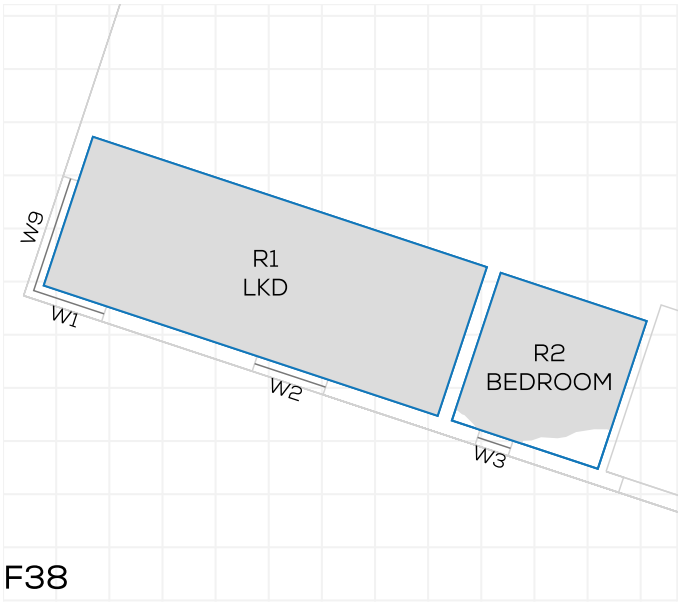
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F36	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F36	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F36	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F36	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0
F37	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F37	R2	RESIDENTIAL	BEDROOM	8.5	91.6	91.6	0.0	0
F37	R3	RESIDENTIAL	BEDROOM	9.1	98.9	98.9	0.0	0
F37	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0

NSL CONTOURS

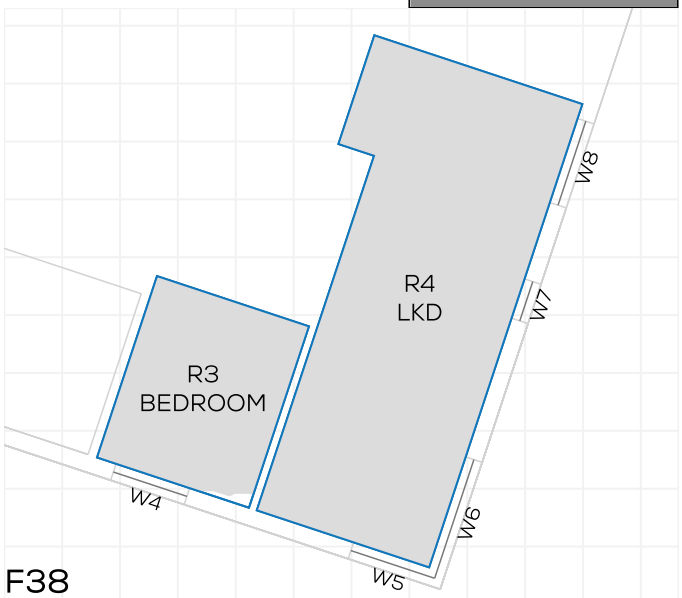
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL109
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





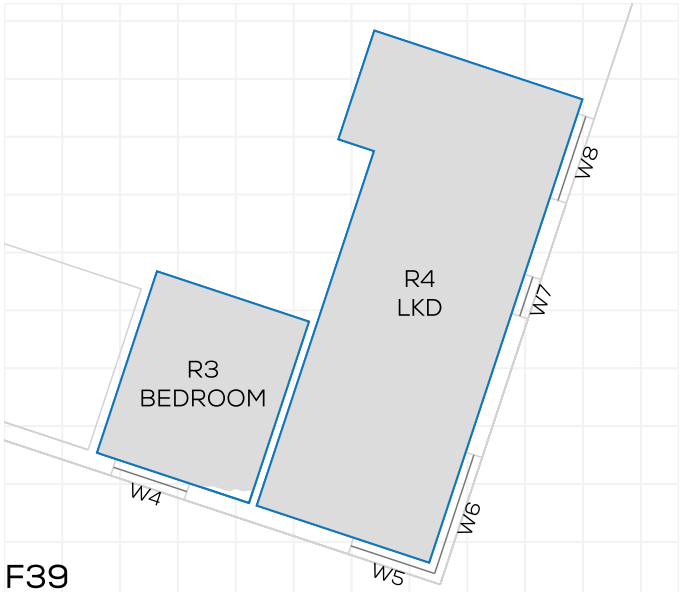
F38



F38



F39



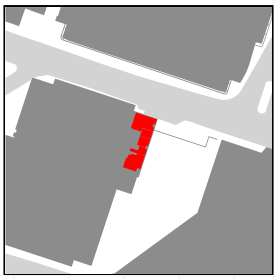
F39

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F38	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F38	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F38	R3	RESIDENTIAL	BEDROOM	9.1	98.9	98.9	0.0	0
F38	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0
F39	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F39	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F39	R3	RESIDENTIAL	BEDROOM	9.1	98.9	98.9	0.0	0
F39	R4	RESIDENTIAL	LKD	27.7	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL110
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





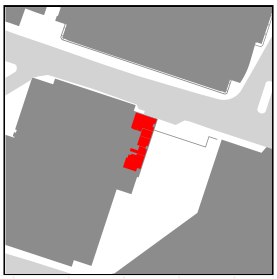
F25

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
BEETHAM TOWER								
F25	R2	RESIDENTIAL	BEDROOM	9.5	70.2	70.1	0.0	0
F25	R3	RESIDENTIAL	BEDROOM	10.9	87.3	87.3	0.0	0
F25	R4	RESIDENTIAL	BEDROOM	9.1	91.5	91.5	0.0	0
F25	R5	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F25	R6	RESIDENTIAL	LKD	34.5	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL111
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





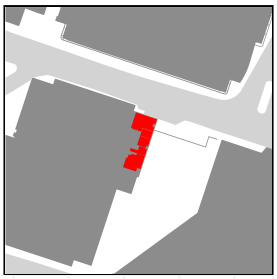
F26

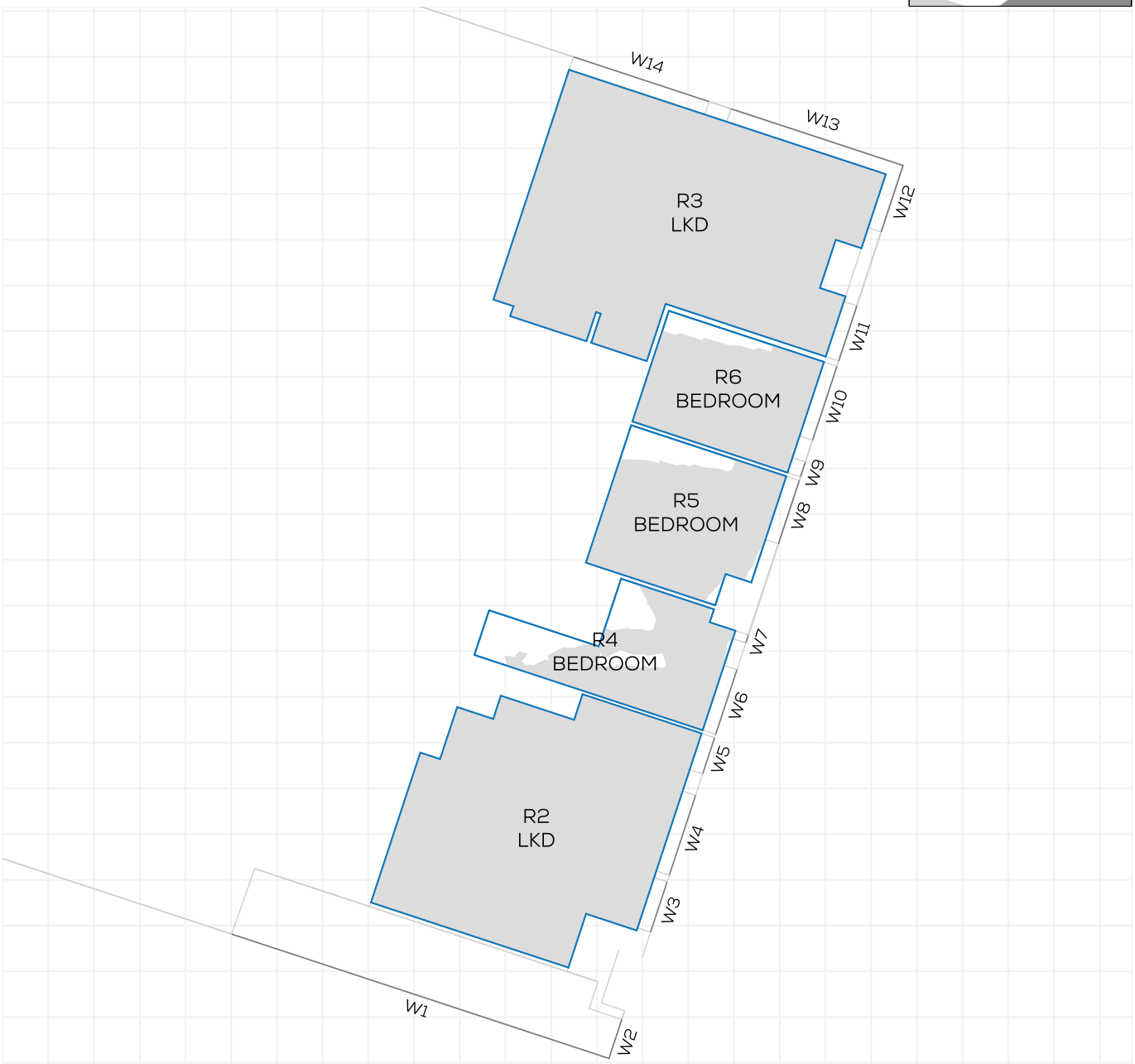
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
BEETHAM TOWER								
F26	R1	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F26	R2	RESIDENTIAL	LKD	34.5	100	100	0.0	0
F26	R3	RESIDENTIAL	BEDROOM	9.1	91.6	91.6	0.0	0
F26	R4	RESIDENTIAL	BEDROOM	10.9	87.4	87.4	0.0	0
F26	R5	RESIDENTIAL	BEDROOM	9.5	70.4	70.4	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL112
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





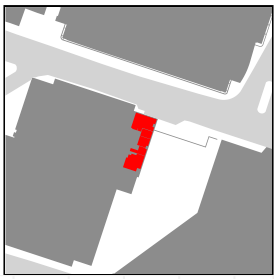
F27

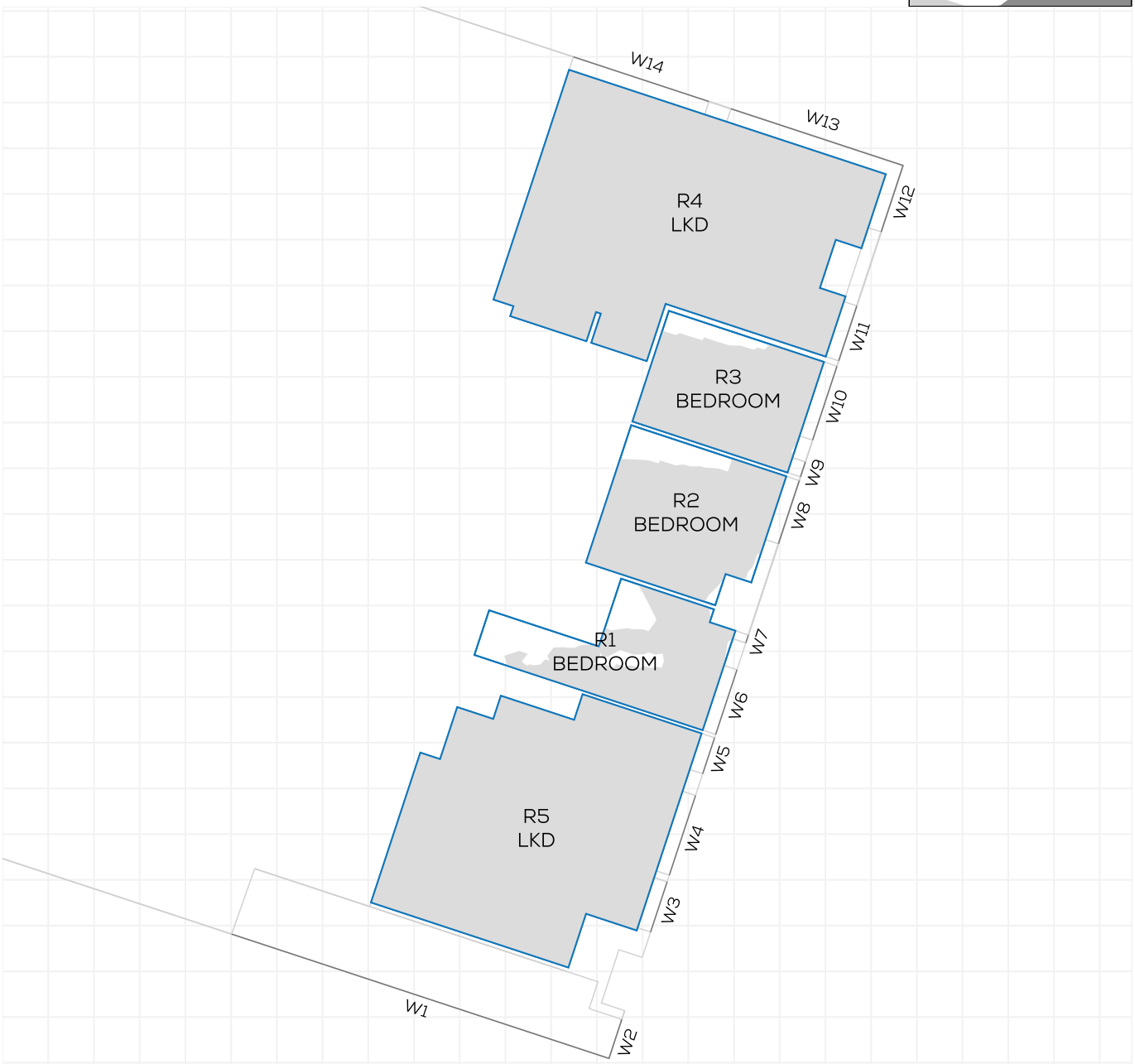
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
BEETHAM TOWER								
F27	R2	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F27	R3	RESIDENTIAL	LKD	34.5	100	100	0.0	0
F27	R4	RESIDENTIAL	BEDROOM	9.5	70.5	70.5	0.0	0
F27	R5	RESIDENTIAL	BEDROOM	10.9	87.5	87.5	0.0	0
F27	R6	RESIDENTIAL	BEDROOM	9.1	91.7	91.7	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL113
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





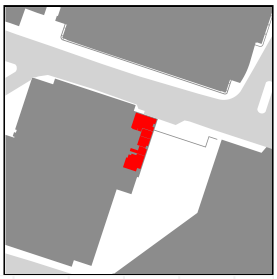
F28

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
BEETHAM TOWER								
F28	R1	RESIDENTIAL	BEDROOM	9.5	70.9	70.9	0.0	0
F28	R2	RESIDENTIAL	BEDROOM	10.9	87.7	87.7	0.0	0
F28	R3	RESIDENTIAL	BEDROOM	9.1	91.9	91.9	0.0	0
F28	R4	RESIDENTIAL	LKD	34.5	100	100	0.0	0
F28	R5	RESIDENTIAL	LKD	28.5	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL114
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





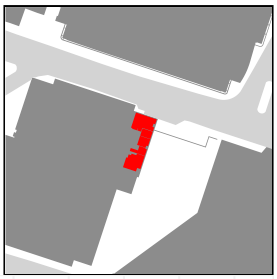
F29

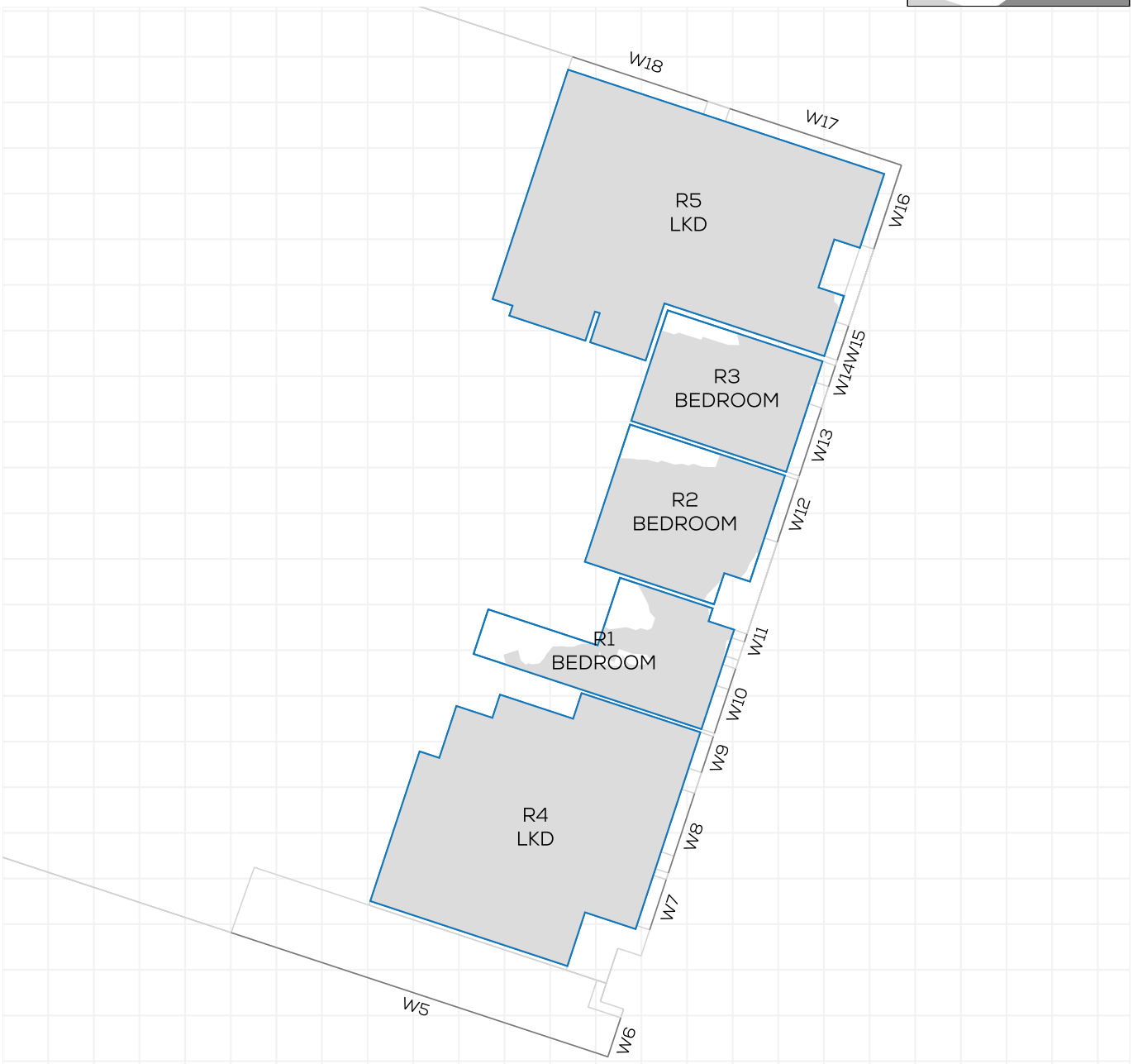
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
BEETHAM TOWER								
F29	R2	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F29	R3	RESIDENTIAL	LKD	34.5	100	100	0.0	0
F29	R4	RESIDENTIAL	BEDROOM	9.5	70.8	70.8	0.0	0
F29	R5	RESIDENTIAL	BEDROOM	10.9	88.1	88.1	0.0	0
F29	R6	RESIDENTIAL	BEDROOM	9.1	92.1	92.1	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL115
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





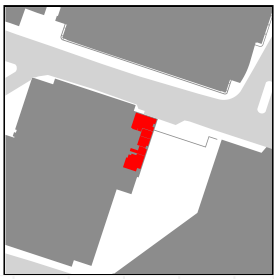
F30

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
BEETHAM TOWER								
F30	R1	RESIDENTIAL	BEDROOM	9.5	72.2	72.2	0.0	0
F30	R2	RESIDENTIAL	BEDROOM	10.9	88.3	88.3	0.0	0
F30	R3	RESIDENTIAL	BEDROOM	9.1	93.2	93.2	0.0	0
F30	R4	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F30	R5	RESIDENTIAL	LKD	34.5	99.9	99.9	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL116
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





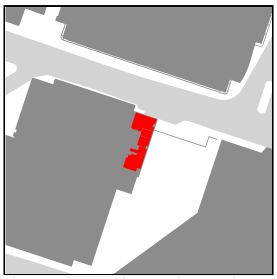
F31

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
BEETHAM TOWER								
F31	R2	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F31	R3	RESIDENTIAL	LKD	34.5	99.9	99.9	0.0	0
F31	R4	RESIDENTIAL	BEDROOM	9.5	81.1	81.1	0.0	0
F31	R5	RESIDENTIAL	BEDROOM	10.9	88.7	88.7	0.0	0
F31	R6	RESIDENTIAL	BEDROOM	9.1	93.3	93.3	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL117
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





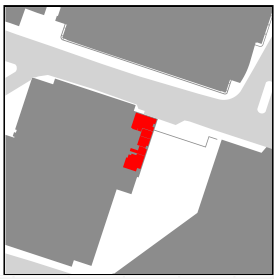
F32

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
BEETHAM TOWER								
F32	R2	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F32	R3	RESIDENTIAL	LKD	34.5	99.9	99.9	0.0	0
F32	R4	RESIDENTIAL	BEDROOM	9.5	81.4	81.4	0.0	0
F32	R5	RESIDENTIAL	BEDROOM	10.9	90.1	90.1	0.0	0
F32	R6	RESIDENTIAL	BEDROOM	9.1	92.9	92.9	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL118
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





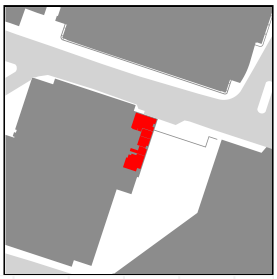
F33

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
BEETHAM TOWER								
F33	R1	RESIDENTIAL	BEDROOM	9.5	82.4	82.4	0.0	0
F33	R2	RESIDENTIAL	BEDROOM	10.9	90.9	90.9	0.0	0
F33	R3	RESIDENTIAL	BEDROOM	9.1	93.4	93.4	0.0	0
F33	R4	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F33	R5	RESIDENTIAL	LKD	34.5	99.9	99.9	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL119
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





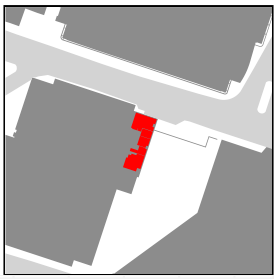
F34

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
BEETHAM TOWER								
F34	R2	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F34	R3	RESIDENTIAL	LKD	34.5	99.9	99.9	0.0	0
F34	R4	RESIDENTIAL	BEDROOM	9.5	84.7	84.7	0.0	0
F34	R5	RESIDENTIAL	BEDROOM	10.9	91.9	91.9	0.0	0
F34	R6	RESIDENTIAL	BEDROOM	9.1	94.3	94.3	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL120
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





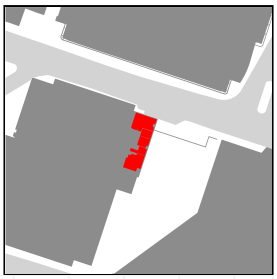
F35

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
BEETHAM TOWER								
F35	R1	RESIDENTIAL	BEDROOM	9.5	88	88	0.0	0
F35	R2	RESIDENTIAL	BEDROOM	10.9	93.4	93.4	0.0	0
F35	R3	RESIDENTIAL	BEDROOM	9.1	95.3	95.3	0.0	0
F35	R4	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F35	R5	RESIDENTIAL	LKD	34.5	99.9	99.9	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL121
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





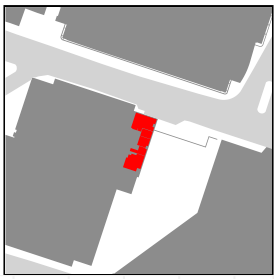
F36

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
BEETHAM TOWER								
F36	R2	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F36	R3	RESIDENTIAL	LKD	34.5	100	100	0.0	0
F36	R4	RESIDENTIAL	BEDROOM	9.5	89.9	89.9	0.0	0
F36	R5	RESIDENTIAL	BEDROOM	10.9	95.1	95.1	0.0	0
F36	R6	RESIDENTIAL	BEDROOM	9.1	97.5	97.5	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL122
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





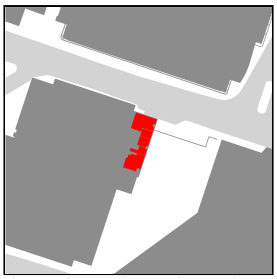
F37

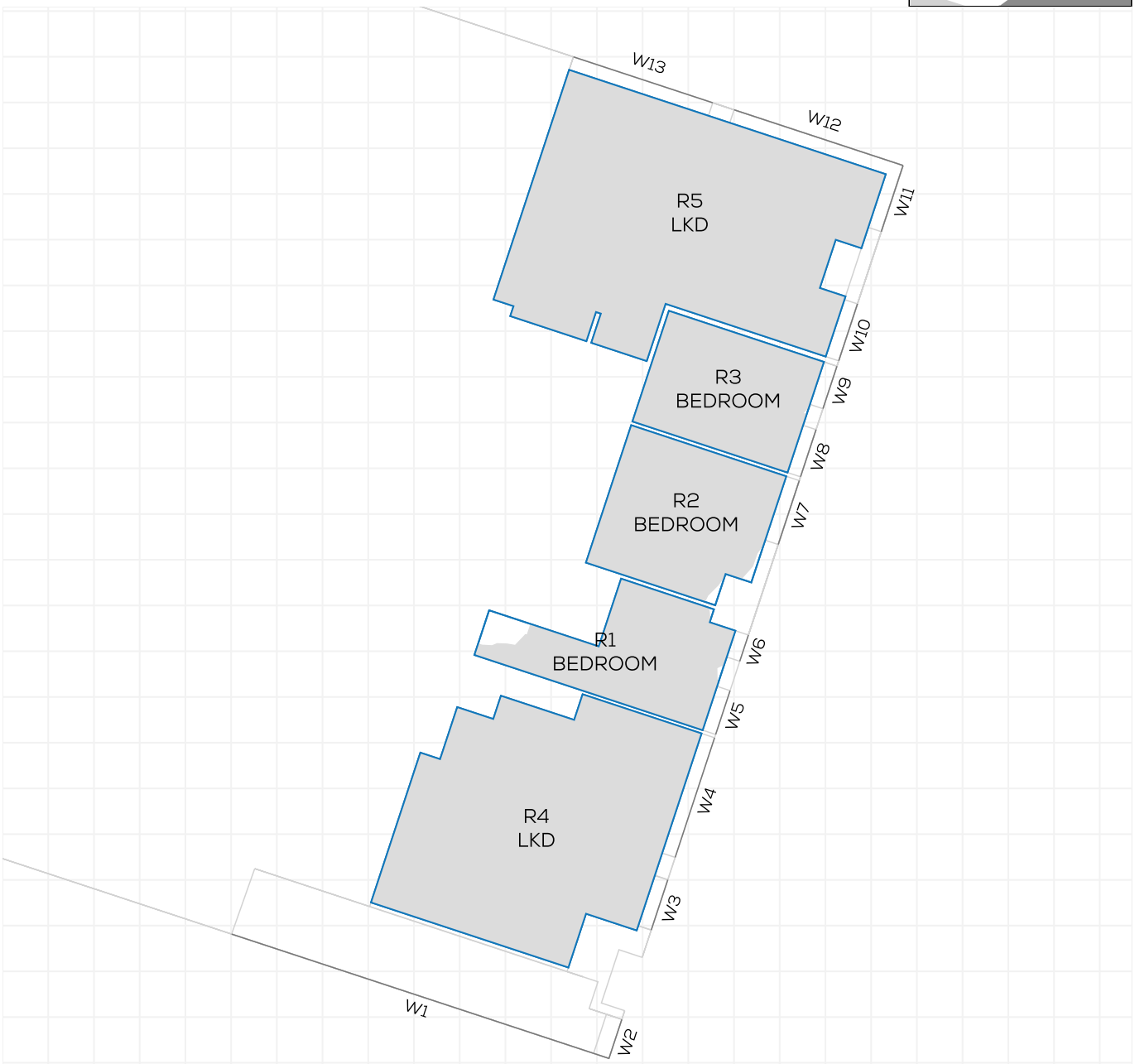
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
BEETHAM TOWER								
F37	R1	RESIDENTIAL	BEDROOM	9.5	90.5	90.5	0.0	0
F37	R2	RESIDENTIAL	BEDROOM	10.9	98.6	98.6	0.0	0
F37	R3	RESIDENTIAL	BEDROOM	9.1	99.9	99.9	0.0	0
F37	R4	RESIDENTIAL	LKD	34.5	100	100	0.0	0
F37	R5	RESIDENTIAL	LKD	28.5	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL123
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





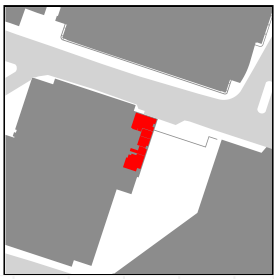
F38

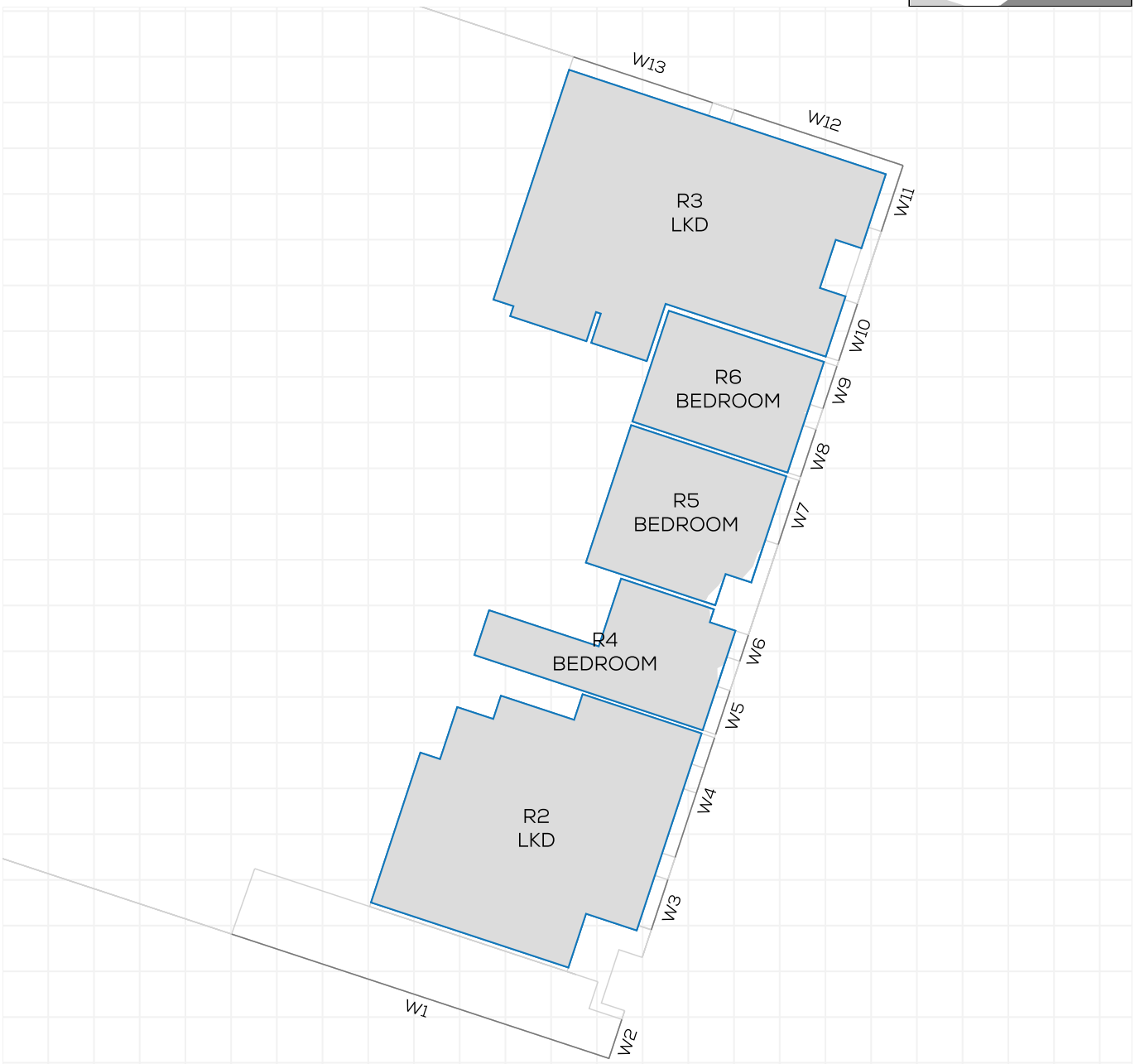
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
BEETHAM TOWER								
F38	R1	RESIDENTIAL	BEDROOM	9.5	93.6	93.6	0.0	0
F38	R2	RESIDENTIAL	BEDROOM	10.9	98.5	98.5	0.0	0
F38	R3	RESIDENTIAL	BEDROOM	9.1	99.9	99.9	0.0	0
F38	R4	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F38	R5	RESIDENTIAL	LKD	34.5	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL124
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





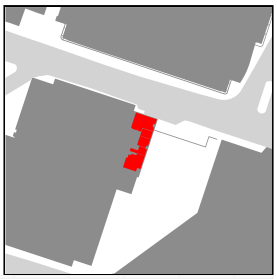
F39

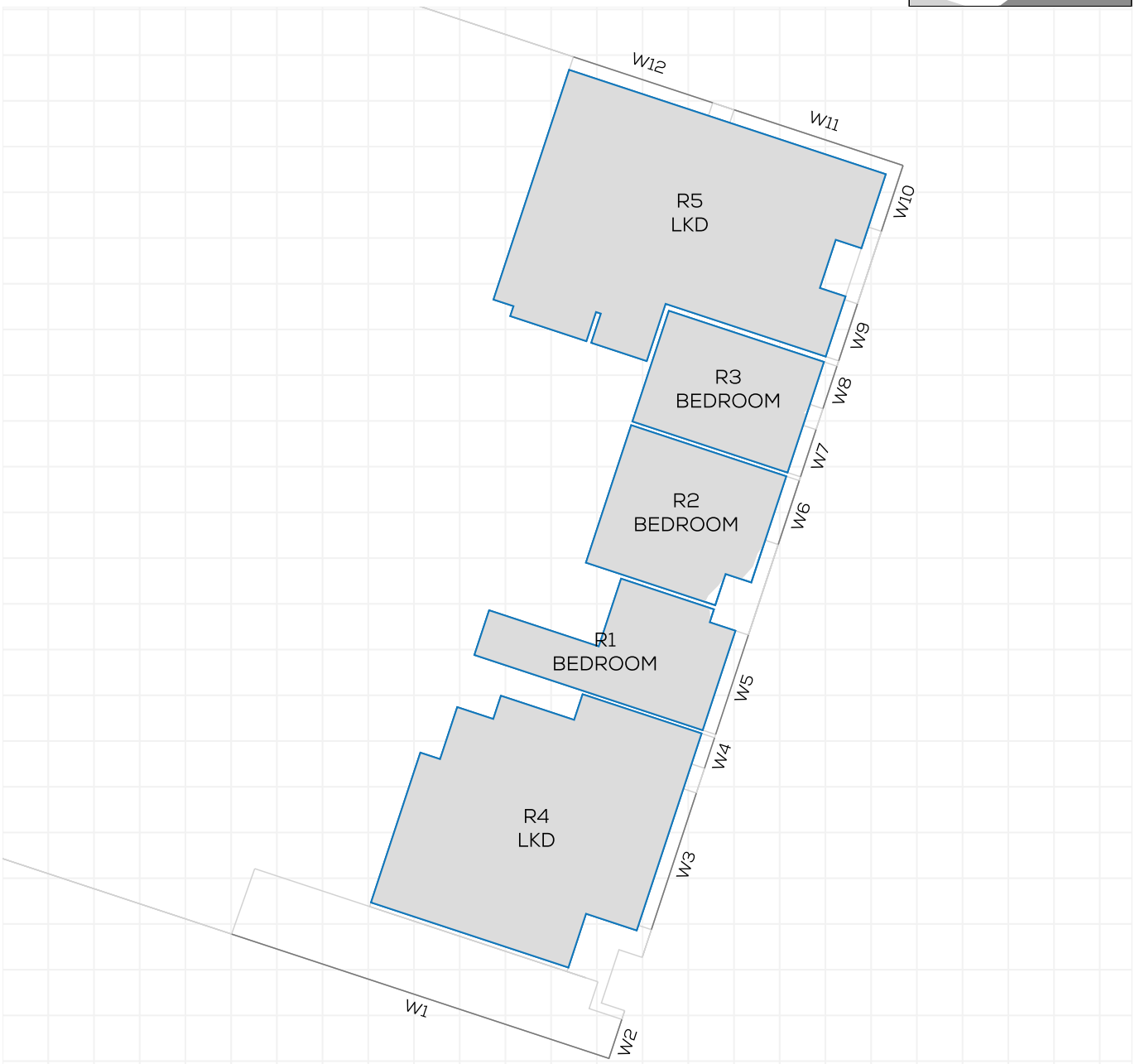
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
BEETHAM TOWER								
F39	R2	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F39	R3	RESIDENTIAL	LKD	34.5	100	100	0.0	0
F39	R4	RESIDENTIAL	BEDROOM	9.5	99.6	99.6	0.0	0
F39	R5	RESIDENTIAL	BEDROOM	10.9	98.5	98.5	0.0	0
F39	R6	RESIDENTIAL	BEDROOM	9.1	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL125
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





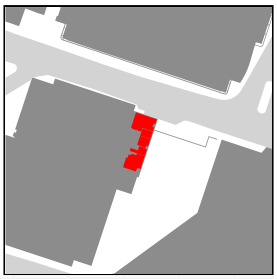
F40

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
BEETHAM TOWER								
F40	R1	RESIDENTIAL	BEDROOM	9.5	99.9	99.9	0.0	0
F40	R2	RESIDENTIAL	BEDROOM	10.9	98.5	98.5	0.0	0
F40	R3	RESIDENTIAL	BEDROOM	9.1	99.9	99.9	0.0	0
F40	R4	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F40	R5	RESIDENTIAL	LKD	34.5	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL126
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





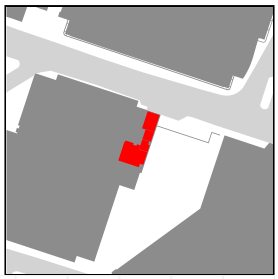
F41

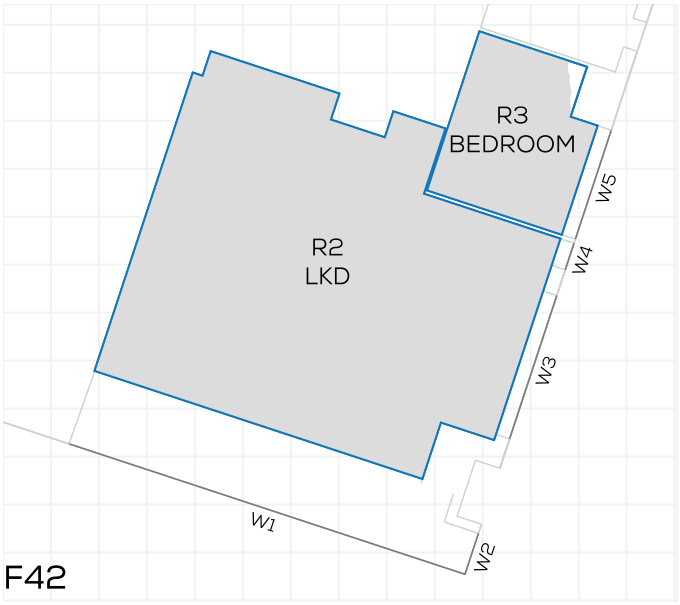
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
BEETHAM TOWER								
F41	R2	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F41	R3	RESIDENTIAL	LKD	34.5	100	100	0.0	0
F41	R4	RESIDENTIAL	BEDROOM	9.5	99.9	99.9	0.0	0
F41	R5	RESIDENTIAL	BEDROOM	10.9	98.5	98.5	0.0	0
F41	R6	RESIDENTIAL	BEDROOM	9.1	99.9	99.9	0.0	0

NSL CONTOURS

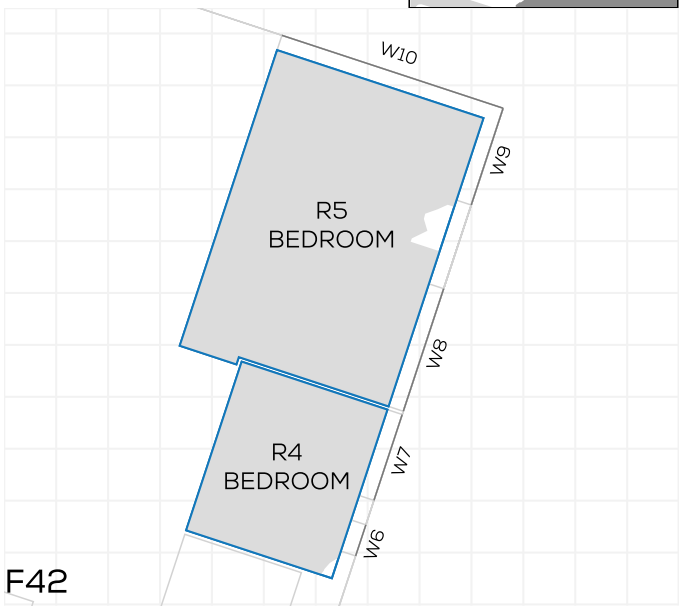
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL127
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

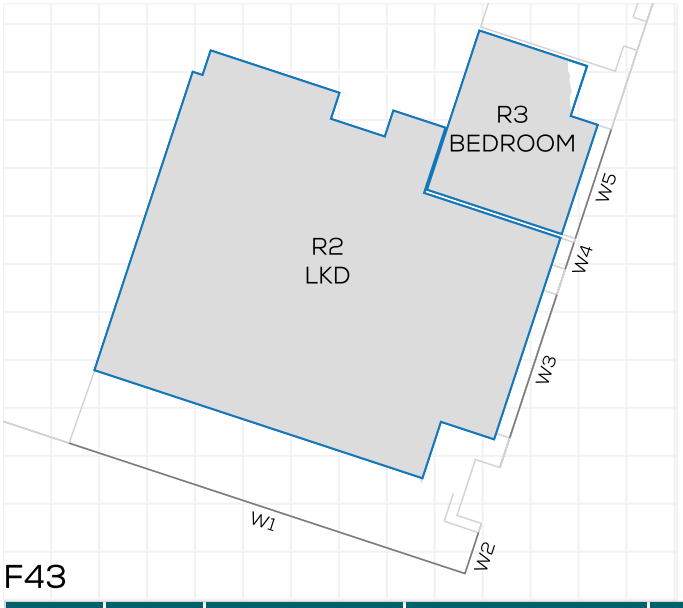




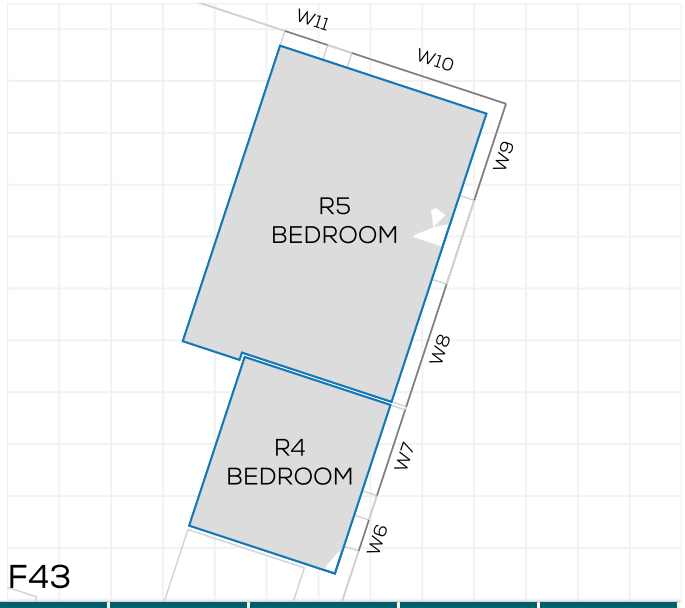
F42



F42



F43



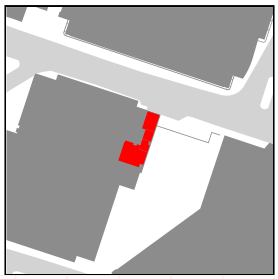
F43

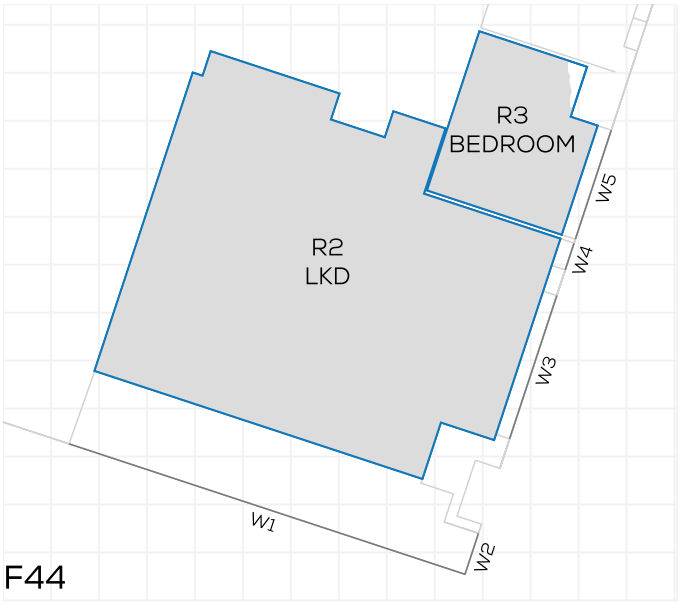
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
BEETHAM TOWER								
F42	R2	RESIDENTIAL	LKD	52.8	100	100	0.0	0
F42	R3	RESIDENTIAL	BEDROOM	9.7	97.8	97.8	0.0	0
F42	R4	RESIDENTIAL	BEDROOM	10.1	99.4	99.4	0.0	0
F42	R5	RESIDENTIAL	BEDROOM	24.6	98.5	98.5	0.0	0
F43	R2	RESIDENTIAL	LKD	52.8	100	100	0.0	0
F43	R3	RESIDENTIAL	BEDROOM	9.7	97.8	97.8	0.0	0
F43	R4	RESIDENTIAL	BEDROOM	10.1	99.4	99.4	0.0	0
F43	R5	RESIDENTIAL	BEDROOM	24.6	99.1	99.1	0.0	0

NSL CONTOURS

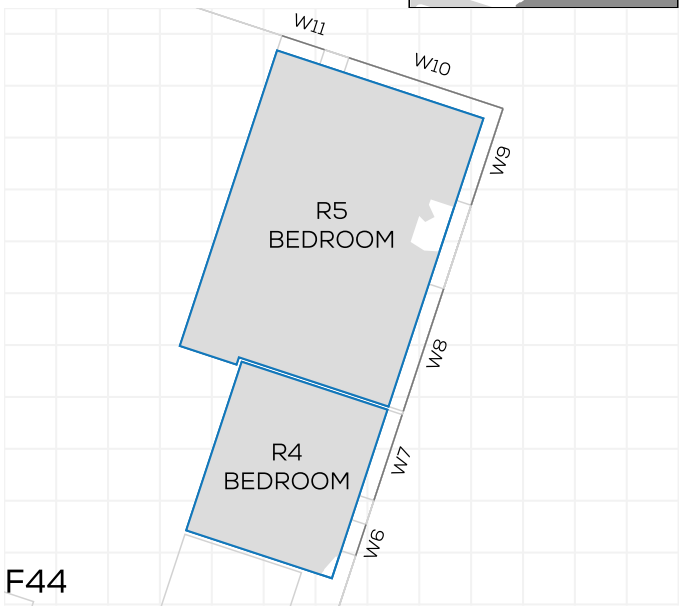
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL128
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





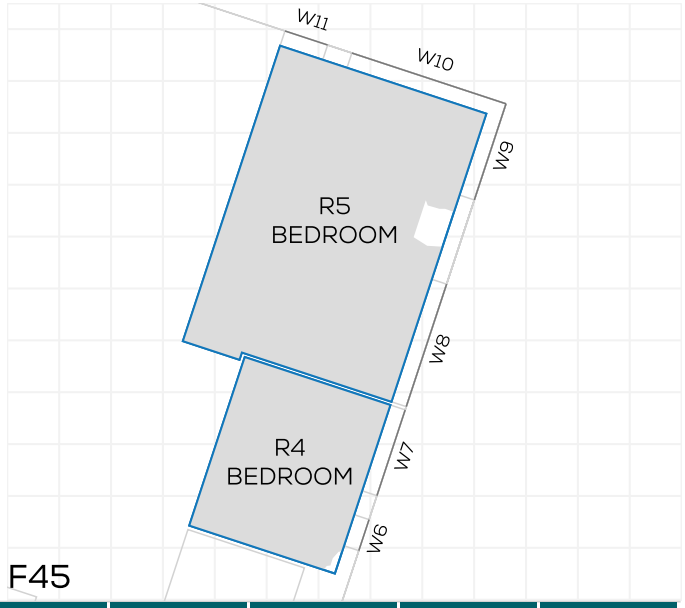
F44



F44



F45



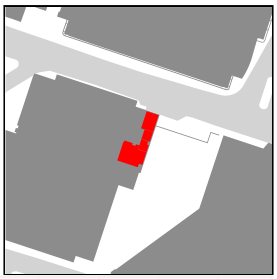
F45

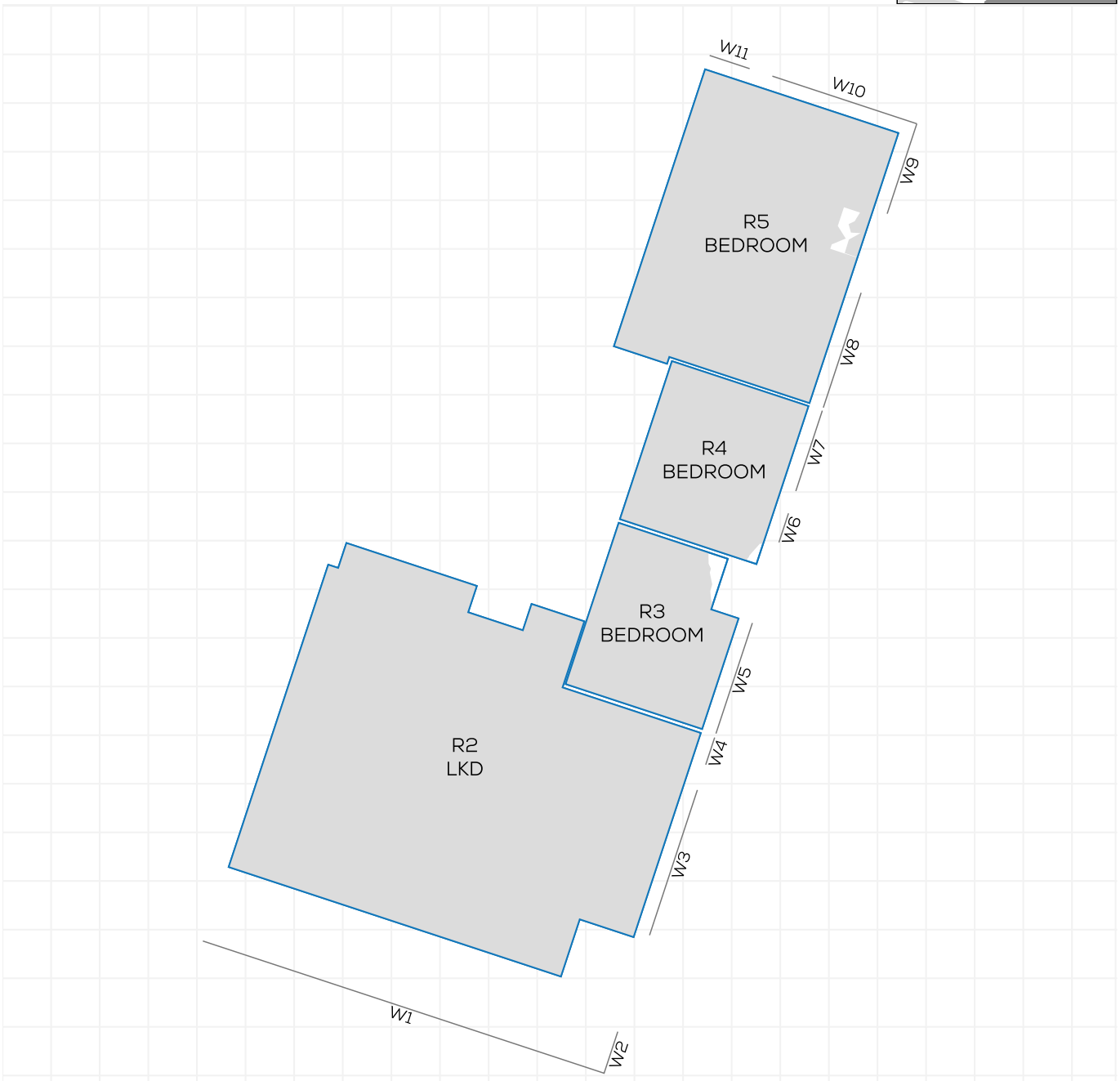
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
BEETHAM TOWER								
F44	R2	RESIDENTIAL	LKD	52.8	100	100	0.0	0
F44	R3	RESIDENTIAL	BEDROOM	9.7	97.8	97.8	0.0	0
F44	R4	RESIDENTIAL	BEDROOM	10.1	99.4	99.4	0.0	0
F44	R5	RESIDENTIAL	BEDROOM	24.6	98.1	98.1	0.0	0
F45	R2	RESIDENTIAL	LKD	52.8	100	100	0.0	0
F45	R3	RESIDENTIAL	BEDROOM	9.7	97.8	97.8	0.0	0
F45	R4	RESIDENTIAL	BEDROOM	10.1	99.4	99.4	0.0	0
F45	R5	RESIDENTIAL	BEDROOM	24.6	98.3	98.3	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL129
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





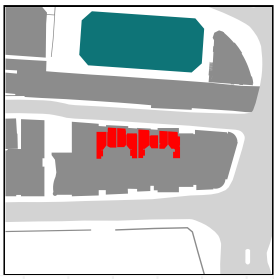
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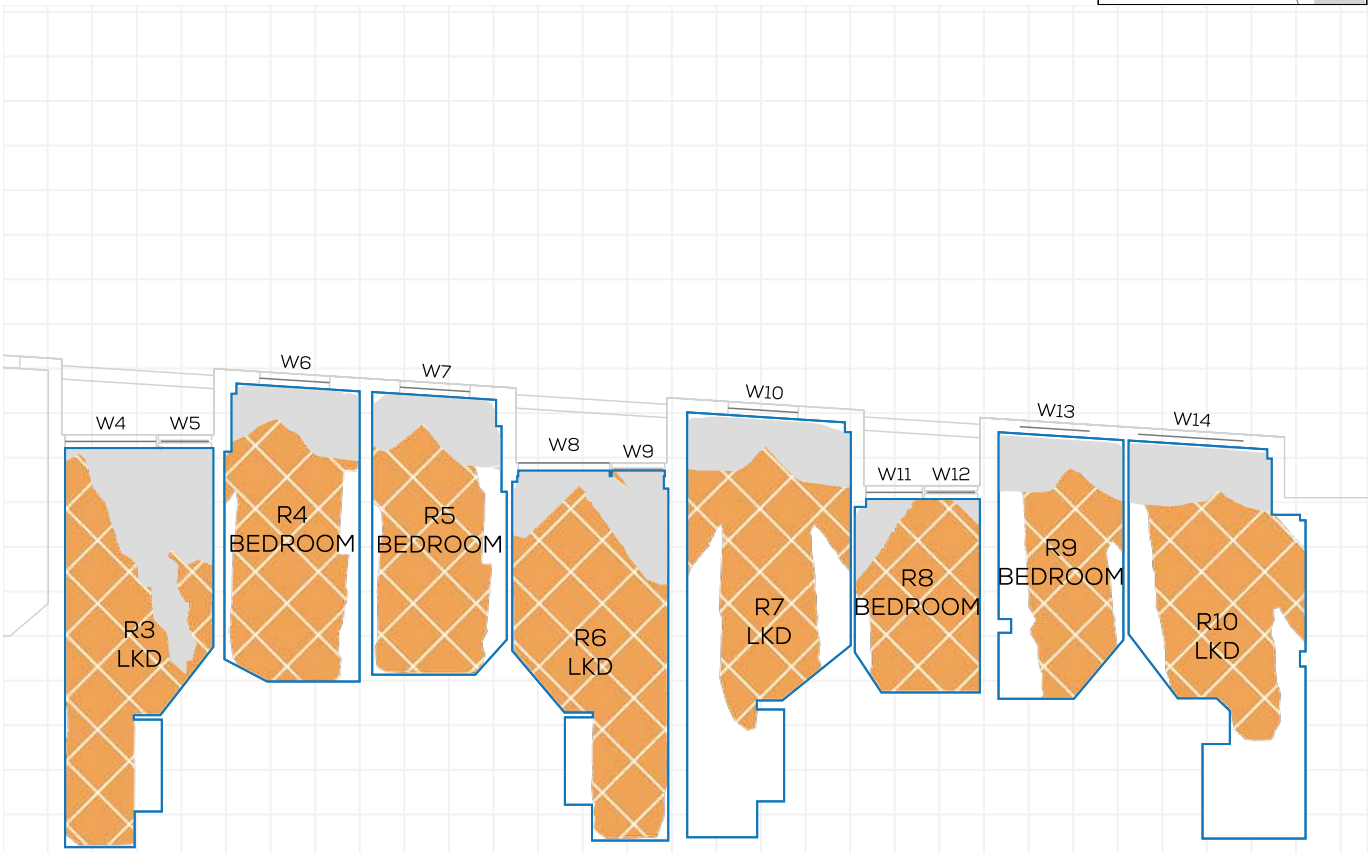
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
BEETHAM TOWER								
F46	R2	RESIDENTIAL	LKD	52.8	100	100	0.0	0
F46	R3	RESIDENTIAL	BEDROOM	9.7	97.8	97.8	0.0	0
F46	R4	RESIDENTIAL	BEDROOM	10.1	99.4	99.4	0.0	0
F46	R5	RESIDENTIAL	BEDROOM	24.6	99	99	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: ROPEWORKS BLOCK A
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL130
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





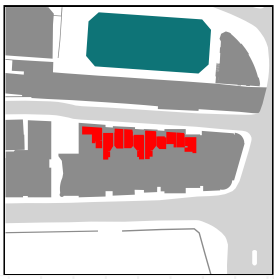
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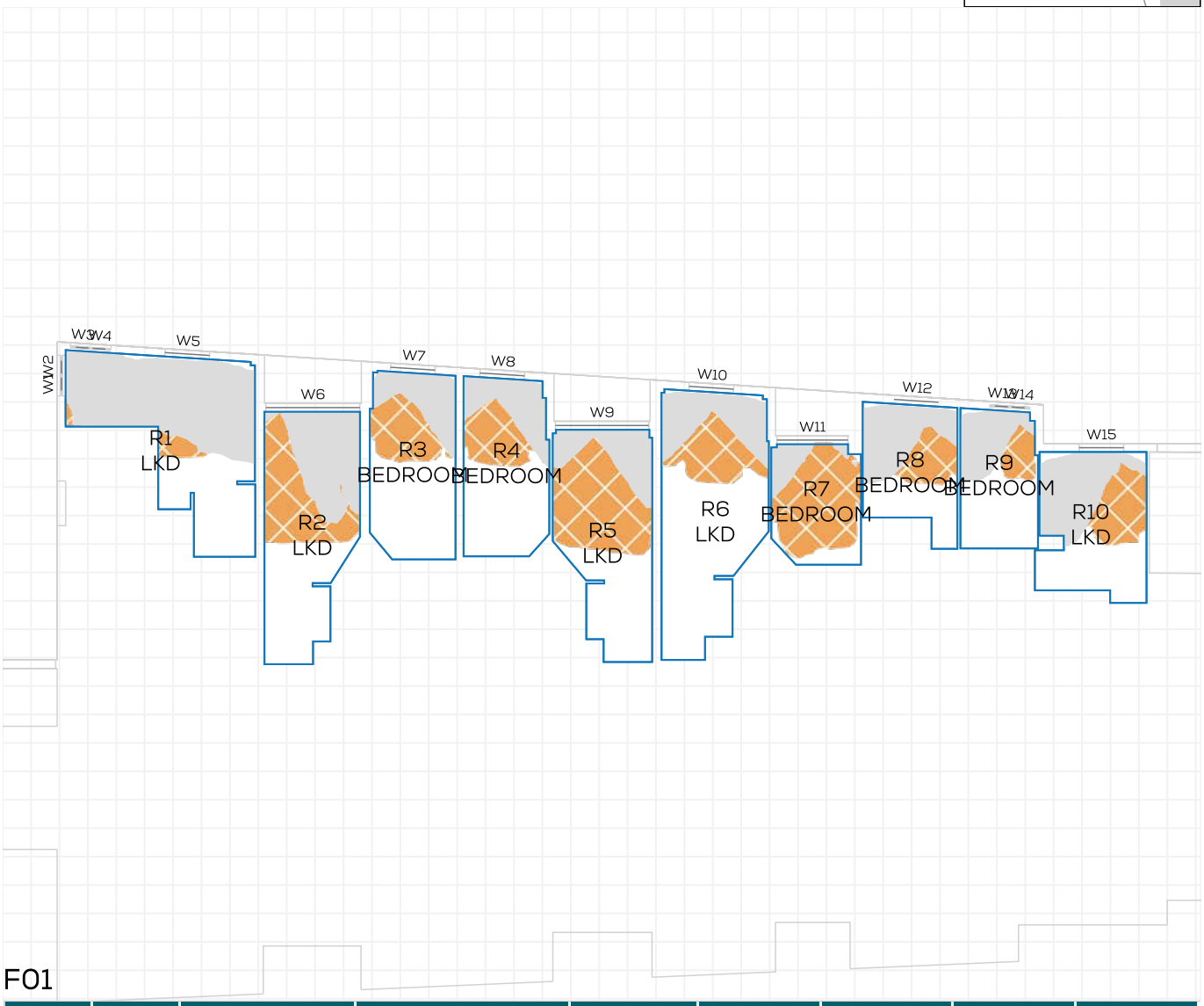
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
ROPEWORKS BLOCK A								
F00	R3	RESIDENTIAL	LKD	24.9	93.8	31.7	15.4	66.2
F00	R4	RESIDENTIAL	BEDROOM	19.5	86.4	17.4	13.5	79.9
F00	R5	RESIDENTIAL	BEDROOM	18.2	85	18.4	12.2	78.4
F00	R6	RESIDENTIAL	LKD	24.2	92.9	19.5	17.8	79
F00	R7	RESIDENTIAL	LKD	28.4	63	14.7	13.7	76.7
F00	R8	RESIDENTIAL	BEDROOM	11.8	95.7	12.3	9.9	87.2
F00	R9	RESIDENTIAL	BEDROOM	15.7	74.2	19.2	8.6	74.1
F00	R10	RESIDENTIAL	LKD	27.2	65.8	14.7	13.9	77.6

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: ROPEWORKS BLOCK A
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL131
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





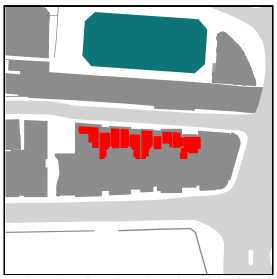
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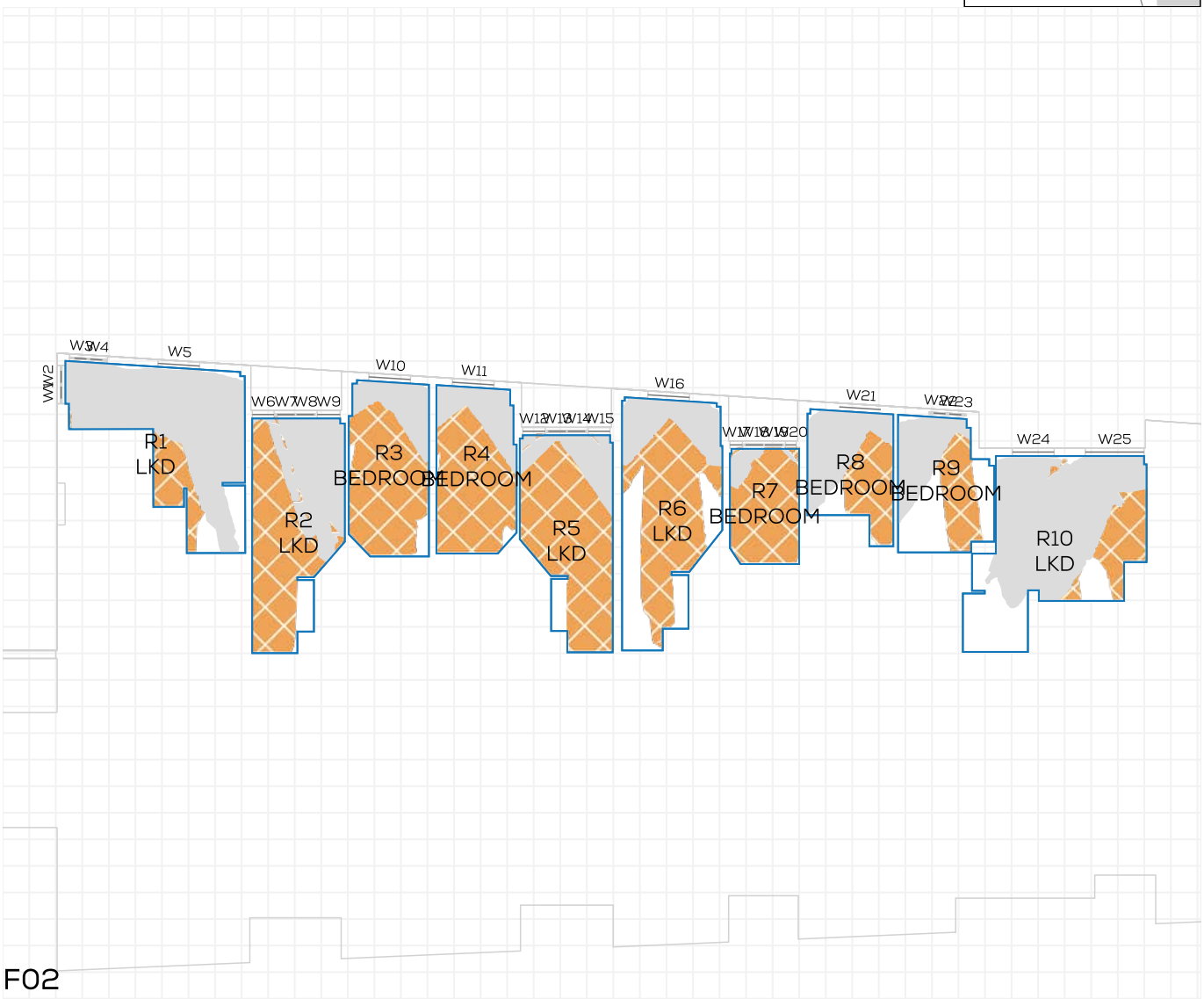
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
ROPEWORKS BLOCK A								
F01	R1	RESIDENTIAL	LKD	29.9	66.4	62	1.3	6.6
F01	R2	RESIDENTIAL	LKD	25.5	61.1	31.4	7.5	48.5
F01	R3	RESIDENTIAL	BEDROOM	19.2	46.1	22.8	4.5	50.5
F01	R4	RESIDENTIAL	BEDROOM	18.2	46.7	24.4	4.1	47.8
F01	R5	RESIDENTIAL	LKD	23.8	62.2	19.2	10.2	69.1
F01	R6	RESIDENTIAL	LKD	29.8	36.3	19.8	4.9	45.3
F01	R7	RESIDENTIAL	BEDROOM	12.8	87.3	14.3	9.3	83.6
F01	R8	RESIDENTIAL	BEDROOM	14.2	62	40.8	3.0	34.2
F01	R9	RESIDENTIAL	BEDROOM	13.0	46.1	31.9	1.9	30.9
F01	R10	RESIDENTIAL	LKD	18.7	59.6	36.5	4.3	38.8

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: ROPEWORKS BLOCK A
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL132
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





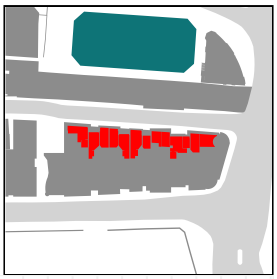
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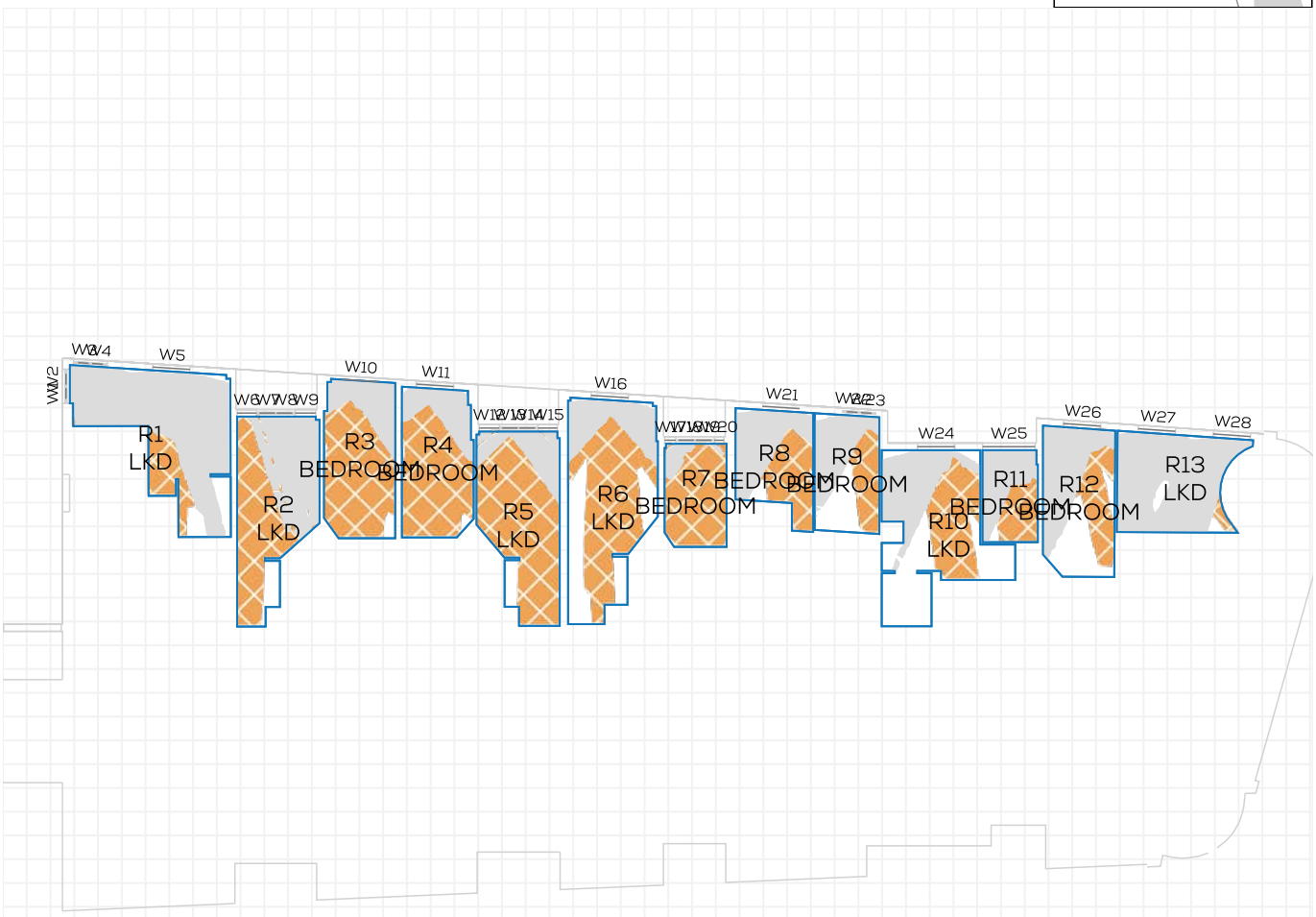
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
ROPEWORKS BLOCK A								
F02	R1	RESIDENTIAL	LKD	29.5	91	76	4.4	16.5
F02	R2	RESIDENTIAL	LKD	26.1	94.9	39.4	14.5	58.5
F02	R3	RESIDENTIAL	BEDROOM	19.2	94.8	22.6	13.9	76.1
F02	R4	RESIDENTIAL	BEDROOM	18.2	97.7	24.9	13.3	74.6
F02	R5	RESIDENTIAL	LKD	23.8	95.1	18.3	18.3	80.7
F02	R6	RESIDENTIAL	LKD	29.8	72.9	20.6	15.6	71.7
F02	R7	RESIDENTIAL	BEDROOM	11.2	99	10.6	9.9	89.3
F02	R8	RESIDENTIAL	BEDROOM	13.6	91.6	49.3	5.8	46.2
F02	R9	RESIDENTIAL	BEDROOM	16.6	63.8	33	5.1	48.3
F02	R10	RESIDENTIAL	LKD	35.9	77.6	62.3	5.5	19.7

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: ROPEWORKS BLOCK A
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL133
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





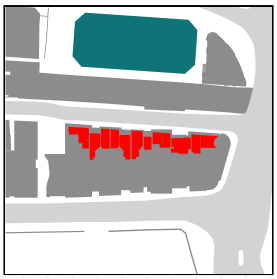
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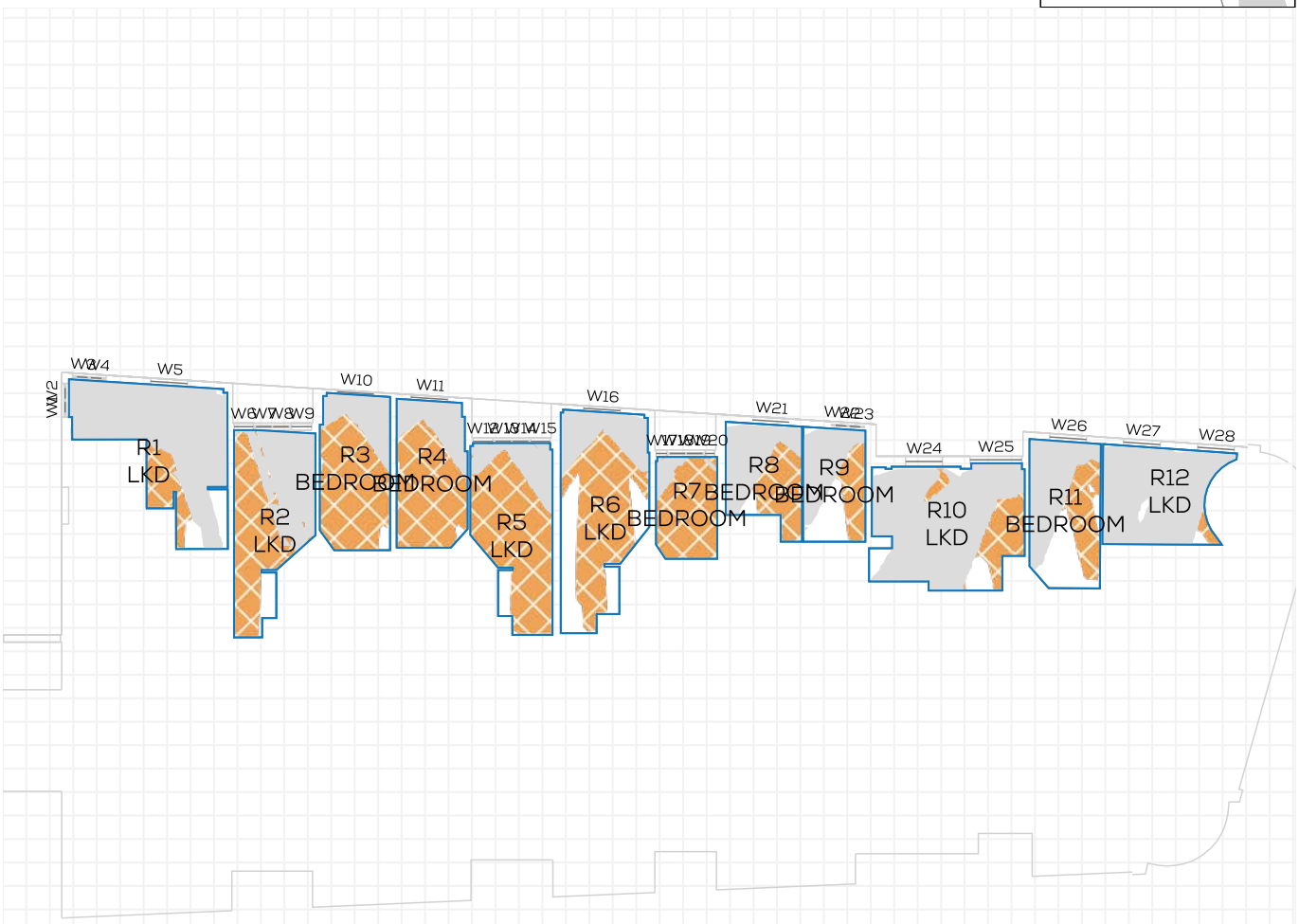
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
ROPEWORKS BLOCK A								
F03	R1	RESIDENTIAL	LKD	29.5	91.6	76.6	4.4	16.3
F03	R2	RESIDENTIAL	LKD	24.0	94.3	42.5	12.5	55
F03	R3	RESIDENTIAL	BEDROOM	19.4	96.8	24.5	14.0	74.7
F03	R4	RESIDENTIAL	BEDROOM	18.2	96.9	24.4	13.2	74.8
F03	R5	RESIDENTIAL	LKD	23.8	95.3	18.3	18.3	80.8
F03	R6	RESIDENTIAL	LKD	29.8	73.9	20.3	16.0	72.5
F03	R7	RESIDENTIAL	BEDROOM	11.2	99.1	10.7	9.9	89.2
F03	R8	RESIDENTIAL	BEDROOM	13.6	93.7	49.3	6.0	47.4
F03	R9	RESIDENTIAL	BEDROOM	13.4	73.9	42.5	4.2	42.6
F03	R10	RESIDENTIAL	LKD	27.8	59.5	28.4	8.6	52.2
F03	R11	RESIDENTIAL	BEDROOM	8.9	97.8	56.4	3.7	42.3
F03	R12	RESIDENTIAL	BEDROOM	18.5	72.6	44.4	5.2	38.8
F03	R13	RESIDENTIAL	LKD	19.4	94.7	91.4	0.6	3.5

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: ROPEWORKS BLOCK A
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL134
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





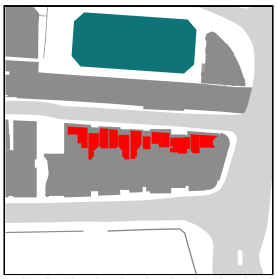
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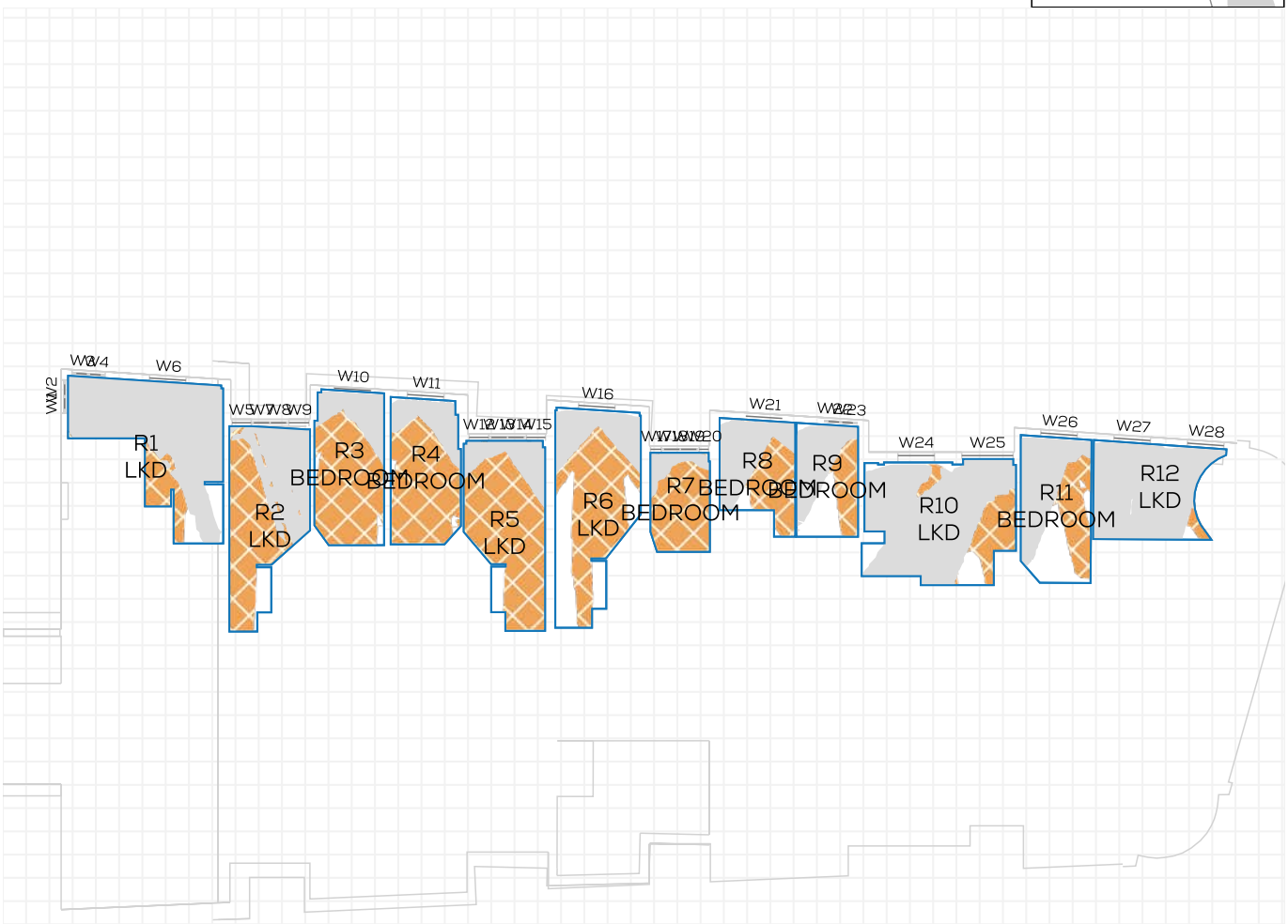
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
ROPEWORKS BLOCK A								
F04	R1	RESIDENTIAL	LKD	29.5	92.8	78	4.4	15.9
F04	R2	RESIDENTIAL	LKD	23.9	94.4	42.1	12.5	55.4
F04	R3	RESIDENTIAL	BEDROOM	19.4	96.8	24.4	14.0	74.8
F04	R4	RESIDENTIAL	BEDROOM	18.2	98.2	26.2	13.2	73.4
F04	R5	RESIDENTIAL	LKD	23.8	94.7	19.5	17.9	79.4
F04	R6	RESIDENTIAL	LKD	29.8	74.6	21.3	15.9	71.4
F04	R7	RESIDENTIAL	BEDROOM	11.2	99.7	11.9	9.8	88.1
F04	R8	RESIDENTIAL	BEDROOM	13.6	93.2	49.6	5.9	46.8
F04	R9	RESIDENTIAL	BEDROOM	12.8	74.8	45.7	3.7	38.8
F04	R10	RESIDENTIAL	LKD	32.0	91.7	74.5	5.5	18.7
F04	R11	RESIDENTIAL	BEDROOM	18.5	74	45.5	5.3	38.5
F04	R12	RESIDENTIAL	LKD	19.4	95.7	92.5	0.6	3.4

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: ROPEWORKS BLOCK A
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL135
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





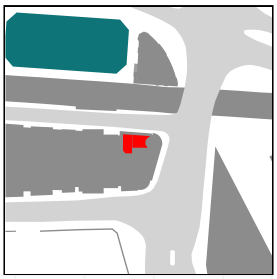
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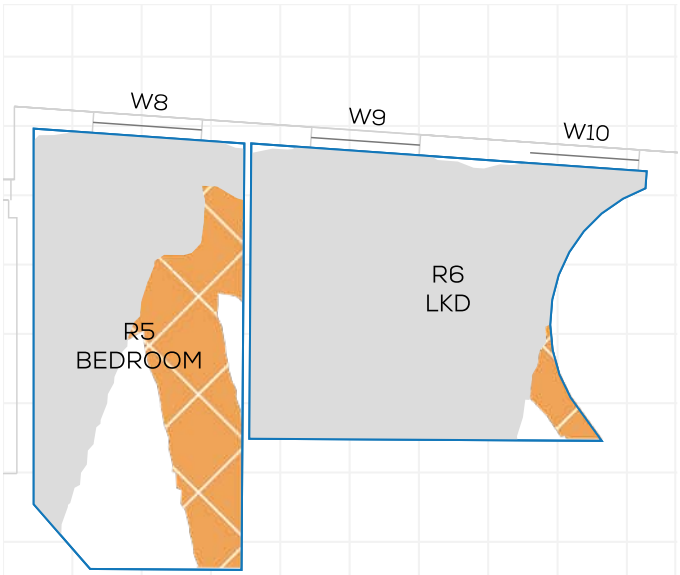
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
ROPEWORKS BLOCK A								
F05	R1	RESIDENTIAL	LKD	29.6	94	80.3	4.0	14.5
F05	R2	RESIDENTIAL	LKD	23.9	94.4	40.3	12.9	57.3
F05	R3	RESIDENTIAL	BEDROOM	19.4	96.3	23.1	14.2	76
F05	R4	RESIDENTIAL	BEDROOM	18.2	95.5	22.8	13.3	76.1
F05	R5	RESIDENTIAL	LKD	23.8	95.4	18.7	18.2	80.4
F05	R6	RESIDENTIAL	LKD	28.0	72.9	21.1	14.5	71
F05	R7	RESIDENTIAL	BEDROOM	10.7	100	18	8.8	82
F05	R8	RESIDENTIAL	BEDROOM	13.6	93.5	50.3	5.9	46.2
F05	R9	RESIDENTIAL	BEDROOM	12.8	75.1	46.1	3.7	38.5
F05	R10	RESIDENTIAL	LKD	32.0	91.8	75	5.4	18.4
F05	R11	RESIDENTIAL	BEDROOM	18.5	74	44.9	5.4	39.4
F05	R12	RESIDENTIAL	LKD	19.4	96.9	93.6	0.6	3.4

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. PROPOSED (PR)
ADDRESS: ROPEWORKS BLOCK A
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS01-NSL136
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F06



F07

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	PR	LOSS-sqm	LOSS %
ROPEWORKS BLOCK A								
F06	R5	RESIDENTIAL	BEDROOM	18.5	76.9	48.1	5.3	37.5
F06	R6	RESIDENTIAL	LKD	19.4	98.2	94.8	0.7	3.4
F07	R5	RESIDENTIAL	BEDROOM	18.5	76.8	48.1	5.3	37.4
F07	R6	RESIDENTIAL	LKD	19.4	98.4	96	0.5	2.4

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS	PR	LOSS	LOSS	MEETS	CONS	PR	LOSS	MEETS	CONS		PR		LOSS %		MEETS
					%	%		%	CRITERIA	%	%	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
HILL QUAYS																				
F00	R1	Residential	Bedroom	W1/F00	8.1	8	0.1	1.2	YES	94.9	95	0	YES	3	0	3	0	0	0	YES
	R2	Residential	Kitchen	W2/F00	4.4	4.4	0	0	YES	88.3	88	0	YES							
				W3/F00	12.7	13	0	0	YES											
	R3	Residential	Reception	W4/F00	1.6	1.6	0	0	YES	100	100	0	YES	1	1	1	1	0	0	YES
				W5/F00	16.2	16	0	0	YES											
				W10/F00	0.1	0.1	0	0	YES					0	0	0	0	0	0	YES
F01	R1	Residential	LKD	W1/F01	10.3	10	0	0	YES	84.1	84	0	YES	26	1	26	1	0	0	YES
				W2/F01	2.9	3	-0.1	-3.4	YES					0	0	0	0	0	0	
				W25/F01	25.9	26	0	0	YES					26	0	26	0	0	0	YES
	R2	Residential	LKD	W3/F01	29.9	30	0.1	0.3	YES	85.4	86	-0.3	YES	38	6	38	6	0	0	YES
				W4/F01	2.2	2.3	-0.1	-4.5	YES					1	0	1	0	0	0	
	R3	Residential	LKD	W5/F01	2.1	2.2	-0.1	-4.8	YES	78.5	79	-0.1	YES							
	R4	Residential	LKD	W6/F01	15.2	15	-0.1	-0.7	YES	67.9	68	0	YES	27	13	27	13	0	0	YES
				W7/F01	12.4	12	0.1	0.8	YES					1	0	1	0	0	0	
	R5	Residential	Bedroom	W8/F01	8.3	8.3	0	0	YES	28.9	29	-2	YES	1	0	1	0	0	0	YES
				W9/F01	13.1	13	0.1	0.8	YES					3	0	3	0	0	0	
				W10/F01	4.9	4.9	0	0	YES					0	0	0	0	0	0	
	R7	Residential	Bedroom	W12/F01	8.7	8.7	0	0	YES	72.1	73	-0.8	YES	3	0	3	0	0	0	YES
	R8	Residential	LKD	W13/F01	5.4	5.4	0	0	YES	88.2	88	0	YES							
				W14/F01	11.6	12	0	0	YES					5	0	5	0	0	0	
				W15/F01	25.8	26	0	0	YES					31	3	31	3	0	0	
				W16/F01	8.3	8.3	0	0	YES					23	2	23	2	0	0	YES
	R9	Residential	LKD	W17/F01	2.6	2.6	0	0	YES	77.3	77	0	YES	0	0	0	0	0	0	YES
				W18/F01	23.3	23	0	0	YES					1	0	1	0	0	0	
	R10	Residential	LKD	W19/F01	5.4	5.3	0.1	1.9	YES	67.6	68	0.1	YES	0	0	0	0	0	0	YES
				W20/F01	25.7	26	0.1	0.4	YES					0	0	0	0	0	0	
	R11	Residential	LKD	W21/F01	7.5	7.4	0.1	1.3	YES	68.2	68	0	YES	0	0	0	0	0	0	YES
				W22/F01	25.9	26	0.1	0.4	YES					0	0	0	0	0	0	
	R12	Residential	LKD	W23/F01	18.7	19	0.1	0.5	YES	68.3	68	0	YES							
	R13	Residential	LKD	W24/F01	13.4	13	0	0	YES	81.4	82	-0.1	YES	0	0	0	0	0	0	YES
F02	R1	Residential	LKD	W1/F02	12	12	0	0	YES	89.3	89	0	YES	29	1	29	1	0	0	YES
				W2/F02	27.3	27	0	0	YES					30	0	30	0	0	0	YES
				W3/F02	3.2	3.2	0	0	YES					0	0	0	0	0	0	
	R2	Residential	LKD	W4/F02	30.6	31	0	0	YES	86.3	87	-0.2	YES	39	7	39	7	0	0	YES
				W5/F02	2.4	2.5	-0.1	-4.2	YES					0	0	0	0	0	0	
	R3	Residential	LKD	W6/F02	2.4	2.5	-0.1	-4.2	YES	85.5	86	0	YES							
	R4	Residential	LKD	W7/F02	17	17	0	0	YES	70.8	71	-0.1	YES	42	14	42	14	0	0	YES
				W8/F02	28	28	0	0	YES					44	13	44	13	0	0	YES
				W9/F02	14.8	15	0	0	YES					0	0	0	0	0	0	
	R5	Residential	Bedroom	W10/F02	9.2	9.1	0.1	1.1	YES	38	39	-1.7	YES	1	0	1	0	0	0	YES
				W11/F02	16.3	16	0.1	0.6	YES					0	0	0	0	0	0	
				W12/F02	6.1	6.1	0	0	YES					0	0	0	0	0	0	
	R7	Residential	Bedroom	W14/F02	9.5	9.4	0.1	1.1	YES	75.4	76	-0.5	YES	3	0	3	0	0	0	YES
	R8	Residential	LKD	W15/F02	6.6	6.6	0	0	YES	91.4	91	0	YES	0	0	0	0	0	0	
				W16/F02	12.8	13	0	0	YES					0	0	0	0	0	0	
				W17/F02	27.4	27	0	0	YES					31	3	31	3	0	0	
				W18/F02	8.6	8.6	0	0	YES					23	2	23	2	0	0	YES
	R9	Residential	LKD	W19/F02	3.3	3.3	0	0	YES	78.6	79	0	YES	0	0	0	0	0	0	YES
				W20/F02	24.5	25	0	0	YES					0	0	0	0	0	0	
	R10	Residential	LKD	W21/F02	6.2	6.1	0.1	1.6	YES	68.9	69	0	YES	0	0	0	0	0	0	YES
				W22/F02	27.1	27	0.1	0.4	YES					0	0	0	0	0	0	
	R11	Residential	LKD	W23/F02	8.3	8.3	0	0	YES	69.6	70	-0.2	YES	0	0	0	0	0	0	YES
				W24/F02	27.3	27	0.1	0.4	YES					0	0	0	0	0	0	
	R12	Residential	LKD	W25/F02	19.5	19	0.1	0.5	YES	68.4	68	0	YES							
	R13	Residential	LKD	W26/F02	14.7	15	0	0	YES	86.5	87	0	YES	1	0	1	0	0	0	YES
F03	R1	Residential	LKD	W1/F03	14.1	14	0	0	YES	91.5	92	0	YES	33	3	33	3	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
				W2/F03	29	29	0.1	0.3	YES					35	3	35	3	0	0	YES
				W3/F03	3.4	3.3	0.1	2.9	YES					0	0	0	0	0	0	
	R2	Residential	LKD	W4/F03	31.5	32	0	0	YES	86.6	87	-0.3	YES	40	8	40	8	0	0	YES
				W5/F03	2.6	2.7	-0.1	-3.8	YES					1	0	1	0	0	0	
	R3	Residential	LKD	W6/F03	2.7	2.8	-0.1	-3.7	YES	87	87	0	YES							
	R4	Residential	LKD	W7/F03	17.5	18	0	0	YES	74.6	75	-0.1	YES	42	14	42	14	0	0	YES
				W8/F03	29	29	0	0	YES					44	13	44	13	0	0	YES
				W9/F03	17.7	18	0.1	0.6	YES					6	0	6	0	0	0	
	R5	Residential	Bedroom	W10/F03	10	9.9	0.1	1	YES	56.9	58	-1.1	YES	1	0	1	0	0	0	YES
				W11/F03	19.7	20	0.1	0.5	YES					3	0	3	0	0	0	
				W12/F03	7.4	7.4	0	0	YES					0	0	0	0	0	0	
	R7	Residential	Bedroom	W14/F03	10.3	10	0	0	YES	79.9	80	-0.4	YES	4	0	4	0	0	0	YES
	R8	Residential	LKD	W15/F03	7.6	7.6	0	0	YES	93.2	93	0	YES	0	0	0	0	0	0	
				W16/F03	14	14	0	0	YES					6	0	6	0	0	0	
				W17/F03	28.7	29	0	0	YES					32	3	32	3	0	0	
				W18/F03	8.9	8.9	0	0	YES					23	2	23	2	0	0	YES
	R9	Residential	LKD	W19/F03	4.2	4.2	0	0	YES	79.4	79	0	YES	0	0	0	0	0	0	YES
				W20/F03	25.9	26	0.1	0.4	YES					1	0	1	0	0	0	
	R10	Residential	LKD	W21/F03	7.1	7.1	0	0	YES	70.1	70	0	YES	0	0	0	0	0	0	YES
				W22/F03	28.3	28	0.1	0.4	YES					1	0	1	0	0	0	
	R11	Residential	LKD	W23/F03	9.3	9.2	0.1	1.1	YES	72.1	72	-0.3	YES	0	0	0	0	0	0	YES
				W24/F03	28.4	28	0.1	0.4	YES					0	0	0	0	0	0	
	R12	Residential	LKD	W25/F03	20.3	20	0.1	0.5	YES	68.7	69	0	YES							
	R13	Residential	LKD	W26/F03	16.3	16	0	0	YES	86.6	87	0	YES	3	0	3	0	0	0	YES
F04	R1	Residential	LKD	W1/F04	16.4	16	0	0	YES	93.4	93	0	YES	38	6	38	6	0	0	YES
				W2/F04	30.6	31	0	0	YES					36	4	36	4	0	0	YES
				W3/F04	3.6	3.5	0.1	2.8	YES					1	0	1	0	0	0	
	R2	Residential	LKD	W4/F04	32.4	32	0	0	YES	86.7	87	-0.4	YES	42	10	42	10	0	0	YES
				W5/F04	2.7	2.8	-0.1	-3.7	YES					2	0	2	0	0	0	
	R3	Residential	LKD	W6/F04	3.3	3.4	-0.1	-3	YES	87.4	87	0	YES							
	R4	Residential	LKD	W7/F04	18	18	0	0	YES	96.7	97	0	YES	42	14	42	14	0	0	YES
				W8/F04	29.9	30	0	0	YES					45	13	45	13	0	0	YES
				W9/F04	20.7	21	0.1	0.5	YES					5	0	5	0	0	0	
	R5	Residential	Bedroom	W10/F04	10.7	11	0.1	0.9	YES	84	85	-0.8	YES	2	0	2	0	0	0	YES
				W11/F04	23.1	23	0	0	YES					3	0	3	0	0	0	
				W12/F04	8.6	8.6	0	0	YES					0	0	0	0	0	0	
	R7	Residential	Bedroom	W14/F04	11	11	0	0	YES	83.6	84	-0.5	YES	4	0	4	0	0	0	YES
	R8	Residential	LKD	W15/F04	8.8	8.8	0	0	YES	94.2	94	0	YES	0	0	0	0	0	0	
				W16/F04	15.3	15	0	0	YES					1	0	1	0	0	0	
				W17/F04	29.8	30	0	0	YES					32	3	32	3	0	0	
				W18/F04	9.1	9.1	0	0	YES					23	2	23	2	0	0	YES
	R9	Residential	LKD	W19/F04	5.5	5.5	0	0	YES	80.1	80	0	YES	0	0	0	0	0	0	YES
				W20/F04	27.2	27	0	0	YES					2	0	2	0	0	0	
	R10	Residential	LKD	W21/F04	8.3	8.2	0.1	1.2	YES	72.3	72	0	YES	0	0	0	0	0	0	YES
				W22/F04	29.5	29	0.1	0.3	YES					1	0	1	0	0	0	
	R11	Residential	LKD	W23/F04	10.2	10	0	0	YES	76.5	77	-0.8	YES	0	0	0	0	0	0	YES
				W24/F04	29.4	29	0	0	YES					1	0	1	0	0	0	
	R12	Residential	LKD	W25/F04	21	21	0.1	0.5	YES	69	69	0	YES							
	R13	Residential	LKD	W26/F04	18.1	18	0	0	YES	86.7	87	0	YES	3	0	3	0	0	0	YES
F05	R1	Residential	LKD	W1/F05	18.7	19	0	0	YES	95.6	96	0	YES	42	9	42	9	0	0	YES
				W2/F05	32.1	32	0	0	YES					41	8	41	8	0	0	YES
				W3/F05	3.9	3.8	0.1	2.6	YES					0	0	0	0	0	0	
	R2	Residential	LKD	W4/F05	33.2	33	0.1	0.3	YES	87.1	87	-0.3	YES	43	10	43	10	0	0	YES
				W5/F05	4	4.1	-0.1	-2.5	YES					1	0	1	0	0	0	
	R3	Residential	LKD	W6/F05	4.3	4.4	-0.1	-2.3	YES	88.6	89	0	YES							
	R4	Residential	LKD	W7/F05	18.5	19	0	0	YES	99.4	99	0	YES	43	14	43	14	0	0	YES
				W8/F05	30.7	31	0	0	YES					45	13	45	13	0	0	YES
				W9/F05	22.7	23	0.1	0.4	YES					7	0	7	0	0	0	

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R5	Residential	Bedroom	W10/F05	11.1	11	0	0	YES	85.4	86	-0.9	YES	2	0	2	0	0	0	YES
				W11/F05	25.8	26	0.1	0.4	YES					5	0	5	0	0	0	
				W12/F05	9.7	9.7	0	0	YES					1	0	1	0	0	0	
	R7	Residential	Bedroom	W14/F05	11.5	12	0	0	YES	84.3	85	-0.4	YES	5	0	5	0	0	0	YES
	R8	Residential	LKD	W15/F05	9.8	9.8	0	0	YES	95.8	96	0	YES							
				W16/F05	16.5	17	0	0	YES					6	0	6	0	0	0	
				W17/F05	30.8	31	0	0	YES					12	1	12	1	0	0	
				W18/F05	9.3	9.3	0	0	YES					23	2	23	2	0	0	YES
	R9	Residential	LKD	W19/F05	7.3	7.2	0.1	1.4	YES	80.6	81	0	YES	0	0	0	0	0	0	YES
				W20/F05	28.6	29	0.1	0.3	YES					1	0	1	0	0	0	
	R10	Residential	LKD	W21/F05	9.7	9.6	0.1	1	YES	77.1	77	-0.2	YES	0	0	0	0	0	0	YES
				W22/F05	30.6	31	0	0	YES					1	0	1	0	0	0	
	R11	Residential	LKD	W23/F05	11.3	11	0	0	YES	83	83	0	YES	0	0	0	0	0	0	YES
				W24/F05	30.5	31	0	0	YES					2	0	2	0	0	0	
	R12	Residential	LKD	W25/F05	21.7	22	0	0	YES	68.8	69	0	YES							
	R13	Residential	LKD	W26/F05	20.4	20	0	0	YES	86.7	87	0	YES	7	0	7	0	0	0	YES
F06	R1	Residential	LKD	W1/F06	20.6	21	0	0	YES	96	96	0	YES	46	12	46	12	0	0	YES
				W2/F06	33.5	34	0	0	YES					43	10	43	10	0	0	YES
				W3/F06	5.3	5.2	0.1	1.9	YES					0	0	0	0	0	0	
	R2	Residential	LKD	W4/F06	33.8	34	0	0	YES	91.1	92	-0.3	YES	45	11	45	11	0	0	YES
				W5/F06	5.3	5.4	-0.1	-1.9	YES					1	0	1	0	0	0	
	R3	Residential	LKD	W6/F06	5.3	5.4	-0.1	-1.9	YES	92.2	92	0	YES							
	R4	Residential	LKD	W7/F06	19.2	19	0	0	YES	99.6	100	0	YES	44	15	44	15	0	0	YES
				W8/F06	30.8	31	0	0	YES					47	14	47	14	0	0	YES
				W9/F06	23	23	0.1	0.4	YES					3	0	3	0	0	0	
	R5	Residential	Bedroom	W10/F06	10.7	11	0	0	YES	85.4	86	-1	YES	2	0	2	0	0	0	YES
				W11/F06	27	27	0.1	0.4	YES					1	0	1	0	0	0	
				W12/F06	10.6	11	0	0	YES					0	0	0	0	0	0	
	R7	Residential	Bedroom	W14/F06	11.5	12	0	0	YES	84.6	85	-0.4	YES	7	0	7	0	0	0	YES
	R8	Residential	LKD	W15/F06	10.4	10	0	0	YES	95.9	96	0	YES	0	0	0	0	0	0	
				W16/F06	17.5	18	0	0	YES					2	1	2	1	0	0	
				W17/F06	31.6	32	0	0	YES					33	3	33	3	0	0	
				W18/F06	10.2	10	0	0	YES					24	2	24	2	0	0	YES
	R9	Residential	LKD	W19/F06	9.3	9.3	0	0	YES	81.8	82	0	YES	0	0	0	0	0	0	YES
				W20/F06	30.2	30	0.1	0.3	YES					1	0	1	0	0	0	
	R10	Residential	LKD	W21/F06	11.3	11	0	0	YES	84.6	85	0	YES	0	0	0	0	0	0	YES
				W22/F06	31.8	32	0.1	0.3	YES					1	0	1	0	0	0	
	R11	Residential	LKD	W23/F06	12.6	13	0	0	YES	87.6	88	0	YES	1	0	1	0	0	0	YES
				W24/F06	31.6	32	0.1	0.3	YES					1	0	1	0	0	0	
	R12	Residential	LKD	W25/F06	22.6	23	0.1	0.4	YES	69.2	69	0	YES							
	R13	Residential	LKD	W26/F06	23.6	24	0	0	YES	86.7	87	0	YES	12	0	12	0	0	0	YES
F07	R1	Residential	LKD	W1/F07	22.4	22	0	0	YES	96.1	96	0	YES	47	13	47	13	0	0	YES
				W2/F07	34.5	35	0	0	YES					45	11	45	11	0	0	YES
				W3/F07	6.6	6.6	0	0	YES					0	0	0	0	0	0	
	R2	Residential	LKD	W5/F07	34.4	34	0	0	YES	99.7	100	0	YES	45	11	45	11	0	0	YES
				W6/F07	6.7	6.8	-0.1	-1.5	YES					1	0	1	0	0	0	
				W100/F07	31.6	32	0	0	YES					29	4	29	4	0	0	YES
	R3	Residential	LKD	W7/F07	33.7	34	0	0	YES	100	100	0	YES	45	13	45	13	0	0	YES
				W8/F07	8.2	8.3	-0.1	-1.2	YES					1	0	1	0	0	0	
	R4	Residential	Bedroom	W9/F07	20.3	20	0	0	YES	100	100	0	YES	45	16	45	16	0	0	YES
				W10/F07	23.9	24	-0.1	-0.4	YES					35	13	35	13	0	0	YES
				W11/F07	18.5	19	0	0	YES					9	0	9	0	0	0	
	R5	Residential	Bedroom	W12/F07	8.3	8.2	0.1	1.2	YES	84.4	85	-0.9	YES	2	0	2	0	0	0	YES
				W13/F07	25.1	25	0.1	0.4	YES					4	0	4	0	0	0	
				W14/F07	10.7	11	0	0	YES					2	2	2	2	0	0	
	R7	Residential	Bedroom	W16/F07	10.8	11	0.1	0.9	YES	91.8	92	-0.1	YES	8	1	8	1	0	0	YES
	R8	Residential	LKD	W17/F07	12.2	12	0	0	YES	92.8	93	0	YES							
	R9	Residential	LKD	W18/F07	0.1	0.1	0	0	YES	89.8	90	0	YES	0	0	0	0	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS	PR	LOSS	LOSS	MEETS	CONS	PR	LOSS	MEETS	CONS		PR		LOSS %		MEETS
					%	%		%	CRITERIA	%	%	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
				W19/F07	2.8	2.8	0	0	YES					0	0	0	0	0	0	
	R10	Residential	LKD	W20/F07	3.1	3.1	0	0	YES	90.3	90	0	YES							
	R11	Residential	LKD	W21/F07	3.1	3.1	0	0	YES	88.8	89	0	YES							
	R12	Residential	LKD	W22/F07	23.7	24	0	0	YES	70.1	70	0	YES							
	R13	Residential	LKD	W23/F07	28.5	28	0.1	0.4	YES	86.8	87	0	YES	27	0	27	0	0	0	YES
F08	R1	Residential	LKD	W1/F08	24.2	24	0	0	YES	96.2	96	0	YES	49	13	49	13	0	0	YES
				W2/F08	35.2	35	0.1	0.3	YES					47	12	47	12	0	0	YES
				W3/F08	8.8	8.7	0.1	1.1	YES					1	0	1	0	0	0	
	R2	Residential	LKD	W5/F08	34.9	35	0	0	YES	96.3	96	0	YES	46	11	46	11	0	0	YES
				W6/F08	8.6	8.7	-0.1	-1.2	YES					1	0	1	0	0	0	
				W100/F08	32.6	33	0	0	YES					32	4	32	4	0	0	YES
	R3	Residential	Unknown	W8/F08	31.5	32	0	0	YES	100	100	0	YES	13	0	13	0	0	0	
				W15/F08	32.6	33	0	0	YES					41	6	41	6	0	0	YES
	R4	Residential	Unknown	W9/F08	30.5	31	0	0	YES	100	100	0	YES	38	6	38	6	0	0	YES
				W10/F08	29.2	29	0.1	0.3	YES					4	0	4	0	0	0	
	R5	Residential	Bedroom	W11/F08	30.9	31	0.1	0.3	YES	99.1	99	0.1	YES							
				W13/F08	28.9	29	0	0	YES											
	R6**	Residential	Bedroom	W12/F08	31.3	31	0	0	YES	99.9	100	0	YES							
	R7	Residential	LKD	W14/F08	31.9	32	0	0	YES	86.7	87	0	YES	34	2	34	2	0	0	YES
F09	R1	Residential	LKD	W2/F09	34	34	0	0	YES	86.7	87	0	YES	39	7	39	7	0	0	YES

RIVERSIDE MEWS																				
F00	R1	Residential	LKD	W1/F00	9.7	9.7	0	0	YES	99.6	100	0	YES	17	0	17	0	0	0	YES
				W2/F00	10.6	11	0	0	YES					16	0	16	0	0	0	YES
				W3/F00	26.4	26	0	0	YES					19	1	19	1	0	0	
				W4/F00	26.4	26	0	0	YES					19	1	19	1	0	0	
				W5/F00	26.4	26	0	0	YES					19	1	19	1	0	0	
				W6/F00	26.4	26	0	0	YES					19	1	19	1	0	0	
	R2	Residential	Unknown	W7/F00	22.6	23	0.1	0.4	YES	97.1	97	0	YES							
	R3	Residential	Unknown	W8/F00	22.2	22	0.1	0.5	YES	90.3	91	-0.8	YES							
	R4	Residential	Unknown	W9/F00	12	12	0	0	YES	37.8	38	-0.1	YES							
	R5	Residential	Unknown	W10/F00	7.6	7.6	0	0	YES	27.6	28	0	YES							
	R6	Residential	Unknown	W11/F00	4.6	4.6	0	0	YES	16.9	17	0	YES							
	R7	Residential	Unknown	W12/F00	3	3	0	0	YES	10	10	0	YES							
	R8	Residential	Unknown	W13/F00	2	2	0	0	YES	6.6	6.6	0	YES							
F01	R1	Residential	Bedroom	W1/F01	14.2	14	0	0	YES	99.7	100	0	YES	22	1	22	1	0	0	YES
				W2/F01	27.5	28	0	0	YES					20	1	20	1	0	0	
				W3/F01	27.5	28	0	0	YES					20	2	20	2	0	0	
	R2	Residential	Bedroom	W4/F01	27.6	28	0.1	0.4	YES	98.6	99	0	YES							
	R3	Residential	Bedroom	W5/F01	27.6	28	0	0	YES	98.9	99	0	YES							
				W6/F01	27.6	28	0	0	YES											
	R4	Residential	Bedroom	W7/F01	26.7	27	0	0	YES	91.1	91	0	YES							
				W8/F01	23.3	23	0	0	YES											
	R5	Residential	Bedroom	W9/F01	22.2	22	0	0	YES	99.7	100	0	YES							
	R6	Residential	LKD	W10/F01	21.2	21	0	0	YES	88.4	88	0	YES							
				W11/F01	19.8	20	0	0	YES											
	R7	Residential	Unknown	W12/F01	24.9	25	0	0	YES	98.9	99	0	YES							
	R8	Residential	Unknown	W13/F01	26.4	26	0.1	0.4	YES	99	99	0	YES							
				W14/F01	25.9	26	0	0	YES											
	R9**	Residential	Unknown	W15/F01	25.1	25	0	0	YES	99.3	99	0	YES							
				W16/F01	24.6	25	0	0	YES											
	R10	Residential	Unknown	W17/F01	23.3	23	0	0	YES	96.3	96	0	YES							
	R11	Residential	Unknown	W18/F01	21.6	22	0	0	YES	98.4	98	0	YES							
	R12	Residential	Unknown	W19/F01	15.4	15	0	0	YES	70.9	73	-2.7	YES							
	R13	Residential	Unknown	W20/F01	9.6	9.6	0	0	YES	41.4	41	0	YES							
	R14	Residential	Unknown	W21/F01	5.5	5.5	0	0	YES	18.2	18	0	YES							
	R15	Residential	Unknown	W22/F01	3.4	3.4	0	0	YES	11.3	11	0	YES							
	R16	Residential	Unknown	W23/F01	2.4	2.4	0	0	YES	8.1	8.1	0	YES							

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
F02	R1	Residential	Unknown	W1/F02	28.4	28	0.1	0.4	YES	89.9	90	0.4	YES							
	R2	Residential	Unknown	W2/F02	28.1	28	0	0	YES	86.4	86	0.1	YES							
	R3	Residential	Unknown	W3/F02	27.4	27	0.1	0.4	YES	85.2	85	0	YES							
	R4	Residential	Unknown	W4/F02	25.2	25	0	0	YES	85.6	86	0	YES							
	R5	Residential	Unknown	W5/F02	17.7	18	0.1	0.6	YES	78.1	80	-2.4	YES							
	R6	Residential	Unknown	W6/F02	11.3	11	0	0	YES	46.5	47	0	YES							
	R7	Residential	Unknown	W7/F02	6.7	6.7	0	0	YES	22.9	23	0	YES							
	R8	Residential	Unknown	W8/F02	4.4	4.4	0	0	YES	16.3	16	0	YES							
	R9	Residential	Unknown	W9/F02	3.1	3.1	0	0	YES	12.2	12	0	YES							
THE RHINE																				
B01	R1	Residential	Unknown	W1/B01	25.3	25	0.2	0.8	YES	84	84	0	YES							
	R2	Residential	Unknown	W2/B01	24.7	25	0.1	0.4	YES	83.7	84	0	YES							
	R3	Residential	Unknown	W3/B01	22.9	23	0.1	0.4	YES	84.2	84	0	YES							
	R4	Residential	Unknown	W4/B01	22.1	22	0.1	0.5	YES	77.2	77	0	YES							
	R5	Residential	Unknown	W5/B01	20.8	21	0.1	0.5	YES	72.9	73	0	YES							
	R6	Residential	Unknown	W6/B01	19.3	19	0.1	0.5	YES	64.6	65	0	YES							
F00	R1	Residential	LKD	W1/F00	25.5	25	0.1	0.4	YES	95.3	95	0	YES	3	0	3	0	0	0	
				W2/F00	5.3	5.3	0	0	YES					1	0	1	0	0	0	YES
	R2	Residential	Bedroom	W3/F00	8.2	8.1	0.1	1.2	YES	80.1	80	0.2	YES							
	R3	Residential	LKD	W4/F00	23.7	24	0.1	0.4	YES	73.3	73	0	YES							
				W5/F00	5	5	0	0	YES					1	0	1	0	0	0	YES
	R4	Residential	Bedroom	W6/F00	6.3	6.3	0	0	YES	71.9	72	-0.2	YES							
	R5	Residential	Bedroom	W7/F00	20.2	20	0.1	0.5	YES	89.2	89	0	YES							
	R6	Residential	Bedroom	W8/F00	20.4	20	0	0	YES	74.8	75	0	YES							
	R7	Residential	Bedroom	W9/F00	6.8	6.8	0	0	YES	57.8	58	0	YES							
	R8	Residential	LKD	W10/F00	9.3	9.2	0.1	1.1	YES	87.5	88	0	YES							
				W11/F00	20.5	20	0.1	0.5	YES											
F01	R1	Residential	LKD	W1/F01	26.6	26	0.2	0.8	YES	99.9	100	0	YES	2	0	2	0	0	0	
				W2/F01	5.9	5.9	0	0	YES					2	0	2	0	0	0	YES
	R2	Residential	Bedroom	W3/F01	9.1	9.1	0	0	YES	88.6	89	0.1	YES							
	R3	Residential	LKD	W4/F01	24.8	25	0.1	0.4	YES	79.9	80	0	YES	1	0	1	0	0	0	
				W5/F01	5.6	5.6	0	0	YES					1	0	1	0	0	0	YES
	R4	Residential	Bedroom	W6/F01	8.5	8.5	0	0	YES	78.5	79	-0.1	YES							
	R5	Residential	Bedroom	W7/F01	21.4	21	0	0	YES	90.9	91	0	YES							
	R6	Residential	Bedroom	W8/F01	21.6	22	0.1	0.5	YES	78.2	78	0	YES							
	R7	Residential	LKD	W9/F01	9.8	9.8	0	0	YES	92.7	93	0	YES							
				W11/F01	21.9	22	0.1	0.5	YES											
	R8	Residential	Bedroom	W10/F01	9	8.9	0.1	1.1	YES	64.5	65	0	YES							
F02	R1	Residential	LKD	W1/F02	27.6	28	0.1	0.4	YES	99.9	100	0	YES	6	0	6	0	0	0	
				W2/F02	6.6	6.6	0	0	YES					4	0	4	0	0	0	YES
	R2	Residential	Bedroom	W3/F02	10	10	0	0	YES	92.5	92	0.1	YES							
	R3	Residential	LKD	W4/F02	26	26	0.1	0.4	YES	85.2	85	0	YES							
				W5/F02	6.2	6.2	0	0	YES					2	0	2	0	0	0	YES
	R4	Residential	Bedroom	W6/F02	9.6	9.6	0	0	YES	86.7	87	0	YES							
	R5	Residential	Bedroom	W7/F02	22.6	23	0.1	0.4	YES	94.3	94	0	YES							
	R6	Residential	Bedroom	W8/F02	22.8	23	0.1	0.4	YES	84.6	85	0	YES							
	R7	Residential	LKD	W9/F02	10.1	10	0.1	1	YES	95.1	95	0	YES							
				W11/F02	23.5	23	0.1	0.4	YES											
	R8	Residential	Bedroom	W10/F02	10.1	10	0.1	1	YES	73	73	0	YES							
F03	R1	Residential	LKD	W1/F03	28.6	29	0.1	0.3	YES	99.9	100	0	YES	5	0	5	0	0	0	
				W2/F03	7.2	7.2	0	0	YES					5	0	5	0	0	0	YES
	R2	Residential	Bedroom	W3/F03	11	11	0.1	0.9	YES	93.7	94	0.1	YES							
	R3	Residential	LKD	W4/F03	27.2	27	0.1	0.4	YES	92.4	92	0	YES	4	0	4	0	0	0	
				W5/F03	6.9	6.9	0	0	YES					4	0	4	0	0	0	YES
	R4	Residential	Bedroom	W6/F03	10.7	11	0	0	YES	92	92	0	YES							
	R5	Residential	Bedroom	W7/F03	23.7	24	0.1	0.4	YES	97.8	98	0	YES							
	R6	Residential	Bedroom	W8/F03	24	24	0.1	0.4	YES	93.9	94	0	YES							

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS	PR	LOSS	LOSS	MEETS	CONS	PR	LOSS	MEETS	CONS		PR		LOSS %		MEETS
					%	%		%	CRITERIA	%	%	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
	R7	Residential	LKD	W9/F03	10.4	10	0.1	1	YES	97.7	98	0	YES							
				W11/F03	25.1	25	0.1	0.4	YES											
	R8	Residential	Bedroom	W10/F03	11.2	11	0.1	0.9	YES	85.8	86	0	YES							
F04	R1	Residential	LKD	W1/F04	29.6	30	0.1	0.3	YES	99.9	100	0	YES	7	0	7	0	0	0	
				W2/F04	7.9	7.9	0	0	YES					5	0	5	0	0	0	YES
	R2	Residential	Bedroom	W3/F04	11.9	12	0.1	0.8	YES	93.9	94	0.2	YES							
	R3	Residential	LKD	W4/F04	28.4	28	0.1	0.4	YES	97.8	98	0	YES							
				W5/F04	7.6	7.6	0	0	YES					4	0	4	0	0	0	YES
	R4	Residential	Bedroom	W6/F04	11.8	12	0	0	YES	92.5	93	0	YES							
	R5	Residential	Bedroom	W7/F04	23.9	24	0.1	0.4	YES	98.3	98	0	YES							
	R6	Residential	Bedroom	W8/F04	24.3	24	0.1	0.4	YES	98.1	98	0	YES							
	R7	Residential	LKD	W9/F04	10.7	11	0.1	0.9	YES	100	100	0	YES							
				W11/F04	26.8	27	0.1	0.4	YES											
	R8	Residential	Bedroom	W10/F04	12.3	12	0.1	0.8	YES	92.5	93	0	YES							
F05	R1	Residential	LKD	W1/F05	30.5	30	0.1	0.3	YES	99.9	100	0	YES							
				W2/F05	8.5	8.5	0	0	YES					5	0	5	0	0	0	YES
	R2	Residential	Bedroom	W3/F05	12.8	13	0.1	0.8	YES	94	94	0.1	YES							
	R3	Residential	LKD	W4/F05	29.7	30	0.1	0.3	YES	97.9	98	0	YES	4	0	4	0	0	0	
				W5/F05	7.3	7.3	0	0	YES					3	0	3	0	0	0	YES
	R4	Residential	Bedroom	W6/F05	9.8	9.8	0	0	YES	91.9	92	0	YES							
	R5	Residential	Bedroom	W7/F05	11.2	11	0	0	YES	97.8	98	0	YES							
	R6	Residential	Bedroom	W8/F05	11	11	0	0	YES	97.7	98	0	YES							
	R7	Residential	LKD	W9/F05	9.6	9.5	0.1	1	YES	100	100	0	YES							
				W11/F05	28.5	28	0.1	0.4	YES											
	R8	Residential	Bedroom	W10/F05	9.5	9.5	0	0	YES	94.5	95	0	YES							
F06	R1	Residential	LKD	W1/F06	31.4	31	0.1	0.3	YES	99.9	100	0	YES	8	0	8	0	0	0	
				W2/F06	13.2	13	0	0	YES					9	0	9	0	0	0	YES
	R2	Residential	Bedroom	W3/F06	24.6	25	0	0	YES	96.8	97	0	YES							
	R3	Residential	LKD	W4/F06	30.8	31	0.1	0.3	YES	98	98	0	YES							
				W5/F06	9.5	9.5	0	0	YES					3	0	3	0	0	0	YES
	R4	Residential	Bedroom	W6/F06	20.2	20	0	0	YES	95.1	95	0	YES							
	R5	Residential	Bedroom	W7/F06	24.1	24	0.1	0.4	YES	98.4	98	0	YES							
	R6	Residential	Bedroom	W8/F06	24.2	24	0.1	0.4	YES	98.3	98	0	YES							
	R7	Residential	LKD	W9/F06	11.7	12	0	0	YES	100	100	0	YES							
				W11/F06	29.9	30	0.1	0.3	YES											
	R8	Residential	Bedroom	W10/F06	20.5	20	0.1	0.5	YES	96.1	96	0	YES							

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B01	R1	Residential	Unknown	W1/B01	17.7	18	0.1	0.6	YES	58.2	58	0.8	YES							
	R2	Residential	Unknown	W2/B01	19.4	19	0	0	YES	52.8	53	0	YES							
	R3	Residential	Unknown	W3/B01	20.9	21	0	0	YES	78.8	79	0	YES							
				W4/B01	22	22	0.1	0.5	YES											
	R4	Residential	Unknown	W5/B01	23	23	0.1	0.4	YES	78.7	79	0	YES							
	R5	Residential	Unknown	W6/B01	23.5	24	0	0	YES	78.7	79	0	YES							
	R6	Residential	Unknown	W7/B01	24.3	24	0.1	0.4	YES	71.4	71	0	YES							
F00	R1	Residential	LKD	W1/F00	29.8	30	0	0	YES	100	100	0	YES	49	13	49	13	0	0	YES
				W2/F00	30	30	0	0	YES					50	13	50	13	0	0	YES
				W3/F00	26.1	26	0.1	0.4	YES					9	0	9	0	0	0	
				W4/F00	15.4	15	0	0	YES					2	0	2	0	0	0	
	R3**	Residential	LKD	W8/F00	24.6	25	0.1	0.4	YES	80.6	81	0	YES							
	R4	Residential	Bedroom	W9/F00	7.8	7.8	0	0	YES	86.5	87	0	YES							
	R5	Residential	Bedroom	W10/F00	21	21	0	0	YES	96.5	97	0	YES							
	R6	Residential	Bedroom	W11/F00	20.5	20	0.1	0.5	YES	91.8	92	0.1	YES							
	R7	Residential	Bedroom	W12/F00	8	8	0	0	YES	77.8	77	0.5	YES							
	R8	Residential	LKD	W13/F00	6.2	6.2	0	0	YES	97.9	98	0	YES							
				W14/F00	19.6	20	0	0	YES											
	R9	Residential	Unknown	W15/F00	16.5	16	0.1	0.6	YES	38.3	38	0	YES							
	R10	Residential	Bedroom	W16/F00	11.3	11	0.1	0.9	YES	38.7	39	0	YES							

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R11	Residential	LKD	W17/F00	4.4	4.3	0.1	2.3	YES	52.4	52	0	YES							
				W19/F00	10.7	11	0	0	YES											
	R12	Residential	Bedroom	W18/F00	1.7	1.7	0	0	YES	36.3	36	0.5	YES							
	R13	Residential	Bedroom	W20/F00	3	3	0	0	YES	17.4	17	0	YES							
	R14	Residential	Bedroom	W21/F00	8.5	8.5	0	0	YES	25.8	26	0	YES							
	R15	Residential	Bedroom	W22/F00	11	11	0	0	YES	25.4	25	0	YES							
F01	R1	Residential	LKD	W1/F01	30.6	31	0	0	YES	100	100	0	YES	50	13	50	13	0	0	YES
				W2/F01	30.8	31	0	0	YES					53	15	53	15	0	0	YES
				W3/F01	26.8	27	0.1	0.4	YES					8	0	8	0	0	0	
				W4/F01	17.2	17	0	0	YES					8	0	8	0	0	0	
	R3	Residential	LKD	W8/F01	25.3	25	0	0	YES	90.2	90	0	YES	6	0	6	0	0	0	
				W9/F01	4.2	4.2	0	0	YES					6	0	6	0	0	0	YES
	R4	Residential	Bedroom	W10/F01	8.4	8.4	0	0	YES	86.6	87	0	YES							
	R5	Residential	Bedroom	W11/F01	21.9	22	0	0	YES	96.5	97	0	YES							
	R6	Residential	Bedroom	W12/F01	21.5	22	0	0	YES	93	93	0.1	YES							
	R7	Residential	LKD	W13/F01	8.2	8.1	0.1	1.2	YES	99.2	99	0	YES							
				W15/F01	20.7	21	0.1	0.5	YES											
	R8	Residential	Bedroom	W14/F01	8.6	8.6	0	0	YES	78	78	0.1	YES							
	R9	Residential	Unknown	W16/F01	17.5	17	0.1	0.6	YES	41	41	0	YES							
	R10	Residential	Bedroom	W17/F01	12.6	13	0	0	YES	43.4	43	0	YES							
	R11	Residential	LKD	W18/F01	4.9	4.8	0.1	2	YES	55.7	56	0	YES							
				W20/F01	12.5	13	0	0	YES					3	0	3	0	0	0	
				W21/F01	2.1	2.1	0	0	YES					2	0	2	0	0	0	YES
	R12	Residential	Bedroom	W19/F01	2.1	2	0.1	4.8	YES	42.7	43	0.3	YES							
	R13	Residential	Bedroom	W22/F01	4.2	4.2	0	0	YES	23.2	23	0	YES							
	R14	Residential	Bedroom	W23/F01	9.5	9.5	0	0	YES	32.1	32	0	YES							
	R15	Residential	Bedroom	W24/F01	12.6	13	0	0	YES	31.6	32	0	YES							
F02	R1	Residential	LKD	W1/F02	31.6	32	0	0	YES	100	100	0	YES	54	16	54	16	0	0	YES
				W2/F02	31.4	31	0	0	YES					50	13	50	13	0	0	YES
				W3/F02	27.5	27	0.2	0.7	YES					10	0	10	0	0	0	
				W4/F02	17.8	18	0	0	YES					4	0	4	0	0	0	
	R3	Residential	LKD	W8/F02	26.2	26	0.1	0.4	YES	96.3	96	0	YES	12	0	12	0	0	0	
				W9/F02	4.7	4.7	0	0	YES					7	0	7	0	0	0	YES
	R4	Residential	Bedroom	W10/F02	9	9	0	0	YES	87.3	87	0	YES							
	R5	Residential	Bedroom	W11/F02	22.8	23	0	0	YES	96.5	97	0	YES							
	R6	Residential	Bedroom	W12/F02	22.4	22	0	0	YES	94.3	94	0	YES							
	R7	Residential	LKD	W13/F02	8.4	8.4	0	0	YES	99.9	100	0	YES							
				W15/F02	22.1	22	0	0	YES											
	R8	Residential	Bedroom	W14/F02	9.2	9.2	0	0	YES	79.1	79	0.1	YES							
	R9	Residential	Unknown	W16/F02	18.9	19	0.1	0.5	YES	43.5	44	0	YES							
	R10	Residential	LKD	W17/F02	17	17	0.1	0.6	YES	73.5	74	0	YES	1	0	1	0	0	0	
				W18/F02	2.8	2.8	0	0	YES					3	0	3	0	0	0	YES
	R11	Residential	Bedroom	W19/F02	1.8	1.8	0	0	YES	48.1	48	0	YES							
	R12	Residential	Bedroom	W20/F02	13.4	13	0	0	YES	54.5	55	0	YES							
	R13	Residential	Bedroom	W21/F02	14.3	14	0	0	YES	48.2	48	0	YES							
	R14	Residential	LKD	W22/F02	5.5	5.4	0.1	1.8	YES	61.3	61	0	YES	0	0	0	0	0	0	
				W24/F02	14.6	15	0	0	YES					2	0	2	0	0	0	
				W25/F02	2.3	2.3	0	0	YES					3	0	3	0	0	0	YES
	R15	Residential	Bedroom	W23/F02	2.7	2.7	0	0	YES	50.5	51	0.1	YES							
	R16	Residential	Bedroom	W26/F02	5.6	5.6	0	0	YES	32.5	33	0	YES							
	R17	Residential	Bedroom	W27/F02	10.6	11	0	0	YES	41.5	42	0	YES							
	R18	Residential	Bedroom	W28/F02	14.5	15	0	0	YES	43	43	0	YES							
F03	R1	Residential	LKD	W1/F03	32.2	32	0	0	YES	100	100	0	YES	50	13	50	13	0	0	YES
				W2/F03	32.3	32	0	0	YES					56	16	56	16	0	0	YES
				W3/F03	28.1	28	0.1	0.4	YES					5	1	5	1	0	1	
				W4/F03	18.4	18	0	0	YES					9	0	9	0	0	0	
	R3	Residential	LKD	W8/F03	27	27	0	0	YES	99.9	100	0	YES	4	1	4	1	0	1	
				W9/F03	5.1	5.1	0	0	YES					9	0	9	0	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R4	Residential	Bedroom	W10/F03	9.8	9.8	0	0	YES	88.1	88	0	YES							
	R5	Residential	Bedroom	W11/F03	23.6	24	0	0	YES	96.5	97	0	YES							
	R6	Residential	Bedroom	W12/F03	23.5	23	0.1	0.4	YES	95.8	96	0	YES							
	R7	Residential	LKD	W13/F03	8.7	8.6	0.1	1.1	YES	99.9	100	0	YES							
				W15/F03	23.8	24	0	0	YES											
	R8	Residential	Bedroom	W14/F03	10.1	10	0	0	YES	81.4	81	0.1	YES							
	R9	Residential	Unknown	W16/F03	20.8	21	0.1	0.5	YES	47.8	48	0	YES							
	R10	Residential	LKD	W17/F03	18.9	19	0	0	YES	75.1	75	0	YES	7	0	7	0	0	0	
				W18/F03	3.4	3.4	0	0	YES					5	1	5	1	0	0	YES
	R11	Residential	Bedroom	W19/F03	2.6	2.6	0	0	YES	55.3	55	0	YES							
	R12	Residential	Bedroom	W20/F03	15.4	15	0	0	YES	59.9	60	0	YES							
	R13	Residential	Bedroom	W21/F03	16.2	16	0.1	0.6	YES	58.1	58	0	YES							
	R14	Residential	LKD	W22/F03	6.3	6.2	0.1	1.6	YES	68.8	69	0	YES	9	0	9	0	0	0	
				W24/F03	17.1	17	0.1	0.6	YES					8	0	8	0	0	0	
				W25/F03	2.6	2.6	0	0	YES					4	0	4	0	0	0	YES
	R15	Residential	Bedroom	W23/F03	3.9	3.9	0	0	YES	65.1	65	0.1	YES							
	R16	Residential	Bedroom	W26/F03	7.3	7.3	0	0	YES	51.3	51	0	YES							
	R17	Residential	Bedroom	W27/F03	11.9	12	0	0	YES	56.7	57	0	YES							
	R18	Residential	Bedroom	W28/F03	16.7	17	0	0	YES	62	62	0	YES							
F04	R1	Residential	LKD	W1/F04	32.9	33	0	0	YES	100	100	0	YES	52	13	52	13	0	0	YES
				W2/F04	33	33	0	0	YES					56	16	56	16	0	0	YES
				W3/F04	28.8	29	0.1	0.3	YES					12	0	12	0	0	0	
				W4/F04	19	19	0	0	YES					10	0	10	0	0	0	
	R3	Residential	LKD	W8/F04	27.8	28	0	0	YES	99.9	100	0	YES	15	0	15	0	0	0	
				W9/F04	5.5	5.5	0	0	YES					11	1	11	1	0	0	YES
	R4	Residential	Bedroom	W10/F04	23.9	24	0	0	YES	96.6	97	0	YES							
	R5	Residential	Bedroom	W11/F04	10.5	11	0	0	YES	88.3	88	0	YES							
	R6	Residential	Bedroom	W12/F04	23.8	24	0	0	YES	97.9	98	0	YES							
	R7	Residential	LKD	W13/F04	8.9	8.8	0.1	1.1	YES	99.9	100	0	YES							
				W15/F04	25.8	26	0	0	YES											
	R8	Residential	Bedroom	W14/F04	10.9	11	0	0	YES	88.1	88	0.3	YES							
	R9	Residential	Unknown	W16/F04	23.2	23	0.1	0.4	YES	55.7	56	0	YES							
	R10	Residential	LKD	W17/F04	21.5	21	0.1	0.5	YES	77.6	78	0	YES	9	0	9	0	0	0	
				W18/F04	4	4	0	0	YES					4	0	4	0	0	0	YES
	R11	Residential	Bedroom	W19/F04	4.6	4.6	0	0	YES	70.9	71	0	YES							
	R12	Residential	Bedroom	W20/F04	16.7	17	0	0	YES	70.3	70	0	YES							
	R13	Residential	Bedroom	W21/F04	17.5	18	0	0	YES	77.9	78	0	YES							
	R14	Residential	LKD	W22/F04	7.4	7.2	0.2	2.7	YES	76.8	77	0	YES	0	0	0	0	0	0	
				W24/F04	20	20	0	0	YES					5	0	5	0	0	0	
				W25/F04	2.8	2.8	0	0	YES					5	0	5	0	0	0	YES
	R15	Residential	Bedroom	W23/F04	6.3	6.3	0	0	YES	86.3	86	0	YES							
	R16	Residential	Bedroom	W26/F04	9.2	9.2	0	0	YES	85.8	86	0	YES							
	R17	Residential	Bedroom	W27/F04	13.3	13	0	0	YES	78.7	79	0.2	YES							
	R18	Residential	Bedroom	W28/F04	19	19	0	0	YES	85.1	85	0	YES							
F05	R1	Residential	LKD	W1/F05	33.5	34	0	0	YES	100	100	0	YES	51	13	51	13	0	0	YES
				W2/F05	33.6	34	0	0	YES					55	16	55	16	0	0	YES
				W3/F05	29.4	29	0.1	0.3	YES					12	0	12	0	0	0	
				W4/F05	19.6	20	0.1	0.5	YES					10	0	10	0	0	0	
	R3	Residential	LKD	W8/F05	28.7	29	0.1	0.3	YES	99.9	100	0	YES	7		7		0	0	
				W9/F05	5.3	5.3	0	0	YES					12	1	12	1	0	0	YES
	R4	Residential	Bedroom	W10/F05	10.8	11	0	0	YES	87.2	87	0	YES							
	R5	Residential	Bedroom	W11/F05	12.6	13	0	0	YES	93.8	94	0	YES							
	R6	Residential	Bedroom	W12/F05	17	17	0	0	YES	97	97	0	YES							
	R7	Residential	LKD	W13/F05	8.3	8.2	0.1	1.2	YES	99.9	100	0	YES							
				W15/F05	27.5	27	0.1	0.4	YES											
	R8	Residential	Bedroom	W14/F05	11.1	11	0	0	YES	87.8	88	0	YES							
	R9	Residential	Unknown	W16/F05	25.7	26	0.1	0.4	YES	73.8	74	0	YES							
	R10	Residential	LKD	W17/F05	24.4	24	0	0	YES	87.6	88	0	YES	9	0	9	0	0	0	

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS	PR	LOSS	LOSS	MEETS	CONS	PR	LOSS	MEETS	CONS		PR		LOSS %		MEETS
					%	%		%	CRITERIA	%	%	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
				W18/F05	4.4	4.4	0	0	YES					5	0	5	0	0	0	YES
	R11	Residential	Bedroom	W19/F05	6.9	6.9	0	0	YES	85.5	86	0	YES							
	R12	Residential	Bedroom	W20/F05	8.4	8.4	0	0	YES	94.4	94	0	YES							
	R13	Residential	Bedroom	W21/F05	8.4	8.4	0	0	YES	94.4	94	0	YES							
	R14	Residential	LKD	W22/F05	7.7	7.5	0.2	2.6	YES	99.8	100	0	YES							
				W24/F05	23.3	23	0.1	0.4	YES					9	0	9	0	0	0	
				W25/F05	3.1	3.1	0	0	YES					7	0	7	0	0	0	YES
	R15	Residential	Bedroom	W23/F05	8.2	8.2	0	0	YES	89.7	90	0	YES							
	R16	Residential	Bedroom	W26/F05	11.2	11	0	0	YES	96.3	96	0	YES							
	R17	Residential	Bedroom	W27/F05	14.8	15	0	0	YES	83.9	84	0	YES							
	R18	Residential	Bedroom	W28/F05	21.7	22	0	0	YES	94.8	95	0	YES							
F06	R1	Residential	LKD	W1/F06	33.9	34	0	0	YES	100	100	0	YES	49	13	49	13	0	0	YES
				W2/F06	31.6	32	0	0	YES					47	13	47	13	0	0	YES
				W3/F06	30	30	0.1	0.3	YES					12	0	12	0	0	0	
				W4/F06	20.2	20	0.1	0.5	YES					1	0	1	0	0	0	
	R3	Residential	LKD	W8/F06	29.4	29	0	0	YES	99.9	100	0	YES	18	2	18	2	0	0	
				W9/F06	11.2	11	0	0	YES					18	1	18	1	0	0	YES
	R4	Residential	Bedroom	W10/F06	20.9	21	0	0	YES	89.9	90	0	YES							
	R5	Residential	Bedroom	W11/F06	25.4	25	0.1	0.4	YES	96.6	96	0.3	YES							
	R6	Residential	Bedroom	W12/F06	26.1	26	0.1	0.4	YES	97.9	98	0.1	YES							
	R7	Residential	LKD	W13/F06	14	14	0.1	0.7	YES	99.9	100	0	YES							
				W15/F06	28.6	29	0.1	0.3	YES											
	R8	Residential	Bedroom	W14/F06	20.8	21	0.1	0.5	YES	91.2	91	0.3	YES							
	R9	Residential	Unknown	W16/F06	27.7	28	0.1	0.4	YES	87.9	88	0	YES							
	R10	Residential	LKD	W17/F06	27.3	27	0	0	YES	100	100	0	YES	0	0	0	0	0	0	
				W18/F06	13.9	14	0	0	YES					19	2	19	2	0	0	YES
	R11	Residential	Bedroom	W19/F06	20.9	21	0	0	YES	89.7	90	0	YES							
	R12	Residential	Bedroom	W20/F06	26.7	27	0.1	0.4	YES	98.5	99	0	YES							
	R13	Residential	Bedroom	W21/F06	26.8	27	0.1	0.4	YES	97.8	98	0	YES							
	R14	Residential	LKD	W22/F06	19.6	20	0.1	0.5	YES	100	100	0	YES	0	0	0	0	0	0	
				W24/F06	26.3	26	0.1	0.4	YES					2		2		0		
				W25/F06	9.6	9.6	0	0	YES					14	0	14	0	0	0	YES
	R15	Residential	Bedroom	W23/F06	24.4	24	0.1	0.4	YES	94.2	94	0	YES							
	R16	Residential	Bedroom	W26/F06	20	20	0	0	YES	96.8	97	0	YES							
	R17	Residential	Bedroom	W27/F06	16.1	16	0	0	YES	84.5	84	0.2	YES							
	R18	Residential	Bedroom	W28/F06	24	24	0	0	YES	94.9	95	0	YES							
F07	R1	Residential	LKD	W1/F07	33.8	34	0	0	YES	100	100	0	YES	47	14	47	14	0	0	YES
				W2/F07	31.9	32	0	0	YES					48	15	48	15	0	0	YES
				W3/F07	30.6	31	0.1	0.3	YES					13	0	13	0	0	0	
				W4/F07	31.6	31	0.2	0.6	YES					12	0	12	0	0	0	
	R3	Residential	Unknown	W8/F07	24.3	24	0	0	YES	81	81	0	YES							
	R4	Residential	Unknown	W9/F07	23.5	24	0	0	YES	71.6	72	0	YES							
	R5	Residential	Unknown	W10/F07	29.1	29	0.1	0.3	YES	89.5	90	0	YES							
	R6	Residential	Unknown	W11/F07	23.8	24	0	0	YES	91.2	91	0	YES							
	R7	Residential	Unknown	W12/F07	26.4	26	0.1	0.4	YES	83.7	84	0	YES							
	R8	Residential	Bedroom	W13/F07	17.7	18	0	0	YES	85.1	85	0	YES							
	R9	Residential	Bedroom	W14/F07	26	26	0	0	YES	97	97	0	YES							
30 CITY ROAD EAST																				
F01	R1	Residential	LKD	W1/F01	8.5	8.5	0	0	YES	27.1	27	0	YES							
	R2	Residential	Bedroom	W2/F01	15.4	15	0	0	YES	32.4	32	0	YES							
	R3	Residential	Bedroom	W3/F01	16.3	16	0	0	YES	23.7	24	0	YES							
	R4	Residential	Bedroom	W4/F01	8.1	8	0.1	1.2	YES	26.5	27	-3.6	YES							
	R5	Residential	Bedroom	W5/F01	9.3	9.3	0	0	YES	34.9	35	0	YES							
F02	R1	Residential	LKD	W1/F02	11	11	0.1	0.9	YES	36.2	36	0	YES							
	R2	Residential	Bedroom	W2/F02	18.3	18	0.1	0.5	YES	41.4	41	0	YES							
	R3	Residential	Bedroom	W3/F02	19.2	19	0.1	0.5	YES	32	32	0	YES							
	R4	Residential	Bedroom	W4/F02	9.3	9.2	0.1	1.1	YES	36.9	38	-2.8	YES							

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R5	Residential	Bedroom	W5/F02	10.9	11	0.1	0.9	YES	47.4	47	-0.1	YES							
F03	R1	Residential	LKD	W1/F03	13.5	14	0	0	YES	50.7	51	-0.1	YES							
	R2	Residential	Bedroom	W2/F03	21.4	21	0.1	0.5	YES	57.8	58	0	YES							
	R3	Residential	Bedroom	W3/F03	22.5	22	0.1	0.4	YES	45.4	45	0	YES							
	R4	Residential	Bedroom	W4/F03	10.5	10	0.1	1	YES	56	58	-3.2	YES							
	R5	Residential	Bedroom	W5/F03	12.3	12	0.1	0.8	YES	70.8	71	0	YES							
F04	R1	Residential	LKD	W1/F04	15.9	16	0.1	0.6	YES	69.3	69	0	YES							
	R2	Residential	Bedroom	W2/F04	24.3	24	0.1	0.4	YES	92	92	0	YES							
	R3	Residential	Bedroom	W3/F04	25.5	25	0.1	0.4	YES	73	73	0	YES							
	R4	Residential	Bedroom	W4/F04	11.7	12	0.1	0.9	YES	78.7	80	-1.4	YES							
	R5	Residential	Bedroom	W5/F04	13.9	14	0.1	0.7	YES	84.6	85	0	YES							
F05	R1	Residential	LKD	W1/F05	18.3	18	0.1	0.5	YES	87.3	87	0	YES							
	R2	Residential	Bedroom	W2/F05	27.2	27	0.1	0.4	YES	98.6	99	0	YES							
	R3	Residential	Bedroom	W3/F05	28.5	28	0.1	0.4	YES	97.8	98	0	YES							
	R4	Residential	Bedroom	W4/F05	13.2	13	0.1	0.8	YES	84.2	85	-0.6	YES							
	R5	Residential	Bedroom	W5/F05	15.9	16	0.1	0.6	YES	85.2	85	0	YES							
F06	R1	Residential	LKD	W1/F06	20.6	21	0.1	0.5	YES	91.8	92	0	YES							
	R2	Residential	Bedroom	W2/F06	28.9	29	0.1	0.3	YES	98.1	98	0	YES							
	R3	Residential	Bedroom	W3/F06	30	30	0.1	0.3	YES	98.3	98	0	YES							
	R4	Residential	LKD	W4/F06	14.7	15	0.1	0.7	YES	70.2	70	0	YES							
				W5/F06	18.9	19	0.1	0.5	YES											
F07	R1	Residential	LKD	W1/F07	24	24	0.1	0.4	YES	91.7	92	0	YES							
	R2	Residential	Bedroom	W2/F07	26.3	26	0.1	0.4	YES	98.1	98	0	YES							
	R3	Residential	Bedroom	W3/F07	27.4	27	0.1	0.4	YES	98.6	99	0	YES							
	R4	Residential	LKD	W4/F07	15.2	15	0.1	0.7	YES	94.2	94	0	YES							
				W5/F07	10.4	10	0	0	YES											
				W6/F07	26.4	26	0.1	0.4	YES											
14 ALBION STREET																				
F01	R1	Residential	Unknown	W1/F01	6.7	6.6	0.1	1.5	YES	63.3	63	0.7	YES							
	R2	Residential	Unknown	W2/F01	4	5.5	-1.5	-37.5	YES	25.8	33	-28.5	YES							
	R3	Residential	Unknown	W3/F01	1.3	2.5	-1.2	-92.3	YES	11.2	27	-139	YES							
				W4/F01	0.7	1.7	-1	-143	YES											
	R4	Residential	Unknown	W5/F01	5.4	9.1	-3.7	-68.5	YES	38	49	-28.6	YES							
F02	R1	Residential	Unknown	W1/F02	15.1	15	0.1	0.7	YES	62.2	62	-0.1	YES							
F03	R1	Residential	Unknown	W1/F03	5	9.3	-4.3	-86	YES	28.2	44	-54.4	YES							
THE HACIENDA																				
F01	R1	Residential	Unknown	W1/F01	4.5	4.5	0	0	YES	67.8	68	0	YES	10	3	10	3	0	0	YES
	R2	Residential	Unknown	W2/F01	17.8	18	0	0	YES	98.7	99	-0.2	YES							
				W3/F01	9.4	9.7	-0.3	-3.2	YES											
				W4/F01	19.6	20	-0.4	-2	YES											
	R3	Residential	Unknown	W5/F01	20.5	21	-0.4	-2	YES	90.1	91	-1	YES	35	8	37	9	0	0	YES
	R4	Residential	Bedroom	W6/F01	21.6	22	-0.4	-1.9	YES	92.5	94	-1.1	YES	39	9	41	9	0	0	YES
	R5	Residential	Bedroom	W7/F01	22.6	23	-0.3	-1.3	YES	89.1	90	-0.9	YES	43	10	44	10	0	0	YES
	R6	Residential	LKD	W8/F01	23.9	24	-0.2	-0.8	YES	99.7	100	0	YES	49	12	49	12	0	0	YES
				W9/F01	24.9	25	-0.2	-0.8	YES					53	12	54	12	0	0	YES
				W10/F01	25.1	25	-0.2	-0.8	YES					57	13	57	13	0	0	YES
				W11/F01	25.3	25	-0.1	-0.4	YES					58	13	58	13	0	0	YES
				W12/F01	18	18	0	0	YES					43	14	43	14	0	0	YES
				W14/F01	2.5	2.5	0	0	YES					10	4	10	4	0	0	YES
F02	R1	Residential	Unknown	W1/F02	4.9	4.9	0	0	YES	71	71	0	YES	10	3	10	3	0	0	YES
	R2	Residential	Unknown	W2/F02	21.1	21	0	0	YES	98.7	99	-0.2	YES							
				W3/F02	9.7	9.9	-0.2	-2.1	YES											
				W4/F02	20.1	21	-0.4	-2	YES											
	R3	Residential	Unknown	W5/F02	20.9	21	-0.5	-2.4	YES	90	91	-1	YES	35	8	37	9	0	0	YES
	R4	Residential	Bedroom	W6/F02	22.1	23	-0.4	-1.8	YES	92.5	94	-1.1	YES	40	10	42	10	0	0	YES
	R5	Residential	Bedroom	W7/F02	23.2	24	-0.3	-1.3	YES	89.1	90	-1	YES	44	11	45	11	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R6	Residential	LKD	W8/F02	24.5	25	-0.2	-0.8	YES	99.8	100	-0.1	YES	50	13	50	13	0	0	YES
				W9/F02	25.7	26	-0.2	-0.8	YES					54	13	55	13	0	0	YES
				W10/F02	26	26	-0.2	-0.8	YES					58	14	58	14	0	0	YES
				W11/F02	26.2	26	-0.1	-0.4	YES					59	14	59	14	0	0	YES
				W12/F02	19	19	0	0	YES					44	14	44	14	0	0	YES
				W14/F02	2.6	2.6	0	0	YES					10	4	10	4	0	0	YES
F03	R1	Residential	Unknown	W1/F03	5.3	5.3	0	0	YES	75.4	75	0	YES	10	3	10	3	0	0	YES
	R2	Residential	Unknown	W2/F03	25	25	0	0	YES	98.7	99	-0.2	YES							
				W3/F03	10	10	-0.2	-2	YES											
				W4/F03	20.5	21	-0.4	-2	YES											
	R3	Residential	Unknown	W5/F03	21.3	22	-0.4	-1.9	YES	90.3	91	-0.9	YES	36	9	38	10	0	0	YES
	R4	Residential	Bedroom	W6/F03	22.5	23	-0.4	-1.8	YES	92.6	94	-1.2	YES	40	10	42	10	0	0	YES
	R5	Residential	Bedroom	W7/F03	23.7	24	-0.3	-1.3	YES	89.4	90	-1.1	YES	45	12	46	12	0	0	YES
	R6	Residential	LKD	W8/F03	25.1	25	-0.2	-0.8	YES	99.9	100	-0.1	YES	51	14	51	14	0	0	YES
				W9/F03	26.5	27	-0.2	-0.8	YES					54	13	55	13	0	0	YES
				W10/F03	26.8	27	-0.2	-0.7	YES					58	14	58	14	0	0	YES
				W11/F03	27	27	-0.1	-0.4	YES					59	14	59	14	0	0	YES
				W12/F03	19.9	20	0	0	YES					45	15	45	15	0	0	YES
				W14/F03	2.7	2.7	0	0	YES					10	4	10	4	0	0	YES
F04	R1	Residential	Unknown	W1/F04	5.7	5.7	0	0	YES	81.3	81	0	YES	11	4	11	4	0	0	YES
	R2	Residential	Unknown	W2/F04	29.1	29	0	0	YES	98.7	99	-0.2	YES							
				W3/F04	10.2	11	-0.3	-2.9	YES											
				W4/F04	21	21	-0.3	-1.4	YES											
	R3	Residential	Unknown	W5/F04	21.6	22	-0.4	-1.9	YES	90.3	91	-1	YES	36	9	38	10	0	0	YES
	R4	Residential	Bedroom	W6/F04	22.9	23	-0.4	-1.7	YES	92.7	94	-1.2	YES	41	11	43	11	0	0	YES
	R5	Residential	Bedroom	W7/F04	24.2	25	-0.3	-1.2	YES	89.4	90	-1	YES	45	12	46	12	0	0	YES
	R6	Residential	LKD	W8/F04	25.6	26	-0.3	-1.2	YES	99.9	100	0	YES	51	14	51	14	0	0	YES
				W9/F04	27.2	27	-0.2	-0.7	YES					55	14	56	14	0	0	YES
				W10/F04	27.6	28	-0.1	-0.4	YES					58	14	58	14	0	0	YES
				W11/F04	27.8	28	-0.1	-0.4	YES					59	14	59	14	0	0	YES
				W12/F04	20.8	21	0	0	YES					45	15	45	15	0	0	YES
				W14/F04	2.7	2.7	0	0	YES					10	4	10	4	0	0	YES
F05	R1	Residential	Unknown	W1/F05	6.1	6.1	0	0	YES	88.6	89	0	YES	11	4	11	4	0	0	YES
	R2	Residential	Unknown	W2/F05	31.7	32	0	0	YES	98.8	99	-0.2	YES							
				W3/F05	10.4	11	-0.2	-1.9	YES											
				W4/F05	21.3	22	-0.3	-1.4	YES											
	R3	Residential	Unknown	W5/F05	21.9	22	-0.5	-2.3	YES	90.5	91	-1	YES	37	10	39	11	0	0	YES
	R4	Residential	Bedroom	W6/F05	23.3	24	-0.3	-1.3	YES	92.9	94	-1.2	YES	41	11	43	11	0	0	YES
	R5	Residential	Bedroom	W7/F05	24.6	25	-0.3	-1.2	YES	89.6	91	-1.1	YES	46	13	47	13	0	0	YES
	R6	Residential	LKD	W8/F05	26.2	26	-0.2	-0.8	YES	99.9	100	0	YES	52	15	52	15	0	0	YES
				W9/F05	27.9	28	-0.2	-0.7	YES					55	14	56	14	0	0	YES
				W10/F05	28.3	29	-0.2	-0.7	YES					59	15	59	15	0	0	YES
				W11/F05	28.6	29	-0.1	-0.3	YES					60	15	60	15	0	0	YES
				W12/F05	21.7	22	0	0	YES					46	16	46	16	0	0	YES
				W14/F05	2.8	2.8	0	0	YES					11	5	11	5	0	0	YES
F06	R1	Residential	Unknown	W1/F06	6.7	6.7	0	0	YES	94.8	95	0	YES	12	5	12	5	0	0	YES
	R2	Residential	Unknown	W2/F06	32.6	33	0	0	YES	98.8	99	-0.2	YES							
				W3/F06	10.5	11	-0.2	-1.9	YES											
				W4/F06	21.6	22	-0.3	-1.4	YES											
	R3	Residential	Unknown	W5/F06	22.2	23	-0.5	-2.3	YES	90.7	92	-1	YES	37	10	39	11	0	0	YES
	R4	Residential	Bedroom	W6/F06	23.6	24	-0.4	-1.7	YES	92.7	94	-1.2	YES	42	12	44	12	0	0	YES
	R5	Residential	Bedroom	W7/F06	25.1	25	-0.3	-1.2	YES	89.5	90	-1	YES	47	14	48	14	0	0	YES
	R6	Residential	LKD	W8/F06	26.7	27	-0.3	-1.1	YES	99.9	100	0	YES	52	15	52	15	0	0	YES
				W9/F06	28.6	29	-0.2	-0.7	YES					57	15	58	15	0	0	YES
				W10/F06	29	29	-0.2	-0.7	YES					62	17	62	17	0	0	YES
				W11/F06	29.4	30	-0.1	-0.3	YES					63	17	63	17	0	0	YES
				W12/F06	22.6	23	0	0	YES					47	17	47	17	0	0	YES
				W14/F06	2.9	2.9	0	0	YES					12	6	12	6	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
F07	R1	Residential	Unknown	W1/F07	7.4	7.4	0	0	YES	95.4	95	0	YES	13	6	13	6	0	0	YES
	R2	Residential	Unknown	W2/F07	33.2	33	0	0	YES	98.8	99	-0.2	YES							
				W3/F07	10.6	11	-0.2	-1.9	YES											
				W4/F07	21.9	22	-0.3	-1.4	YES											
	R3	Residential	Unknown	W5/F07	22.6	23	-0.3	-1.3	YES	91	92	-0.9	YES	38	11	40	12	0	0	YES
	R4	Residential	Bedroom	W6/F07	24	24	-0.3	-1.3	YES	92.8	94	-1.1	YES	44	13	46	13	0	0	YES
	R5	Residential	Bedroom	W7/F07	25.5	26	-0.3	-1.2	YES	89.6	91	-1.1	YES	48	14	49	14	0	0	YES
	R6	Residential	LKD	W8/F07	27.3	28	-0.2	-0.7	YES	99.9	100	0	YES	54	16	54	16	0	0	YES
				W9/F07	29.3	29	-0.1	-0.3	YES					60	18	61	18	0	0	YES
				W10/F07	29.8	30	-0.1	-0.3	YES					64	19	64	19	0	0	YES
				W11/F07	30.1	30	-0.2	-0.7	YES					65	19	65	19	0	0	YES
				W12/F07	23.5	24	0	0	YES					50	20	50	20	0	0	YES
				W14/F07	3	3	0	0	YES					13	7	13	7	0	0	YES
F08	R1	Residential	Unknown	W1/F08	9.1	9.1	0	0	YES	97.7	98	0	YES	16	7	16	7	0	0	YES
	R2	Residential	Unknown	W2/F08	33.7	34	0	0	YES	98.7	99	-0.2	YES							
				W3/F08	9.4	9.6	-0.2	-2.1	YES											
				W4/F08	22.2	23	-0.3	-1.4	YES											
	R3	Residential	Unknown	W5/F08	22.9	23	-0.3	-1.3	YES	89.1	90	-1	YES	38	11	40	12	0	0	YES
	R4	Residential	Bedroom	W6/F08	24.3	25	-0.4	-1.6	YES	91.6	93	-1.2	YES	45	14	47	14	0	0	YES
	R5	Residential	Bedroom	W7/F08	25.9	26	-0.3	-1.2	YES	89.8	91	-1	YES	50	16	51	16	0	0	YES
	R6	Residential	LKD	W8/F08	27.8	28	-0.2	-0.7	YES	99.8	100	-0.1	YES	57	19	57	19	0	0	YES
				W9/F08	29.9	30	-0.2	-0.7	YES					62	19	63	19	0	0	YES
				W10/F08	30.5	31	-0.1	-0.3	YES					66	20	66	20	0	0	YES
				W11/F08	30.9	31	-0.1	-0.3	YES					67	20	67	20	0	0	YES
				W12/F08	25.7	26	0	0	YES					55	21	55	21	0	0	YES
				W14/F08	3.3	3.3	0	0	YES					18	9	18	9	0	0	YES
F09	R1	Residential	Unknown	W1/F09	34.2	34	0	0	YES	98.7	100	-1	YES							
				W2/F09	10.8	11	-0.4	-3.7	YES											
	R2	Residential	Unknown	W3/F09	14.4	15	-0.3	-2.1	YES	89.7	90	0	YES	7	3	8	3	0	0	
				W4/F09	15.1	15	-0.3	-2	YES					18	5	20	6	0	0	YES
	R3	Residential	Unknown	W5/F09	16.6	17	-0.3	-1.8	YES	75.8	76	0	YES	30	13	32	13	0	0	YES
	R4	Residential	Unknown	W6/F09	18.6	19	-0.2	-1.1	YES	95.4	95	0	YES	34	9	34	9	0	0	
				W7/F09	30.5	31	-0.1	-0.3	YES					58	20	58	20	0	0	YES
				W8/F09	4.9	4.9	0	0	YES					24	11	24	11	0	0	YES
	R6	Residential	Unknown	W10/F09	18.9	19	0	0	YES	91.1	91	0	YES	35	15	35	15	0	0	YES
F10	R1	Residential	Unknown	W1/F10	31.7	32	0	0	YES	100	100	0	YES							
				W2/F10	22.5	23	-0.3	-1.3	YES											
	R2	Residential	Unknown	W3/F10	18.4	19	-0.1	-0.5	YES	94.4	94	0	YES							
	R3	Residential	Unknown	W4/F10	18.4	19	-0.2	-1.1	YES	98.7	99	0	YES	4	0	4	0	0	0	
				W5/F10	30.8	31	0	0	YES					59	21	59	21	0	0	YES
				W6/F10	4.9	4.9	0	0	YES					25	12	25	12	0	0	YES
	R5	Residential	Unknown	W8/F10	19.4	19	0	0	YES	91.2	91	0	YES	35	15	35	15	0	0	YES
F11	R3	Residential	Unknown	W8/F11	20.2	20	0	0	YES	91.3	91	0	YES	35	15	35	15	0	0	YES
	R4	Residential	Unknown	W4/F11	14.4	15	-0.2	-1.4	YES	98.7	99	0	YES	28	9	28	9	0	0	
				W5/F11	27.6	28	-0.1	-0.4	YES					59	21	59	21	0	0	YES
				W6/F11	3.9	3.9	0	0	YES					21	12	21	12	0	0	YES
	R5	Residential	Unknown	W3/F11	18.7	19	-0.1	-0.5	YES	94.9	95	0	YES							
	R18	Residential	Unknown	W1/F11	26.8	27	0	0	YES	100	100	0	YES							
				W2/F11	11.7	12	-0.1	-0.9	YES											
326-330 DEANSGATE																				
F00	R1	Residential	Educational	W3/F00	15	15	0.1	0.7	YES	100	100	0	YES	34	5	34	5	0	0	YES
				W6/F00	8.6	8.6	0	0	YES					24	5	24	5	0	0	YES
				W7/F00	7.6	7.5	0.1	1.3	YES					22	2	22	2	0	0	YES
				W8/F00	15.1	15	0.1	0.7	YES					33	4	33	4	0	0	YES
				W22/F00	20.6	21	0.1	0.5	YES					49	4	49	4	0	0	YES
				W23/F00	20.4	20	0.1	0.5	YES					49	5	49	5	0	0	YES
				W24/F00	3.4	3.4	0	0	YES					5	3	5	3	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS	PR	LOSS	LOSS	MEETS	CONS	PR	LOSS	MEETS	CONS		PR		LOSS %		MEETS
					%	%		%	CRITERIA	%	%	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
				W25/F00	12.8	13	0.1	0.8	YES					30	4	30	4	0	0	YES
				W26/F00	12.5	12	0.1	0.8	YES					30	5	30	5	0	0	YES
				W27/F00	17.1	17	0	0	YES					20	2	20	2	0	0	YES
				W28/F00	18.4	18	0	0	YES					23	3	23	3	0	0	YES
	R2	Residential	Unknown	W20/F00	5.5	5.5	0	0	YES	36.2	36	0	YES							
				W21/F00	21.5	22	0	0	YES					53	5	53	5	0	0	YES
F01	R1	Residential	Unknown	W1/F01	19.6	20	0	0	YES	100	100	0	YES	19	3	19	3	0	0	YES
				W2/F01	12.5	13	0	0	YES					19	3	19	3	0	0	YES
				W3/F01	16.1	16	0	0	YES					34	7	34	7	0	0	YES
				W4/F01	18.4	18	0.1	0.5	YES					38	8	38	8	0	0	YES
				W5/F01	24.8	25	0	0	YES					52	9	53	10	0	0	YES
				W7/F01	25.1	25	0.1	0.4	YES					54	10	54	10	0	0	YES
	R2**	Residential	Unknown	W6/F01	22.4	22	0	0	YES	85.4	85	0.1	YES	45	8	45	8	0	0	YES
				W8/F01	20.8	21	0	0	YES					41	8	41	8	0	0	YES
				W9/F01	25.3	25	0	0	YES					55	11	55	11	0	0	YES
ROPEWORKS BLOCK A																				
F00	R3**	Residential	LKD	W4/F00	1.8	1.8	0	0	YES	31.9	32	-1	YES							
				W5/F00	4.7	4.8	-0.1	-2.1	YES											
	R4	Residential	Bedroom	W6/F00	8.7	9	-0.3	-3.4	YES	16.7	17	-4	YES							
	R5**	Residential	Bedroom	W7/F00	8.4	8.8	-0.4	-4.8	YES	18	19	-3.9	YES							
	R6	Residential	LKD	W8/F00	1.3	1.7	-0.4	-30.8	YES	17.7	20	-12.9	YES							
				W9/F00	2.7	2.9	-0.2	-7.4	YES											
	R7**	Residential	LKD	W10/F00	8	8.5	-0.5	-6.3	YES	14.2	15	-3	YES							
	R8	Residential	Bedroom	W11/F00	1.6	1.8	-0.2	-12.5	YES	10.8	12	-14.1	YES							
				W12/F00	0.4	0.6	-0.2	-50	YES											
	R9	Residential	Bedroom	W13/F00	8.5	8.8	-0.3	-3.5	YES	18.6	19	-3.1	YES							
	R10	Residential	LKD	W14/F00	8.9	9.2	-0.3	-3.4	YES	14.6	15	-0.8	YES							
F01	R1	Residential	LKD	W1/F01	17.7	18	0	0	YES	61.9	62	-0.1	YES	12	0	12	0	0	0	YES
				W2/F01	18.3	18	0	0	YES					14	0	14	0	0	0	YES
				W3/F01	11.6	12	-0.1	-0.9	YES					10	0	10	0	0	0	
				W4/F01	11.4	12	-0.1	-0.9	YES					10	0	10	0	0	0	
				W5/F01	11	11	-0.1	-0.9	YES					9	0	9	0	0	0	
	R2**	Residential	LKD	W6/F01	1.3	1.3	0	0	YES	31	31	-1.3	YES							
	R3**	Residential	Bedroom	W7/F01	10	10	-0.3	-3	YES	21.5	22	-2.9	YES							
	R4**	Residential	Bedroom	W8/F01	9.9	10	-0.4	-4	YES	23.6	24	-3.1	YES							
	R5	Residential	LKD	W9/F01	0.9	1.2	-0.3	-33.3	YES	17.2	20	-14.3	YES							
	R6**	Residential	LKD	W10/F01	9.4	10	-0.8	-8.5	YES	18.4	20	-8	YES							
	R7	Residential	Bedroom	W11/F01	0.4	0.6	-0.2	-50	YES	12	14	-19.4	YES							
	R8	Residential	Bedroom	W12/F01	10.6	11	-0.5	-4.7	YES	39.3	41	-3.9	YES							
	R9	Residential	Bedroom	W13/F01	10.8	11	-0.3	-2.8	YES	31.7	32	-0.4	YES							
				W14/F01	10.9	11	-0.2	-1.8	YES											
	R10	Residential	LKD	W15/F01	8.6	8.8	-0.2	-2.3	YES	36.3	37	-0.7	YES							
F02	R1	Residential	LKD	W1/F02	20.9	21	0	0	YES	76	76	0	YES	19	0	19	0	0	0	YES
				W2/F02	21.6	22	0	0	YES					20	0	20	0	0	0	YES
				W3/F02	12.8	13	-0.1	-0.8	YES					10	0	10	0	0	0	
				W4/F02	12.4	13	-0.1	-0.8	YES					10	0	10	0	0	0	
				W5/F02	11.9	12	-0.1	-0.8	YES					10	0	10	0	0	0	
	R2**	Residential	LKD	W6/F02	0.1	0.2	-0.1	-100	YES	39.3	39	-0.3	YES							
				W7/F02	1.7	1.7	0	0	YES											
				W8/F02	2.7	2.7	0	0	YES											
				W9/F02	3.2	3.2	0	0	YES											
	R3**	Residential	Bedroom	W10/F02	10.7	11	-0.3	-2.8	YES	21.3	22	-3	YES							
	R4**	Residential	Bedroom	W11/F02	10.6	11	-0.5	-4.7	YES	24	25	-3.6	YES							
	R5	Residential	LKD	W12/F02	0.8	1.1	-0.3	-37.5	YES	17	18	-7.8	YES							
				W13/F02	1.2	1.7	-0.5	-41.7	YES											
				W14/F02	1.6	1.8	-0.2	-12.5	YES											
				W15/F02	2	2.2	-0.2	-10	YES											

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R6**	Residential	LKD	W16/F02	10	11	-1	-10	YES	18.7	20	-8.5	YES							
	R7	Residential	Bedroom	W17/F02	1.8	2.1	-0.3	-16.7	YES	7.8	12	-50.7	YES							
				W18/F02	1.3	1.6	-0.3	-23.1	YES											
				W19/F02	0	0.1	-0.1	0	YES											
				W20/F02	0.4	0.5	-0.1	-25	YES											
	R8	Residential	Bedroom	W21/F02	11.6	12	-0.6	-5.2	YES	46.3	49	-5	YES							
	R9**	Residential	Bedroom	W22/F02	12.2	13	-0.3	-2.5	YES	32.7	33	-0.7	YES							
				W23/F02	12.3	13	-0.3	-2.4	YES											
	R10**	Residential	LKD	W24/F02	9.4	9.6	-0.2	-2.1	YES	62	62	-0.5	YES							
				W25/F02	8.8	9	-0.2	-2.3	YES											
F03	R1	Residential	LKD	W1/F03	24.9	25	0	0	YES	76.6	77	0	YES	23	0	23	0	0	0	YES
				W2/F03	25.4	25	0	0	YES					25	0	25	0	0	0	YES
				W3/F03	13.2	13	-0.1	-0.8	YES					10	0	10	0	0	0	
				W4/F03	12.8	13	-0.1	-0.8	YES					10	0	10	0	0	0	
				W5/F03	12.1	12	-0.2	-1.7	YES					7	0	7	0	0	0	
	R2**	Residential	LKD	W6/F03	0.1	0.2	-0.1	-100	YES	42.4	43	-0.3	YES							
				W7/F03	1.8	1.8	0	0	YES											
				W8/F03	2.9	2.9	0	0	YES											
				W9/F03	3.4	3.4	0	0	YES											
	R3**	Residential	Bedroom	W10/F03	11	11	-0.3	-2.7	YES	23.8	25	-2.6	YES							
	R4**	Residential	Bedroom	W11/F03	10.8	11	-0.6	-5.6	YES	24	25	-3.7	YES							
	R5	Residential	LKD	W12/F03	0.9	1.2	-0.3	-33.3	YES	16.5	18	-11	YES							
				W13/F03	1.3	1.9	-0.6	-46.2	YES											
				W14/F03	1.7	1.9	-0.2	-11.8	YES											
				W15/F03	2.1	2.3	-0.2	-9.5	YES											
	R6**	Residential	LKD	W16/F03	10.3	11	-1	-9.7	YES	18.7	20	-8.6	YES							
	R7	Residential	Bedroom	W17/F03	2.1	2.4	-0.3	-14.3	YES	7.8	12	-51.9	YES							
				W18/F03	1.5	1.8	-0.3	-20	YES											
				W19/F03	0	0.1	-0.1	0	YES											
				W20/F03	0.5	0.6	-0.1	-20	YES											
	R8	Residential	Bedroom	W21/F03	12.2	13	-0.6	-4.9	YES	46	49	-7.3	YES							
	R9	Residential	Bedroom	W22/F03	13	13	-0.2	-1.5	YES	42.6	43	-0.7	YES							
				W23/F03	13.1	13	-0.2	-1.5	YES											
	R10	Residential	LKD	W24/F03	10.2	11	-0.3	-2.9	YES	28.3	28	-0.4	YES							
	R11	Residential	Bedroom	W25/F03	9.6	9.8	-0.2	-2.1	YES	55.7	56	-1.3	YES							
	R12**	Residential	Bedroom	W26/F03	14.9	15	-0.1	-0.7	YES	43.8	44	0	YES							
	R13	Residential	LKD	W27/F03	15.4	16	-0.1	-0.6	YES	91.4	91	0	YES							
				W28/F03	16.1	16	-0.1	-0.6	YES											
F04	R1	Residential	LKD	W1/F04	28.9	29	0	0	YES	78	78	0	YES	34	2	34	2	0	0	YES
				W2/F04	29.1	29	0	0	YES					34	2	34	2	0	0	YES
				W3/F04	13.4	14	-0.1	-0.7	YES					11	0	11	0	0	0	
				W4/F04	12.9	13	-0.1	-0.8	YES					11	0	11	0	0	0	
				W5/F04	12	12	-0.2	-1.7	YES					7	0	7	0	0	0	
	R2	Residential	LKD	W6/F04	0.2	0.3	-0.1	-50	YES	42	42	-0.3	YES							
				W7/F04	1.9	1.9	0	0	YES											
				W8/F04	3	3	0	0	YES											
				W9/F04	3.6	3.6	0	0	YES											
	R3	Residential	Bedroom	W10/F04	11.1	11	-0.3	-2.7	YES	23.9	24	-2.3	YES							
	R4**	Residential	Bedroom	W11/F04	10.9	11	-0.5	-4.6	YES	25.2	26	-3.8	YES							
	R5	Residential	LKD	W12/F04	1	1.3	-0.3	-30	YES	17.9	20	-11.3	YES							
				W13/F04	1.3	1.9	-0.6	-46.2	YES											
				W14/F04	1.7	2	-0.3	-17.6	YES											
				W15/F04	2.2	2.4	-0.2	-9.1	YES											
	R6**	Residential	LKD	W16/F04	10.5	12	-1.1	-10.5	YES	19.7	21	-8.4	YES							
	R7	Residential	Bedroom	W17/F04	2.2	2.5	-0.3	-13.6	YES	7.8	12	-52.4	YES							
				W18/F04	1.6	2	-0.4	-25	YES											
				W19/F04	0	0.1	-0.1	0	YES											
				W20/F04	0.5	0.6	-0.1	-20	YES											

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	MEETS CRITERIA
	R8	Residential	Bedroom	W21/F04	12.3	13	-0.6	-4.9	YES	46.7	50	-6.1	YES							
	R9	Residential	Bedroom	W22/F04	13.3	14	-0.3	-2.3	YES	46.3	47	-0.4	YES							
				W23/F04	13.5	14	-0.2	-1.5	YES											
	R10	Residential	LKD	W24/F04	10.4	11	-0.2	-1.9	YES	74.1	75	-0.6	YES							
				W25/F04	10.2	10	-0.2	-2	YES											
	R11**	Residential	Bedroom	W26/F04	15.8	16	-0.1	-0.6	YES	44.5	45	-0.1	YES							
	R12	Residential	LKD	W27/F04	16.3	17	-0.2	-1.2	YES	92.5	93	0	YES							
				W28/F04	17	17	-0.1	-0.6	YES											
F05	R1	Residential	LKD	W1/F05	31.2	31	0	0	YES	80.3	80	-0.1	YES	32	3	32	3	0	0	YES
				W2/F05	31.3	31	0	0	YES					34	4	34	4	0	0	YES
				W3/F05	12.9	13	-0.1	-0.8	YES					10	0	10	0	0	0	
				W4/F05	12.3	13	-0.2	-1.6	YES					10	0	10	0	0	0	
				W6/F05	10	10	-0.1	-1	YES					10	0	10	0	0	0	
	R2	Residential	LKD	W5/F05	0.5	0.7	-0.2	-40	YES	39.9	40	-1.1	YES							
				W7/F05	1.7	1.8	-0.1	-5.9	YES											
				W8/F05	4.2	4.3	-0.1	-2.4	YES											
				W9/F05	6.1	6.2	-0.1	-1.6	YES											
	R3	Residential	Bedroom	W10/F05	9.1	9.4	-0.3	-3.3	YES	22.1	23	-4.4	YES							
	R4**	Residential	Bedroom	W11/F05	8	8.6	-0.6	-7.5	YES	21.6	23	-5.3	YES							
	R5	Residential	LKD	W12/F05	2	2.5	-0.5	-25	YES	16.8	19	-11.6	YES							
				W13/F05	1.8	2.6	-0.8	-44.4	YES											
				W14/F05	2.4	2.8	-0.4	-16.7	YES											
				W15/F05	3.6	4	-0.4	-11.1	YES											
	R6**	Residential	LKD	W16/F05	10	11	-1	-10	YES	19.4	21	-9	YES							
	R7	Residential	Bedroom	W17/F05	4	4.5	-0.5	-12.5	YES	15.1	18	-19.4	YES							
				W18/F05	2.7	3.1	-0.4	-14.8	YES											
				W19/F05	0.9	1.1	-0.2	-22.2	YES											
				W20/F05	1.9	2.1	-0.2	-10.5	YES											
	R8	Residential	Bedroom	W21/F05	10.6	11	-0.8	-7.5	YES	46.3	49	-6.6	YES							
	R9	Residential	Bedroom	W22/F05	12.7	13	-0.4	-3.1	YES	46.8	47	-0.4	YES							
				W23/F05	13	13	-0.3	-2.3	YES											
	R10	Residential	LKD	W24/F05	11.3	12	-0.2	-1.8	YES	74.4	75	-0.8	YES							
				W25/F05	10.5	11	-0.2	-1.9	YES											
	R11**	Residential	Bedroom	W26/F05	16.2	16	-0.2	-1.2	YES	44.8	45	-0.1	YES							
	R12	Residential	LKD	W27/F05	16.9	17	-0.1	-0.6	YES	93.6	94	0	YES							
				W28/F05	17.5	18	-0.1	-0.6	YES											
F06	R2**	Residential	Unknown	W4/F06	4.8	4.9	-0.1	-2.1	YES	23.1	23	-0.7	YES							
				W5/F06	5.8	5.9	-0.1	-1.7	YES											
	R3	Residential	Unknown	W6/F06	13.1	13	-0.3	-2.3	YES	58.1	59	-1.2	YES							
	R4	Residential	Unknown	W7/F06	10.6	11	-0.2	-1.9	YES	60	61	-1.7	YES							
	R5**	Residential	Bedroom	W8/F06	16.4	17	-0.1	-0.6	YES	47.8	48	-0.5	YES							
	R6	Residential	LKD	W9/F06	17.1	17	-0.1	-0.6	YES	94.8	95	0	YES							
				W10/F06	17.9	18	-0.1	-0.6	YES											
F07	R2**	Residential	Unknown	W4/F07	13.1	13	-0.3	-2.3	YES	40.9	42	-2.6	YES							
	R3	Residential	Unknown	W5/F07	12.5	13	-0.3	-2.4	YES	57.6	58	-1.1	YES							
	R4	Residential	Unknown	W6/F07	7.6	7.9	-0.3	-3.9	YES	53.6	54	-0.9	YES							
	R5**	Residential	Bedroom	W7/F07	14.8	15	-0.2	-1.4	YES	47.9	48	-0.5	YES							
	R6	Residential	LKD	W8/F07	16	16	-0.3	-1.9	YES	96	96	0	YES							
				W9/F07	17.3	18	-0.2	-1.2	YES											
21 LITTLE PETER STREET																				
F01	R1	Residential	Unknown	W1/F01	12.5	13	0	0	YES	97.9	98	0	YES	18	2	18	2	0	0	
				W12/F01	21.3	21	0	0	YES					48	6	48	6	0	0	YES
	R2	Residential	Unknown	W2/F01	11.8	12	-0.1	-0.8	YES	56.3	57	-0.5	YES							
				W3/F01	11.8	12	0	0	YES											
	R3	Residential	Unknown	W4/F01	14.9	15	0	0	YES	95.2	95	0	YES							
				W5/F01	16.7	17	0	0	YES											
	R4	Residential	Unknown	W6/F01	17.6	18	0	0	YES	99.6	100	0	YES							

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
				W7/F01	18.4	18	0	0	YES											
	R5	Residential	Unknown	W8/F01	19	19	-0.1	-0.5	YES	45.9	46	0	YES							
	R6	Residential	Unknown	W9/F01	19.4	19	0	0	YES	46.1	46	0	YES							
	R7	Residential	Unknown	W10/F01	19.4	19	0	0	YES	59.2	59	0	YES							
				W11/F01	19.4	20	-0.1	-0.5	YES											
F02	R1	Residential	Unknown	W1/F02	14.4	14	0.1	0.7	YES	90.8	91	0	YES	20	2	20	2	0	0	
				W16/F02	22.2	22	0	0	YES					51	7	51	7	0	0	YES
	R2	Residential	Unknown	W2/F02	13.7	14	0	0	YES	48.5	50	-2	YES							
				W3/F02	13.8	14	-0.1	-0.7	YES											
	R3	Residential	Unknown	W4/F02	16.7	17	0	0	YES	91.4	91	0	YES							
				W5/F02	18.7	19	0.1	0.5	YES											
	R4	Residential	Unknown	W6/F02	20.7	21	0	0	YES	98.1	98	0	YES							
				W7/F02	22.1	22	0	0	YES											
	R5	Residential	Unknown	W8/F02	22.7	23	-0.1	-0.4	YES	90.6	91	-0.6	YES							
				W9/F02	23.4	24	-0.1	-0.4	YES											
				W10/F02	21.8	22	-0.1	-0.5	YES											
	R6	Residential	Unknown	W11/F02	21.9	22	-0.1	-0.5	YES	20.1	20	0	YES							
	R7	Residential	Unknown	W12/F02	23.1	23	-0.1	-0.4	YES	52.7	53	0	YES							
				W13/F02	23.1	23	0	0	YES											
				W14/F02	23.1	23	0	0	YES											
				W15/F02	23.1	23	0	0	YES											
F03	R1	Residential	Unknown	W1/F03	16.9	17	0.2	1.2	YES	96.2	96	0	YES	18	3	18	3	0	0	
				W11/F03	24.3	24	0	0	YES					56	11	56	11	0	0	YES
	R2	Residential	Unknown	W2/F03	18.7	19	0.1	0.5	YES	94.5	95	-0.8	YES							
	R3	Residential	Unknown	W3/F03	21.2	21	0	0	YES	97.5	98	-0.4	YES							
	R4	Residential	Unknown	W4/F03	24.6	25	0.1	0.4	YES	97.9	98	-0.4	YES							
	R5	Residential	Unknown	W5/F03	25.5	26	-0.1	-0.4	YES	78.7	79	0	YES							
				W6/F03	25.4	25	0	0	YES											
	R6	Residential	Unknown	W7/F03	25.7	26	-0.1	-0.4	YES	78.3	78	0	YES							
				W8/F03	25.6	26	-0.1	-0.4	YES											
	R7	Residential	Unknown	W9/F03	26.5	27	-0.1	-0.4	YES	96.4	96	0	YES							
				W10/F03	26.6	27	0	0	YES											
F04	R1	Residential	Unknown	W1/F04	27.4	28	-0.1	-0.4	YES	69.4	69	0	YES							
				W2/F04	24.4	25	-0.1	-0.4	YES											
				W3/F04	26.6	27	0	0	YES											
				W4/F04	28.3	28	-0.1	-0.4	YES											
8-16 BRIDGEWATER ST																				
F00	R1	Residential	Living Room	W1/F00	8	8	0	0	YES	78.5	79	0	YES	21	6	21	6	0	0	YES
				W2/F00	6.8	6.8	0	0	YES					24	1	24	1	0	0	YES
				W3/F00	0	0	0	0	YES					0	0	0	0	0	0	YES
				W4/F00	17.9	18	0	0	YES					28	6	28	6	0	0	YES
F01	R1	Residential	Living Room	W1/F01	24.3	24	0	0	YES	92	92	0	YES	56	8	56	8	0	0	YES
				W2/F01	19.1	19	0	0	YES					30	8	30	8	0	0	YES
	R2	Residential	Bedroom	W3/F01	19.1	19	0	0	YES	88.8	89	0	YES	35	10	35	10	0	0	YES
F02	R1	Residential	Living Room	W1/F02	28.1	28	0	0	YES	96.5	97	0	YES	66	14	66	14	0	0	YES
				W2/F02	20.6	21	0	0	YES					33	10	33	10	0	0	YES
	R2	Residential	Bedroom	W3/F02	20.3	20	0	0	YES	88.3	88	0	YES	35	10	35	10	0	0	YES
F03	R1	Residential	Living Room	W1/F03	25.4	25	0	0	YES	87.1	87	0	YES	53	18	53	18	0	0	YES
	R2	Residential	Kitchen***	W2/F03	20.1	20	0	0	YES	88.7	89	0	YES	28	9	28	9	0	0	YES
	R3	Residential	Bedroom	W3/F03	20.5	21	0	0	YES	99.4	99	0	YES	29	9	29	9	0	0	YES
20 SOUTHERN ST																				
F00	R1	Residential	Unknown	W3/F00	17.1	17	0	0	YES	73.1	73	0	YES	29	9	29	9	0	0	YES
	R2	Residential	Unknown	W1/F00	17.4	17	0	0	YES	91.2	91	0	YES	31	10	31	10	0	0	YES
				W2/F00	17.7	18	0	0	YES					32	9	32	9	0	0	YES
F01	R1	Residential	Unknown	W1/F01	18.9	19	0	0	YES	81.3	81	0	YES	33	10	33	10	0	0	YES
	R2	Residential	Unknown	W2/F01	18.5	19	0	0	YES	88.6	89	0	YES	30	10	30	10	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
F02	R1**	Residential	Unknown	W1/F02	20.2	20	0	0	YES	60.7	61	0	YES	34	10	34	10	0	0	YES
	R2**	Residential	Unknown	W2/F02	19.8	20	0	0	YES	63.3	63	0	YES	30	10	30	10	0	0	YES
F03	R1	Residential	Unknown	W1/F03*	80.9	81	0	0	YES	99.2	99	0	YES	77	3	80	3	0	0	
				W2/F03*	83.9	84	0	0	YES					76	20	76	20	0	0	YES
	R2	Residential	Unknown	W3/F03	18.6	19	0	0	YES	76.2	76	0	YES	25	9	25	9	0	0	YES
	R3	Residential	Unknown	W4/F03	18.5	19	0	0	YES	75.2	75	0	YES	24	9	24	9	0	0	YES
18-12 SOUTHERN ST																				
F01	R1**	Residential	Living Room	W1/F01	17.9	18	0	0	YES	49.6	50	0	YES	25	7	25	7	0	0	YES
				W2/F01	17.3	17	0	0	YES					29	7	29	7	0	0	YES
	R2	Residential	Unknown	W4/F01	16.9	17	0	0	YES	71.4	71	0	YES	29	7	29	7	0	0	YES
	R3	Residential	Unknown	W3/F01	14.6	15	0	0	YES	41.5	42	0	YES	24	6	24	6	0	0	YES
F02	R1	Residential	Bedroom	W1/F02	19.8	20	0	0	YES	49.5	50	0	YES	29	7	29	7	0	0	YES
	R2	Residential	Unknown	W2/F02	19.6	20	0	0	YES	71.5	72	0	YES	31	7	31	7	0	0	YES
				W5/F02	19.3	19	0	0	YES					30	7	30	7	0	0	YES
	R3	Residential	Unknown	W3/F02	18.4	18	0	0	YES	40.6	41	0	YES	29	7	29	7	0	0	YES
8-10 SOUTHERN ST																				
F01	R1	Residential	Bedroom	W1/F01	11.1	11	0	0	YES	23	23	0	YES	20	3	20	3	0	0	YES
	R2**	Residential	Bedroom	W2/F01	13.2	13	0	0	YES	43.9	44	0	YES	23	6	23	6	0	0	YES
F02	R1	Residential	Bedroom	W1/F02	14.7	15	0	0	YES	45.4	45	0	YES	26	4	26	4	0	0	YES
	R2	Residential	Bedroom	W2/F02	17.2	17	0	0	YES	65.7	66	0	YES	29	7	29	7	0	0	YES
F03	R1	Residential	LKD	W1/F03	18.5	19	0	0	YES	98.7	99	0	YES	33	9	33	9	0	0	YES
				W4/F03	9.9	9.9	0	0	YES					11	3	11	3	0	0	
				W7/F03*	91.8	92	0	0	YES					81	18	81	18	0	0	YES
				W8/F03	33.7	34	0	0	YES					74	17	74	17	0	0	YES
	R2	Residential	LKD	W2/F03	19.6	20	0	0	YES	96.9	97	0	YES	32	9	32	9	0	0	YES
				W3/F03	3.4	3.4	0	0	YES					10	2	10	2	0	0	
				W5/F03	31.5	32	0	0	YES					1	1	1	1	1	1	
				W6/F03*	91.4	91	0	0	YES					79	14	79	14	0	0	
DEANSGATE QUAY																				
B01	R1	Residential	Unknown	W1/B01	12.4	12	0.1	0.8	YES	97.4	97	0	YES	18	0	18	0	0	0	YES
				W2/B01	11.7	12	0	0	YES					18	1	18	1	0	0	YES
				W3/B01	11.6	12	0	0	YES					18	1	18	1	0	0	YES
				W4/B01	12.2	12	0	0	YES					16	0	16	0	0	0	YES
				W5/B01	19.4	19	0	0	YES					5	0	5	0	0	0	
				W5/F00	15.8	16	0	0	YES					21	0	21	0	0	0	YES
				W6/B01	16.7	17	0	0	YES					10	0	10	0	0	0	
				W7/B01	19.1	19	0	0	YES					18	0	18	0	0	0	
				W8/B01	30.5	31	0	0	YES					7	0	7	0	0	0	
F00	R1	Residential	LKD	W1/F00	7.1	7.1	0	0	YES	50.4	50	0	YES	17	2	17	2	0	0	YES
	R2**	Residential	LKD	W2/F00	8.2	8.2	0	0	YES	87.1	87	0	YES	16	2	16	2	0	0	YES
	R3	Residential	Bedroom	W3/F00	9.9	9.8	0.1	1	YES	89.3	89	0	YES	14	3	14	3	0	0	YES
	R4	Residential	Bedroom	W4/F00	19.1	19	0	0	YES	88.6	89	0	YES	27	3	27	3	0	0	YES
	R5	Residential	Lobby	W5/B01 (dup)	19.4	19	0	0	YES	96.4	96	0	YES	6	0	6	0	0	0	
				W5/F00 (dup	15.8	16	0	0	YES					21	0	21	0	0	0	YES
				W6/F00	5.2	5.2	0	0	YES					0	0	0	0	0	0	
	R7	Residential	LKD	W10/F00	22.9	23	0	0	YES	97.6	98	0	YES							
				W11/F00	23.3	23	0	0	YES											
				W12/F00	31.2	31	0	0	YES											
F01	R1	Residential	LKD	W1/F01	2.6	2.6	0	0	YES	86.1	86	0	YES	15	2	15	2	0	0	YES
				W2/F01	20.1	20	0	0	YES					33	4	33	4	0	0	YES
	R2	Residential	LKD	W3/F01	21.4	21	0	0	YES	90.6	91	0	YES	31	2	31	2	0	0	YES
				W4/F01	7.3	7.3	0	0	YES					2	1	2	1	1	1	
	R3	Residential	Bedroom	W5/F01	13.4	13	0	0	YES	97.9	98	0	YES	24	3	24	3	0	0	YES
	R4	Residential	Bedroom	W6/F01	21.8	22	0.1	0.5	YES	95.7	96	0	YES	34	4	34	4	0	0	YES
	R5	Residential	Bedroom	W7/F01	21.9	22	0	0	YES	92.9	93	0	YES	33	3	33	3	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R6	Residential	LKD	W8/F01	20.4	20	0	0	YES	96.2	96	0	YES	29	2	29	2	0	0	YES
				W9/F01	23.2	23	0	0	YES					9	0	9	0	0	0	
				W10/F01	21.7	22	0	0	YES					19	1	19	1	0	0	
	R7	Residential	Unknown	W11/F01	5.7	5.7	0	0	YES	79	79	0	YES							
	R9	Residential	LKD	W13/F01	25.4	25	0	0	YES	99	99	0	YES							
				W14/F01	25.9	26	0	0	YES											
				W15/F01	33.1	33	0	0	YES											
F02	R1	Residential	LKD	W1/F02	2.8	2.8	0	0	YES	87.1	87	0	YES	17	2	17	2	0	0	YES
				W2/F02	21.9	22	0	0	YES					37	5	37	5	0	0	YES
	R2	Residential	LKD	W3/F02	23.3	23	0	0	YES	90.7	91	0	YES	38	4	38	4	0	0	YES
				W4/F02	8.7	8.6	0.1	1.1	YES					19	2	19	2	0	0	
	R3	Residential	Bedroom	W5/F02	15.4	15	0	0	YES	98	98	0	YES	29	5	29	5	0	0	YES
	R4	Residential	Bedroom	W6/F02	24	24	0	0	YES	98.4	98	0	YES	36	5	36	5	0	0	YES
	R5	Residential	Bedroom	W7/F02	24.6	25	0	0	YES	94.9	95	0	YES	38	5	38	5	0	0	YES
	R6	Residential	LKD	W8/F02	24.1	24	0	0	YES	96.9	97	0	YES	37	3	37	3	0	0	YES
				W9/F02	26.2	26	0.1	0.4	YES					14	0	14	0	0	0	
				W10/F02	24	24	0	0	YES					7	1	7	1	0	0	
	R7	Residential	Unknown	W11/F02	6.1	6.1	0	0	YES	90.7	91	0	YES							
	R9	Residential	LKD	W13/F02	27.8	28	0	0	YES	99.8	100	0	YES							
				W14/F02	28.4	28	0	0	YES											
				W15/F02	34.8	35	0	0	YES											
F03	R1	Residential	LKD	W1/F03	3	3	0	0	YES	88.6	89	0	YES	17	2	17	2	0	0	YES
				W2/F03	23.6	24	0	0	YES					42	6	42	6	0	0	YES
	R2	Residential	LKD	W3/F03	25	25	0	0	YES	90.8	91	0	YES	41	5	42	5	0	0	YES
				W4/F03	9.8	9.8	0	0	YES					22	2	22	2	0	0	
	R3	Residential	Bedroom	W5/F03	17.1	17	0	0	YES	98	98	0	YES	33	6	33	6	0	0	YES
	R4	Residential	Bedroom	W6/F03	25.9	26	0	0	YES	98.5	99	0	YES	42	6	42	6	0	0	YES
	R5	Residential	Bedroom	W7/F03	26.6	27	0.1	0.4	YES	96.7	97	0	YES	43	5	43	5	0	0	YES
	R6	Residential	LKD	W8/F03	26.9	27	0	0	YES	97	97	0	YES	42	6	42	6	0	0	YES
				W9/F03	28.8	29	0.1	0.3	YES					20	2	20	2	0	0	
				W10/F03	26.1	26	0	0	YES					10	1	10	1	0	0	
	R7	Residential	Unknown	W11/F03	6.6	6.6	0	0	YES	94.2	94	0	YES							
	R10	Residential	LKD	W15/F03	29.9	30	0	0	YES	100	100	0	YES							
				W16/F03	30.3	30	0	0	YES											
				W17/F03	35.8	36	0	0	YES											
F04	R1	Residential	LKD	W1/F04	8.3	8.3	0	0	YES	88.3	88	0	YES	20	3	20	3	0	0	YES
				W2/F04	25	25	0	0	YES					44	7	44	7	0	0	YES
	R2	Residential	LKD	W3/F04	26.2	26	0	0	YES	90.6	91	0	YES	43	6	44	6	0	0	YES
				W4/F04	15	15	0	0	YES					23	3	23	3	0	0	
	R3	Residential	Bedroom	W5/F04	25.7	26	0	0	YES	98	98	0	YES	46	7	46	7	0	0	YES
	R4	Residential	Bedroom	W6/F04	26.5	27	0	0	YES	98.5	99	0	YES	47	7	47	7	0	0	YES
	R5	Residential	Bedroom	W7/F04	27	27	0	0	YES	97	97	0	YES	46	7	46	7	0	0	YES
	R6	Residential	LKD	W8/F04	28	28	0	0	YES	96.7	97	0	YES	45	7	45	7	0	0	YES
				W9/F04	29.9	30	0	0	YES					21	2	21	2	0	0	
				W10/F04	27.2	27	0	0	YES					22	3	22	3	0	0	
	R7	Residential	Unknown	W11/F04	7.5	7.5	0	0	YES	94.6	95	0	YES							
	R9	Residential	LKD	W13/F04	30.6	31	0	0	YES	100	100	0	YES							
				W14/F04	30.7	31	0	0	YES											
				W15/F04	35.6	36	0	0	YES											
F05	R1**	Residential	Unknown	W1/F05	21.2	21	0	0	YES	99.7	100	0	YES	42	9	42	9	0	0	YES
	R2	Residential	Unknown	W2/F05	21.6	22	0	0	YES	99.7	100	0	YES	39	7	39	7	0	0	YES
				W3/F05	23.1	23	0	0	YES					42	7	42	7	0	0	YES
				W4/F05	19.7	20	0.1	0.5	YES					12	1	12	1	0	0	
	R3	Residential	Unknown	W5/F05	9.5	9.4	0.1	1.1	YES	92.6	93	0	YES							
	R5	Residential	LKD	W7/F05	27.6	28	0	0	YES	100	100	0	YES							
				W8/F05	23.9	24	0	0	YES											
				W9/F05	31.4	31	0	0	YES											

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS	PR	LOSS	LOSS	MEETS	CONS	PR	LOSS	MEETS	CONS		PR		LOSS %		MEETS
					%	%		%	CRITERIA	%	%	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
357-361 DEANSGATE																				
F01	R1	Residential	Unknown	W1/F01	6.6	6.6	0	0	YES	26.1	26	0	YES							
	R2	Residential	Unknown	W2/F01	5.1	5	0.1	2	YES	3.3	3.3	0	YES							
	R3	Residential	Unknown	W3/F01	0.2	0.2	0	0	YES	1.2	1.2	0	YES							
	R4	Residential	Unknown	W4/F01	7	7	0	0	YES	91.8	92	0.3	YES	3	0	3	0	0	0	YES
				W5/F01	1.3	1.3	0	0	YES					6	0	6	0	0	0	
	R5	Residential	Unknown	W6/F01	22.9	23	0	0	YES	61.3	61	0	YES							
	R6	Residential	Unknown	W7/F01	23.2	23	0	0	YES	39.7	40	0	YES							
	R7	Residential	Unknown	W8/F01	24.3	24	0	0	YES	78	78	0	YES							
	R8	Residential	Unknown	W9/F01	24.8	25	0	0	YES	46.8	47	0.2	YES							
	R9	Residential	Unknown	W10/F01	26.1	26	0	0	YES	82	82	0	YES							
				W11/F01	24.4	24	0	0	YES											
F02	R1	Residential	Unknown	W1/F02	8.6	8.6	0	0	YES	7.7	7.7	0	YES							
	R2	Residential	Unknown	W2/F02	13.6	14	0	0	YES	44	44	-0.1	YES							
	R3	Residential	Unknown	W3/F02	0.2	0.2	0	0	YES	1.2	1.2	0	YES							
	R4	Residential	Unknown	W4/F02	9	9	0	0	YES	94.2	94	0	YES	5	0	5	0	0	0	YES
				W5/F02	1.6	1.6	0	0	YES					1	0	1	0	0	0	
	R5	Residential	Unknown	W6/F02	27.8	28	0	0	YES	73.9	75	-2	YES							
	R6	Residential	Unknown	W7/F02	27.7	28	0	0	YES	84.1	85	-1.1	YES							
	R7	Residential	Unknown	W8/F02	25.4	25	0	0	YES	78.3	78	0	YES							
	R8	Residential	Unknown	W9/F02	25.7	26	0	0	YES	55.5	56	0	YES							
	R9	Residential	Unknown	W10/F02	26.7	27	0	0	YES	89.5	90	0	YES							
	R10	Residential	Unknown	W11/F02	27.2	27	0	0	YES	59.7	60	0	YES							
	R11	Residential	Unknown	W12/F02	28.4	28	0	0	YES	82.9	83	0	YES							
				W13/F02	26.9	27	0	0	YES											
F03	R1	Residential	Unknown	W1/F03	16.8	17	0	0	YES	30.3	30	0	YES							
	R2	Residential	Unknown	W2/F03	21.3	21	0	0	YES	58.1	58	0	YES							
	R3	Residential	Unknown	W3/F03	4.8	4.8	0	0	YES	24.7	25	0	YES							
	R4	Residential	Unknown	W4/F03	13	13	0.1	0.8	YES	97.4	97	0	YES	7	0	7	0	0	0	YES
				W5/F03	2.5	2.5	0	0	YES					1	0	1	0	0	0	
	R5	Residential	Unknown	W6/F03	29.4	29	0	0	YES	91.1	93	-1.6	YES							
	R6	Residential	Unknown	W7/F03	29.4	29	0	0	YES	95.4	96	-0.2	YES							
	R7	Residential	Unknown	W8/F03	27.9	28	0	0	YES	95.4	95	0	YES							
	R8	Residential	Unknown	W9/F03	28.1	28	0	0	YES	68.6	69	0	YES							
	R9	Residential	Unknown	W10/F03	29	29	0	0	YES	94.4	94	0	YES							
	R10	Residential	Unknown	W11/F03	29.5	30	0	0	YES	68.2	68	0	YES							
	R11	Residential	Unknown	W12/F03	30.4	30	0	0	YES	84.7	85	0	YES							
				W13/F03	29.3	29	0	0	YES											
F04	R1	Residential	Unknown	W1/F04	28.6	29	0	0	YES	80.8	81	0	YES							
	R2	Residential	Unknown	W2/F04	30.4	30	0	0	YES	86.4	86	0	YES							
	R3	Residential	Unknown	W3/F04	27.7	28	0	0	YES	84.8	85	0	YES							
	R4	Residential	Unknown	W4/F04	20.2	20	0	0	YES	84.7	85	0	YES							
	R5	Residential	Unknown	W5/F04	23	23	0	0	YES	100	100	0	YES	27	0	27	0	0	0	YES
				W6/F04	16	16	0	0	YES					9	0	9	0	0	0	
LUMIERE BUILDING																				
F00	R1	Residential	Unknown	W1/F00	0.3	0.3	0	0	YES	6.5	6.5	0	YES							
	R2	Residential	Unknown	W2/F00	7.3	7.3	0	0	YES	19.5	20	0	YES							
	R3	Residential	Unknown	W3/F00	1.6	1.6	0	0	YES	12.8	13	0	YES							
	R4	Residential	Unknown	W4/F00	0.2	0.2	0	0	YES	6	6	0	YES							
	R5	Residential	Unknown	W5/F00	4.5	4.5	0	0	YES	10.2	10	0	YES							
F01	R1	Residential	LKD	W1/F01	10.3	10	0	0	YES	28.5	29	0	YES							
				W2/F01	9.7	9.7	0	0	YES											
	R2	Residential	Bedroom	W3/F01	2.1	2.1	0	0	YES	16.7	17	0	YES							
	R3	Residential	Bedroom	W4/F01	0.3	0.3	0	0	YES	6.4	6.4	0	YES							
	R4	Residential	LKD	W5/F01	5.7	5.7	0	0	YES	20	20	0	YES							
				W6/F01	6.2	6.2	0	0	YES											
	R5	Residential	LKD	W7/F01	0	0	0	0	YES	6.1	6.1	0	YES							

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
				W8/F01	4.3	4.3	0	0	YES											
	R6	Residential	Bedroom	W9/F01	4.8	4.8	0	0	YES	10.2	10	0.1	YES							
	R7	Residential	Bedroom	W10/F01	4.8	4.8	0	0	YES	10.6	11	0	YES							
	R8	Residential	LKD	W11/F01	4.8	4.8	0	0	YES	48.6	49	0	YES	0	0	0	0	0	0	
				W12/F01	1.3	1.3	0	0	YES					0	0	0	0	0	0	
				W13/F01	4.3	4.3	0	0	YES					15	6	15	6	0	0	YES
F02	R1	Residential	LKD	W1/F02	13.7	14	0	0	YES	42.1	42	0	YES							
				W2/F02	12.8	13	0	0	YES											
	R2	Residential	Bedroom	W3/F02	3.5	3.5	0	0	YES	23.1	23	0	YES							
	R3	Residential	Bedroom	W4/F02	1	1	0	0	YES	14.5	14	2.7	YES							
	R4	Residential	LKD	W5/F02	8	8	0	0	YES	25.7	25	2.3	YES							
				W6/F02	8.6	8.6	0	0	YES											
	R5	Residential	LKD	W7/F02	0	0	0	0	YES	9.4	9.4	0	YES							
				W8/F02	6.3	6.3	0	0	YES											
	R6	Residential	Bedroom	W9/F02	7	7	0	0	YES	13.8	14	0	YES							
	R7	Residential	Bedroom	W10/F02	7	7	0	0	YES	14.2	14	0	YES							
	R8	Residential	LKD	W11/F02	6.8	6.8	0	0	YES	48.6	49	0	YES	0	0	0	0	0	0	
				W12/F02	2.4	2.4	0	0	YES					0	0	0	0	0	0	
				W13/F02	4.6	4.6	0	0	YES					17	7	17	7	0	0	YES
F03	R1	Residential	LKD	W1/F03	18.1	18	0.1	0.6	YES	70.3	70	0.1	YES							
				W2/F03	17	17	0.1	0.6	YES											
	R2	Residential	Bedroom	W3/F03	6.2	6.1	0.1	1.6	YES	32.5	33	0	YES							
	R3	Residential	Bedroom	W4/F03	3.2	3.2	0	0	YES	24.4	24	1.9	YES							
	R4	Residential	LKD	W5/F03	11.7	12	0.1	0.9	YES	33.1	33	-0.5	YES							
				W6/F03	12.4	12	0	0	YES											
	R5	Residential	LKD	W7/F03	1.1	1.1	0	0	YES	15.4	15	0	YES							
				W8/F03	9.9	9.9	0	0	YES											
	R6	Residential	Bedroom	W9/F03	10.5	11	0	0	YES	22.4	22	0	YES							
	R7	Residential	Bedroom	W10/F03	10.5	11	0	0	YES	23.1	23	0	YES							
	R8	Residential	LKD	W11/F03	10.3	10	0	0	YES	48.7	49	0	YES	0	0	0	0	0	0	
				W12/F03	5.3	5.3	0	0	YES					0	0	0	0	0	0	
				W13/F03	5	5	0	0	YES					18	7	18	7	0	0	YES
F04	R1	Residential	LKD	W1/F04	22.8	23	0.1	0.4	YES	89.4	89	0	YES							
				W2/F04	21.3	21	0.1	0.5	YES											
	R2	Residential	Bedroom	W3/F04	10.3	10	0	0	YES	47	47	0	YES							
	R3	Residential	Bedroom	W4/F04	7.3	7.2	0.1	1.4	YES	41.5	41	0	YES							
	R4	Residential	LKD	W5/F04	16.5	16	0.1	0.6	YES	49.9	50	-0.2	YES							
				W6/F04	17.4	17	0	0	YES											
	R5	Residential	LKD	W7/F04	5.5	5.5	0	0	YES	28.5	28	0.8	YES							
				W8/F04	15.1	15	0.1	0.7	YES											
	R6	Residential	Bedroom	W9/F04	15.7	16	0	0	YES	35.4	35	0	YES							
	R7	Residential	Bedroom	W10/F04	15.8	16	0.1	0.6	YES	38.6	39	0	YES							
	R8	Residential	LKD	W11/F04	15.5	16	0	0	YES	48.6	49	0	YES	0	0	0	0	0	0	
				W12/F04	10	10	0	0	YES					0	0	0	0	0	0	
				W13/F04	5.7	5.7	0	0	YES					19	7	19	7	0	0	YES
F05	R1	Residential	LKD	W1/F05	26.8	27	0.1	0.4	YES	99.2	99	0	YES							
				W2/F05	25.8	26	0.1	0.4	YES											
	R2	Residential	Bedroom	W3/F05	15.3	15	0.1	0.7	YES	95	95	0	YES							
	R3	Residential	Bedroom	W4/F05	12.4	12	0.1	0.8	YES	89.4	89	0	YES							
	R4	Residential	LKD	W5/F05	22.6	23	0.1	0.4	YES	91.5	92	0	YES							
				W6/F05	23.5	23	0.1	0.4	YES											
	R5	Residential	LKD	W7/F05	11.2	11	0	0	YES	80.9	81	0	YES							
				W8/F05	21.5	21	0.1	0.5	YES											
	R6	Residential	Bedroom	W9/F05	22	22	0	0	YES	79.1	79	0	YES							
	R7	Residential	Bedroom	W10/F05	21.9	22	0	0	YES	80.7	81	0	YES							
	R8	Residential	LKD	W11/F05	21.6	22	0	0	YES	86.9	87	0	YES	0	0	0	0	0	0	
				W12/F05	16.1	16	0.1	0.6	YES					0	0	0	0	0	0	
				W13/F05	6.8	6.8	0	0	YES					21	9	21	9	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
F06	R1	Residential	LKD	W1/F06	30.1	30	0.1	0.3	YES	99.2	99	0	YES							
				W2/F06	29.8	30	0	0	YES											
	R2	Residential	Bedroom	W3/F06	20.3	20	0.1	0.5	YES	97.5	98	0	YES							
	R3	Residential	Bedroom	W4/F06	17.7	18	0.1	0.6	YES	98.1	98	0	YES							
	R4	Residential	LKD	W5/F06	27.7	28	0	0	YES	99.2	99	0	YES							
				W6/F06	28.5	29	0	0	YES											
	R5	Residential	LKD	W7/F06	17	17	0	0	YES	97.8	98	0	YES							
				W8/F06	27.2	27	0	0	YES											
	R6	Residential	Bedroom	W9/F06	27.6	28	0.1	0.4	YES	97.3	97	0	YES							
	R7	Residential	Bedroom	W10/F06	27.4	27	0.1	0.4	YES	98	98	0	YES							
	R8	Residential	LKD	W11/F06	27	27	0.1	0.4	YES	100	100	0	YES							
				W12/F06	22	22	0	0	YES					0	0	0	0	0	0	
				W13/F06	8.2	8.2	0	0	YES					26	14	26	14	0	0	YES
F07	R1	Residential	LKD	W1/F07	31	31	0	0	YES	99.2	99	0	YES							
				W2/F07	30.8	31	0	0	YES											
	R2	Residential	Bedroom	W3/F07	29.7	30	0.1	0.3	YES	98.3	98	0	YES							
	R3	Residential	Bedroom	W4/F07	26.9	27	0	0	YES	99.3	99	0	YES							
	R4	Residential	LKD	W5/F07	29.9	30	0	0	YES	99.5	100	0	YES							
				W6/F07	29.8	30	0.1	0.3	YES											
	R5	Residential	LKD	W7/F07	25.6	26	0	0	YES	98.7	99	0	YES							
				W8/F07	29	29	0.1	0.3	YES											
	R6	Residential	Bedroom	W9/F07	28.7	29	0.1	0.3	YES	97.4	97	0	YES							
	R7	Residential	Bedroom	W10/F07	28.3	28	0	0	YES	98	98	0	YES							
	R8	Residential	LKD	W11/F07	28	28	0.1	0.4	YES	100	100	0	YES	1	0	1	0	0	0	
				W12/F07	27.1	27	0	0	YES					1	0	1	0	0	0	
				W13/F07	13.7	14	0	0	YES					32	15	32	15	0	0	YES
F08	R1	Residential	Unknown	W1/F08	33.3	33	0.1	0.3	YES	100	100	0	YES							
				W2/F08	31.2	31	0.1	0.3	YES											
	R2	Residential	Unknown	W3/F08	30.9	31	0	0	YES	100	100	0	YES							
	R3	Residential	Unknown	W4/F08	30.7	31	0.1	0.3	YES	100	100	0	YES							
	R4	Residential	Unknown	W5/F08	30.4	30	0	0	YES	100	100	0	YES							
	R5	Residential	Unknown	W6/F08	30.1	30	0	0	YES	100	100	0	YES							
	R6	Residential	Unknown	W7/F08	28.4	28	0	0	YES	99.9	100	0	YES							
	R7	Residential	Unknown	W8/F08	28.8	29	0	0	YES	100	100	0	YES							
	R8	Residential	Unknown	W9/F08	29.2	29	0.1	0.3	YES	100	100	0	YES							
	R9	Residential	Unknown	W10/F08	29.5	30	0	0	YES	100	100	0	YES							
	R10	Residential	Unknown	W11/F08	29.9	30	0.1	0.3	YES	100	100	0	YES							
F09	R1	Residential	Unknown	W1/F09	35.9	36	0	0	YES	100	100	0	YES							
				W2/F09	31.5	31	0.1	0.3	YES											
	R2	Residential	Unknown	W3/F09	31.2	31	0	0	YES	100	100	0	YES							
	R3	Residential	Unknown	W4/F09	31	31	0.1	0.3	YES	100	100	0	YES							
	R4	Residential	Unknown	W5/F09	30.7	31	0	0	YES	100	100	0	YES							
	R5	Residential	Unknown	W6/F09	30.5	30	0.1	0.3	YES	100	100	0	YES							
	R6	Residential	Unknown	W7/F09	15.7	16	0	0	YES	100	100	0	YES	36	16	36	16	0	0	YES
				W8/F09	28.7	29	0	0	YES					1	0	1	0	0	0	
	R7	Residential	Unknown	W9/F09	29.1	29	0	0	YES	100	100	0	YES							
	R8	Residential	Unknown	W10/F09	29.5	29	0.1	0.3	YES	100	100	0	YES							
	R9	Residential	Unknown	W11/F09	29.9	30	0.1	0.3	YES	100	100	0	YES							
	R10	Residential	Unknown	W12/F09	30.2	30	0.1	0.3	YES	100	100	0	YES							
F10	R1	Residential	Unknown	W1/F10	31	31	0.1	0.3	YES	100	100	0	YES							
	R2	Residential	Unknown	W2/F10	30.7	31	0.1	0.3	YES	100	100	0	YES							
	R3	Residential	Unknown	W3/F10	16	16	0	0	YES	100	100	0	YES	36	16	36	16	0	0	YES
				W4/F10	28.9	29	0.1	0.3	YES					1	0	1	0	0	0	
	R4	Residential	Unknown	W5/F10	29.3	29	0	0	YES	100	100	0	YES							
	R5	Residential	Unknown	W6/F10	29.7	30	0	0	YES	100	100	0	YES							
	R6	Residential	Unknown	W7/F10	30.1	30	0.1	0.3	YES	100	100	0	YES							
	R7	Residential	Unknown	W8/F10	30.4	30	0.1	0.3	YES	100	100	0	YES							
	R8	Residential	Unknown	W9/F10	34.9	35	0	0	YES	100	100	0	YES	64	20	64	20	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
				W10/F10	31.1	31	0	0	YES											
				W11/F10	36.3	36	0	0	YES					32	6	32	6	0	0	
THE DANUBE																				
F00	R1	Residential	LKD	W1/F00	13.8	14	0	0	YES	55.9	56	0	YES							
				W2/F00	5.9	5.9	0	0	YES											
	R2	Residential	Bedroom	W3/F00	1.6	1.6	0	0	YES	21.8	21	2.8	YES							
	R3	Residential	Bedroom	W4/F00	13.5	14	0	0	YES	35.5	36	0	YES							
	R4	Residential	Bedroom	W5/F00	12.7	13	0	0	YES	35.2	35	0	YES							
	R5	Residential	Bedroom	W6/F00	0.1	0.1	0	0	YES	11	11	0	YES							
	R6	Residential	LKD	W7/F00	2.3	2.3	0	0	YES	34.7	35	0	YES	1	0	1	0	0	0	YES
				W8/F00	14.3	14	0.1	0.7	YES					0	0	0	0	0	0	
	R7	Residential	Bedroom	W9/F00	17.5	17	0.1	0.6	YES	36	36	0	YES							
	R8**	Residential	LKD	W10/F00	18.6	19	0	0	YES	64.9	65	0	YES							
F01	R1	Residential	Bedroom	W1/F01	13.7	14	0	0	YES	42.5	43	0	YES							
	R2	Residential	Bedroom	W2/F01	1.3	1.3	0	0	YES	25.6	26	0	YES							
	R3	Residential	LKD	W3/F01	1.8	1.8	0	0	YES	67.6	68	0	YES	0	0	0	0	0	0	YES
				W4/F01	14.9	15	-0.1	-0.7	YES					1	0	1	0	0	0	
	R4	Residential	LKD	W5/F01	15.4	15	0.1	0.6	YES	58.8	59	0	YES							
				W6/F01	6.9	6.9	0	0	YES											
	R5	Residential	Bedroom	W7/F01	2.5	2.4	0.1	4	YES	33.4	33	0	YES							
	R6	Residential	Bedroom	W8/F01	15.1	15	0.1	0.7	YES	40.2	40	0	YES							
	R7	Residential	Bedroom	W9/F01	14.1	14	-0.1	-0.7	YES	39.5	40	0	YES							
	R8	Residential	Bedroom	W10/F01	0.7	0.7	0	0	YES	21.3	21	0	YES							
	R9	Residential	LKD	W11/F01	2.9	2.9	0	0	YES	35.3	35	0	YES	1	0	1	0	0	0	YES
				W12/F01	15.7	16	0	0	YES					0	0	0	0	0	0	
	R10	Residential	Bedroom	W13/F01	18.9	19	0.1	0.5	YES	38.4	38	0	YES							
	R11**	Residential	LKD	W14/F01	20	20	0.1	0.5	YES	66.4	66	0	YES							
F02	R1	Residential	Bedroom	W1/F02	15	15	0	0	YES	48	48	0	YES							
	R2	Residential	Bedroom	W2/F02	2.6	2.6	0	0	YES	36.6	37	0	YES							
	R3	Residential	LKD	W3/F02	2.1	2.1	0	0	YES	70.9	71	0	YES	0	0	0	0	0	0	YES
				W4/F02	16.7	17	0.1	0.6	YES					1	0	1	0	0	0	
	R4	Residential	LKD	W5/F02	17.2	17	0	0	YES	65.1	65	0	YES							
				W6/F02	7.7	7.7	0	0	YES											
	R5	Residential	Bedroom	W7/F02	4.4	4.3	0.1	2.3	YES	45.5	46	0	YES							
	R6	Residential	Bedroom	W8/F02	16.9	17	0	0	YES	46.8	47	0	YES							
	R7	Residential	Bedroom	W9/F02	15.6	16	0	0	YES	45.8	46	0	YES							
	R8	Residential	Bedroom	W10/F02	2.2	2.2	0	0	YES	33.7	34	0	YES							
	R9	Residential	LKD	W11/F02	3.4	3.4	0	0	YES	36.9	37	0	YES	1	0	1	0	0	0	YES
				W12/F02	17.5	17	0.1	0.6	YES					0	0	0	0	0	0	
	R10	Residential	Bedroom	W13/F02	20.5	20	0.1	0.5	YES	42.4	42	0	YES							
	R11**	Residential	LKD	W14/F02	21.6	22	0.1	0.5	YES	68.5	69	0	YES							
F03	R1	Residential	Bedroom	W1/F03	17	17	0	0	YES	51.8	52	0	YES							
	R2	Residential	Bedroom	W2/F03	3.6	3.6	0	0	YES	46.9	47	0	YES							
	R3	Residential	LKD	W3/F03	2.3	2.3	0	0	YES	73.6	74	0	YES	0	0	0	0	0	0	YES
				W4/F03	18.6	19	0.1	0.5	YES					1	0	1	0	0	0	
	R4	Residential	LKD	W5/F03	19.4	19	0	0	YES	77.5	78	0	YES							
				W6/F03	8.3	8.2	0.1	1.2	YES											
	R5	Residential	Bedroom	W7/F03	6	6	0	0	YES	54.3	54	0	YES							
	R6	Residential	Bedroom	W8/F03	18.4	18	0.1	0.5	YES	58.1	58	0	YES							
	R7	Residential	Bedroom	W9/F03	17.6	18	0.1	0.6	YES	53.8	54	0	YES							
	R8	Residential	Bedroom	W10/F03	3.8	3.8	0	0	YES	47.1	47	0	YES							
	R9	Residential	LKD	W11/F03	3.8	3.8	0	0	YES	39.6	40	0	YES	2	0	2	0	0	0	YES
				W12/F03	19.6	20	0	0	YES					1	0	1	0	0	0	
	R10	Residential	Bedroom	W13/F03	22.4	22	0.1	0.4	YES	49.4	49	0	YES							
	R11**	Residential	LKD	W14/F03	23.4	23	0.1	0.4	YES	72	72	0	YES							
F04	R1	Residential	Bedroom	W1/F04	19	19	0.1	0.5	YES	61.7	62	0	YES							
	R2	Residential	Bedroom	W2/F04	5.5	5.5	0	0	YES	66.5	67	0	YES							

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R3	Residential	LKD	W3/F04	2.6	2.6	0	0	YES	74.7	75	0	YES	0	0	0	0	0	0	YES
				W4/F04	20.6	21	0	0	YES					1	0	1	0	0	0	
	R4	Residential	LKD	W5/F04	21.9	22	0.1	0.5	YES	93.1	93	0	YES							
				W6/F04	9.1	9.1	0	0	YES											
	R5	Residential	Bedroom	W7/F04	8.7	8.6	0.1	1.1	YES	75.3	75	0	YES							
	R6	Residential	Bedroom	W8/F04	20	20	0.1	0.5	YES	73.8	74	0	YES							
	R7	Residential	Bedroom	W9/F04	19.2	19	0	0	YES	67.5	68	0	YES							
	R8	Residential	Bedroom	W10/F04	6.5	6.5	0	0	YES	72	72	0	YES							
	R9	Residential	LKD	W11/F04	4.4	4.4	0	0	YES	45.1	45	0	YES	2	0	2	0	0	0	YES
				W12/F04	22	22	0.1	0.5	YES					1	0	1	0	0	0	
	R10	Residential	Bedroom	W13/F04	24.5	24	0.1	0.4	YES	61.1	61	0	YES							
	R11**	Residential	LKD	W14/F04	25.3	25	0.1	0.4	YES	78	78	0	YES							
F05	R1	Residential	Bedroom	W1/F05	20.9	21	0	0	YES	79.7	80	0	YES							
	R2	Residential	Bedroom	W2/F05	7.2	7.2	0	0	YES	85.1	85	0	YES							
	R3	Residential	LKD	W3/F05	2.9	2.9	0	0	YES	76.4	76	0	YES	0	0	0	0	0	0	YES
				W4/F05	22.8	23	0.1	0.4	YES					1	0	1	0	0	0	
	R4	Residential	LKD	W5/F05	24.2	24	0	0	YES	97.6	98	0	YES							
				W6/F05	8.9	8.8	0.1	1.1	YES											
	R5	Residential	Bedroom	W7/F05	9.4	9.4	0	0	YES	87.7	88	0	YES							
	R6	Residential	Bedroom	W8/F05	9.7	9.7	0	0	YES	96.6	97	0	YES							
	R7	Residential	Bedroom	W9/F05	13.9	14	0	0	YES	93.9	94	0	YES							
	R8	Residential	Bedroom	W10/F05	8.3	8.3	0	0	YES	89.2	89	0	YES							
	R9	Residential	LKD	W11/F05	4.9	4.9	0	0	YES	61.3	61	0	YES	2	0	2	0	0	0	YES
				W12/F05	24.6	25	0	0	YES					1	0	1	0	0	0	
	R10	Residential	Bedroom	W13/F05	26.6	27	0	0	YES	84.2	84	0	YES							
	R11**	Residential	LKD	W14/F05	27.2	27	0	0	YES	86.6	87	0	YES							
F06	R1	Residential	Bedroom	W1/F06	23.2	23	0	0	YES	98.7	99	0	YES							
	R2	Residential	Bedroom	W2/F06	20	20	0	0	YES	94.1	94	0	YES							
	R3	Residential	LKD	W3/F06	4.9	4.9	0	0	YES	87.9	88	0	YES	0	0	0	0	0	0	YES
				W4/F06	25	25	0	0	YES					1	0	1	0	0	0	
	R4	Residential	LKD	W5/F06	26.5	27	0	0	YES	99.8	100	0	YES							
				W6/F06	11.3	11	0.1	0.9	YES											
	R5	Residential	Bedroom	W7/F06	19.9	20	0	0	YES	93.3	93	0	YES							
	R6	Residential	Bedroom	W8/F06	21	21	0.1	0.5	YES	98.2	98	0	YES							
	R7	Residential	Bedroom	W9/F06	21.9	22	0	0	YES	98.6	99	0	YES							
	R8	Residential	Bedroom	W10/F06	18.4	18	0	0	YES	93.7	94	0	YES							
	R9	Residential	LKD	W11/F06	6.7	6.7	0	0	YES	90.9	91	0	YES	3	0	3	0	0	0	YES
				W12/F06	27.3	27	0	0	YES					2	0	2	0	0	0	
	R10	Residential	Bedroom	W13/F06	27	27	0.1	0.4	YES	97	97	0	YES							
	R11**	Residential	LKD	W14/F06	28.1	28	0.1	0.4	YES	99	99	0	YES							
AXIS TOWER																				
B01	R1	Residential	LKD	W1/B01	15.7	17	-0.8	-5.1	YES	79.1	81	-1.9	YES	39	9	40	10	0	0	YES
				W2/B01	16	17	-0.7	-4.4	YES					37	10	42	12	0	0	YES
	R2	Residential	Bedroom	W3/B01	17.1	18	-0.5	-2.9	YES	75.2	76	-1.2	YES	43	10	43	10	0	0	YES
F00	R1	Residential	Bedroom	W1/F00	12.4	13	-0.8	-6.5	YES	70.1	74	-5.3	YES	36	13	36	13	0	0	YES
	R2	Residential	Living Room	W2/F00	11	12	-0.8	-7.3	YES	35.8	39	-9.7	YES	29	9	31	10	0	0	YES
	R3	Residential	Kitchen***	W3/F00	13.8	15	-0.8	-5.8	YES	63.3	66	-3.9	YES	34	10	35	11	0	0	YES
F01	R1	Residential	LKD	W1/F01	2.1	2.2	-0.1	-4.8	YES	35.9	42	-16.8	YES	7	3	9	5	0	0	YES
				W2/F01	1	1.1	-0.1	-10	YES					4	4	4	4	0	0	YES
	R2	Residential	Bedroom	W3/F01	1.5	1.6	-0.1	-6.7	YES	38.4	39	-1.4	YES	5	5	5	5	0	0	YES
	R3	Residential	Bedroom	W4/F01	1.3	1.4	-0.1	-7.7	YES	37.8	39	-3.3	YES	4	4	4	4	0	0	YES
	R4	Residential	LKD	W5/F01	2	2.2	-0.2	-10	YES	51.5	56	-7.6	YES	4	4	5	5	0	0	YES
				W6/F01	1.8	2	-0.2	-11.1	YES					4	4	6	6	0	0	YES
	R5	Residential	Bedroom	W7/F01	2.5	2.6	-0.1	-4	YES	51.6	56	-8.5	YES	6	6	6	6	0	0	YES
				W8/F01	2.3	2.4	-0.1	-4.3	YES					5	5	5	5	0	0	YES
	R6	Residential	Living Room	W9/F01	3.1	3.2	-0.1	-3.2	YES	58	60	-2.5	YES	4	4	4	4	0	0	YES
				W10/F01	2.8	2.8	0	0	YES					3	3	3	3	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS	PR	LOSS	LOSS	MEETS	CONS	PR	LOSS	MEETS	CONS		PR		LOSS %		MEETS
					%	%		%	CRITERIA	%	%	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
	R7	Residential	Bedroom	W11/F01	3.7	3.7	0	0	YES	100	100	0	YES	5	5	6	6	0	0	YES
				W12/F01	2.1	2.1	0	0	YES					4	4	4	4	0	0	YES
F02	R1	Residential	LKD	W1/F02	26.5	27	0	0	YES	94.4	95	-0.2	YES	28	5	28	5	0	0	
				W2/F02	17	18	-0.9	-5.3	YES					48	10	51	12	0	0	YES
	R2	Residential	LKD	W3/F02	17.7	19	-1	-5.6	YES	38.4	42	-9.5	YES	51	13	53	14	0	0	YES
	R3	Residential	Bedroom	W4/F02	18.5	20	-1	-5.4	YES	30	36	-18.8	YES	53	14	54	14	0	0	YES
	R4	Residential	LKD	W5/F02	19.3	20	-1	-5.2	YES	33.2	37	-10.3	YES	51	13	53	13	0	0	YES
	R5	Residential	Bedroom	W6/F02	20.5	21	-0.9	-4.4	YES	33.1	37	-11.5	YES	51	12	53	14	0	0	YES
	R6	Residential	LKD	W7/F02	21.5	22	-0.6	-2.8	YES	47.5	52	-8.7	YES	55	15	56	15	0	0	YES
	R7	Residential	Bedroom	W8/F02	22.3	23	-0.5	-2.2	YES	36.1	37	-2	YES	56	16	58	16	0	0	YES
	R8	Residential	Bedroom	W9/F02	23.2	24	-0.5	-2.2	YES	30.4	31	-2.4	YES	55	15	57	15	0	0	YES
	R9	Residential	Bedroom	W10/F02	24.2	25	-0.4	-1.7	YES	54.5	56	-1.9	YES	56	15	56	15	0	0	YES
	R10	Residential	LKD	W11/F02	24.7	25	-0.5	-2	YES	98.9	99	0	YES	56	14	58	15	0	0	YES
				W12/F02	30.3	30	0	0	YES					33	7	33	7	0	0	YES
F03	R1	Residential	LKD	W1/F03	27.6	28	0	0	YES	94.8	95	-0.3	YES	28	5	28	5	0	0	
				W2/F03	17.4	18	-0.9	-5.2	YES					48	10	51	12	0	0	YES
	R2**	Residential	LKD	W3/F03	18.1	19	-1	-5.5	YES	36.5	40	-10.3	YES	52	14	53	14	0	0	YES
	R3	Residential	Bedroom	W4/F03	19	20	-1	-5.3	YES	36.4	42	-13.9	YES	52	13	54	14	0	0	YES
	R4**	Residential	LKD	W5/F03	19.8	21	-1	-5.1	YES	36.6	41	-12.5	YES	53	13	54	13	0	0	YES
	R5	Residential	Bedroom	W6/F03	21.1	22	-0.9	-4.3	YES	42	45	-7.6	YES	52	12	54	14	0	0	YES
	R6**	Residential	LKD	W7/F03	22	23	-0.6	-2.7	YES	55.6	59	-5.4	YES	57	15	58	15	0	0	YES
	R7	Residential	Bedroom	W8/F03	22.9	23	-0.5	-2.2	YES	45.5	46	-1.3	YES	57	16	59	16	0	0	YES
	R8	Residential	Bedroom	W9/F03	23.9	24	-0.4	-1.7	YES	40.1	41	-1.5	YES	56	16	58	16	0	0	YES
	R9	Residential	Bedroom	W10/F03	24.8	25	-0.4	-1.6	YES	63.7	64	-1.2	YES	56	15	56	15	0	0	YES
	R10	Residential	LKD	W11/F03	25.4	26	-0.5	-2	YES	98.9	99	0	YES	58	15	60	16	0	0	YES
				W12/F03	31.8	32	0	0	YES					36	7	36	7	0	0	YES
F04	R1	Residential	LKD	W1/F04	27.9	28	0	0	YES	95.5	96	-0.7	YES	28	5	28	5	0	0	
				W2/F04	17.8	19	-0.8	-4.5	YES					47	10	52	12	0	0	YES
	R2**	Residential	LKD	W3/F04	18.5	20	-1	-5.4	YES	37.1	41	-10.4	YES	51	13	53	13	0	0	YES
	R3	Residential	Bedroom	W4/F04	19.3	20	-1	-5.2	YES	30.8	35	-15	YES	53	14	54	14	0	0	YES
	R4**	Residential	LKD	W5/F04	20.4	21	-1	-4.9	YES	42.5	47	-9.5	YES	53	13	54	13	0	0	YES
	R5	Residential	Bedroom	W6/F04	21.4	22	-0.9	-4.2	YES	32.3	37	-14.5	YES	52	12	54	14	0	0	YES
	R6**	Residential	LKD	W7/F04	22.5	23	-0.6	-2.7	YES	63.1	65	-3.6	YES	57	15	59	16	0	0	YES
	R7	Residential	Bedroom	W8/F04	23.2	24	-0.5	-2.2	YES	35.9	37	-2.1	YES	58	16	60	16	0	0	YES
	R8	Residential	Bedroom	W9/F04	24.4	25	-0.5	-2	YES	49.4	50	-1.2	YES	58	17	61	17	0	0	YES
	R9	Residential	Bedroom	W10/F04	25.5	26	-0.4	-1.6	YES	72	73	-0.9	YES	56	15	57	15	0	0	YES
	R10	Residential	LKD	W11/F04	26.1	27	-0.4	-1.5	YES	98.9	99	0	YES	59	16	61	17	0	0	YES
				W12/F04	33	33	0	0	YES					38	7	38	7	0	0	YES
F05	R1	Residential	LKD	W1/F05	28.2	28	0	0	YES	96.6	97	-0.7	YES	28	5	28	5	0	0	
				W2/F05	18.1	19	-0.9	-5	YES					47	10	52	12	0	0	YES
	R2**	Residential	LKD	W3/F05	18.9	20	-1	-5.3	YES	39.3	43	-9.6	YES	52	13	54	14	0	0	YES
	R3	Residential	Bedroom	W4/F05	19.7	21	-1	-5.1	YES	35.9	42	-15.7	YES	52	13	54	14	0	0	YES
	R4**	Residential	LKD	W5/F05	20.9	22	-1	-4.8	YES	49.6	55	-11.6	YES	53	13	54	13	0	0	YES
	R5	Residential	Bedroom	W6/F05	22	23	-0.7	-3.2	YES	41.7	45	-7.6	YES	52	12	54	14	0	0	YES
	R6	Residential	LKD	W7/F05	23	24	-0.6	-2.6	YES	71.6	73	-2.3	YES	58	16	60	17	0	0	YES
	R7	Residential	Bedroom	W8/F05	23.8	24	-0.4	-1.7	YES	45.3	46	-1.2	YES	58	16	60	16	0	0	YES
	R8	Residential	Bedroom	W9/F05	25	25	-0.4	-1.6	YES	56	57	-0.9	YES	58	17	60	17	0	0	YES
	R9	Residential	Bedroom	W10/F05	26	26	-0.4	-1.5	YES	79.1	80	-0.9	YES	58	16	59	16	0	0	YES
	R10	Residential	LKD	W11/F05	26.7	27	-0.5	-1.9	YES	98.9	99	0	YES	60	16	61	17	0	0	YES
				W12/F05	34	34	0	0	YES					38	7	38	7	0	0	YES
F06	R1	Residential	LKD	W1/F06	28.4	29	-0.1	-0.4	YES	94.5	95	-0.1	YES	28	5	28	5	0	0	
				W2/F06	18.1	19	-0.7	-3.9	YES					49	11	49	11	0	0	YES
	R2	Residential	LKD	W3/F06	18.9	20	-1	-5.3	YES	38.8	43	-11.1	YES	51	13	53	14	0	0	YES
	R3	Residential	Bedroom	W4/F06	19.9	21	-1	-5	YES	30.7	36	-18.1	YES	53	14	54	14	0	0	YES
	R4	Residential	LKD	W5/F06	20.9	22	-1	-4.8	YES	33.6	37	-10.3	YES	52	13	54	13	0	0	YES
	R5	Residential	Bedroom	W6/F06	22.2	23	-0.8	-3.6	YES	33.9	38	-11	YES	52	12	54	14	0	0	YES
	R6	Residential	LKD	W7/F06	23.2	24	-0.5	-2.2	YES	48.6	53	-8.8	YES	58	16	59	16	0	0	YES
	R7	Residential	Bedroom	W8/F06	24.1	25	-0.4	-1.7	YES	36.9	38	-1.9	YES	59	17	61	17	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R8	Residential	Bedroom	W9/F06	25.3	26	-0.5	-2	YES	50	50	-0.7	YES	59	18	62	18	0	0	YES
	R9	Residential	Bedroom	W10/F06	26.3	27	-0.4	-1.5	YES	55.3	56	-1.5	YES	58	16	58	16	0	0	YES
	R10	Residential	LKD	W11/F06	27.3	28	-0.4	-1.5	YES	98.9	99	0	YES	60	16	62	17	0	0	YES
				W12/F06	35.1	35	0	0	YES					40	8	40	8	0	0	YES
F07	R1	Residential	LKD	W1/F07	28.6	29	-0.1	-0.3	YES	94.5	95	-0.1	YES							
				W2/F07	18.3	19	-0.8	-4.4	YES					48	10	49	11	0	0	YES
	R2**	Residential	LKD	W3/F07	19.3	20	-0.9	-4.7	YES	36.5	41	-11.2	YES	52	14	53	14	0	0	YES
	R3	Residential	Bedroom	W4/F07	20.3	21	-1	-4.9	YES	37.2	42	-13.7	YES	52	13	54	14	0	0	YES
	R4**	Residential	LKD	W5/F07	21.3	22	-1	-4.7	YES	37.1	41	-11.6	YES	53	13	54	13	0	0	YES
	R5	Residential	Bedroom	W6/F07	22.7	24	-0.8	-3.5	YES	43.2	46	-6.6	YES	52	12	54	14	0	0	YES
	R6**	Residential	LKD	W7/F07	23.7	24	-0.5	-2.1	YES	56.4	59	-5.2	YES	58	16	59	16	0	0	YES
	R7	Residential	Bedroom	W8/F07	24.6	25	-0.4	-1.6	YES	46.3	47	-1.4	YES	59	17	61	17	0	0	YES
	R8	Residential	Bedroom	W9/F07	25.8	26	-0.4	-1.6	YES	56.9	57	-0.7	YES	59	18	61	18	0	0	YES
	R9	Residential	Bedroom	W10/F07	26.8	27	-0.4	-1.5	YES	64.5	65	-0.7	YES	60	18	60	18	0	0	YES
	R10	Residential	LKD	W11/F07	27.8	28	-0.4	-1.4	YES	98.9	99	0	YES	64	19	64	19	0	0	YES
				W12/F07	36	36	0	0	YES					41	9	41	9	0	0	YES
F08	R1	Residential	LKD	W1/F08	28.8	29	-0.1	-0.3	YES	94.5	95	-0.1	YES							
				W2/F08	18.6	19	-0.8	-4.3	YES					48	10	50	11	0	0	YES
	R2**	Residential	LKD	W3/F08	19.6	21	-0.9	-4.6	YES	37.7	41	-9.8	YES	51	13	53	13	0	0	YES
	R3	Residential	Bedroom	W4/F08	20.7	22	-0.9	-4.3	YES	44.2	47	-6.1	YES	52	13	55	14	0	0	YES
	R4**	Residential	LKD	W5/F08	21.7	23	-1	-4.6	YES	43.1	48	-10.9	YES	53	13	54	13	0	0	YES
	R5	Residential	Bedroom	W6/F08	23.1	24	-0.7	-3	YES	54.5	57	-4.2	YES	53	13	56	15	0	0	YES
	R6**	Residential	LKD	W7/F08	24.1	25	-0.5	-2.1	YES	63.7	66	-3.5	YES	58	16	60	17	0	0	YES
	R7	Residential	Bedroom	W8/F08	25	25	-0.4	-1.6	YES	54.8	55	-0.4	YES	59	17	61	17	0	0	YES
	R8	Residential	Bedroom	W9/F08	26.3	27	-0.4	-1.5	YES	61.9	63	-1.3	YES	60	18	61	18	0	0	YES
	R9	Residential	Bedroom	W10/F08	27.3	28	-0.4	-1.5	YES	72.4	73	-0.6	YES	60	18	61	18	0	0	YES
	R10	Residential	LKD	W11/F08	28.3	29	-0.4	-1.4	YES	98.9	99	0	YES	64	19	65	19	0	0	YES
				W12/F08	36.8	37	0	0	YES					42	10	42	10	0	0	YES
F09	R1	Residential	LKD	W1/F09	29	29	-0.1	-0.3	YES	94.6	95	-0.1	YES							
				W2/F09	18.9	20	-0.8	-4.2	YES					48	10	51	12	0	0	YES
	R2**	Residential	LKD	W3/F09	19.9	21	-0.9	-4.5	YES	39.6	43	-9.4	YES	52	13	54	14	0	0	YES
	R3	Residential	Bedroom	W4/F09	21	22	-1	-4.8	YES	51.7	55	-6.5	YES	52	13	54	14	0	0	YES
	R4**	Residential	LKD	W5/F09	22.1	23	-0.9	-4.1	YES	50.3	56	-11	YES	53	13	54	13	0	0	YES
	R5	Residential	Bedroom	W6/F09	23.5	24	-0.7	-3	YES	64	67	-4.1	YES	53	13	58	15	0	0	YES
	R6	Residential	LKD	W7/F09	24.4	25	-0.5	-2	YES	72.3	74	-2.2	YES	58	16	60	17	0	0	YES
	R7	Residential	Bedroom	W8/F09	25.4	26	-0.4	-1.6	YES	61.5	62	-0.3	YES	60	17	61	17	0	0	YES
	R8	Residential	Bedroom	W9/F09	26.7	27	-0.4	-1.5	YES	66.4	67	-0.3	YES	59	17	60	17	0	0	YES
	R9	Residential	Bedroom	W10/F09	27.7	28	-0.3	-1.1	YES	79.7	80	-0.4	YES	59	17	60	17	0	0	YES
	R10	Residential	LKD	W11/F09	28.8	29	-0.3	-1	YES	98.9	99	0	YES	64	19	65	19	0	0	YES
				W12/F09	37.4	37	0	0	YES					42	10	42	10	0	0	YES
F10	R1	Residential	LKD	W1/F10	29.2	29	-0.1	-0.3	YES	93.3	94	-0.5	YES							
				W2/F10	19.3	20	-0.7	-3.6	YES					48	11	53	13	0	0	YES
	R2	Residential	LKD	W3/F10	20	21	-0.9	-4.5	YES	28.8	33	-14.2	YES	53	15	54	15	0	0	YES
	R3	Residential	Bedroom	W4/F10	20.9	22	-0.9	-4.3	YES	31.7	37	-15.4	YES	54	15	55	15	0	0	YES
	R4	Residential	LKD	W5/F10	21.9	23	-0.9	-4.1	YES	30.6	33	-9.4	YES	53	14	55	14	0	0	YES
	R5	Residential	Bedroom	W6/F10	23.1	24	-0.7	-3	YES	26.7	33	-23	YES	53	13	54	14	0	0	YES
	R6	Residential	LKD	W7/F10	24.5	25	-0.4	-1.6	YES	51.2	57	-11.1	YES	59	17	60	17	0	0	YES
	R7	Residential	Bedroom	W8/F10	25.4	26	-0.4	-1.6	YES	64.4	67	-4.2	YES	60	18	62	18	0	0	YES
	R8	Residential	Bedroom	W9/F10	26.6	27	-0.3	-1.1	YES	41.9	42	0.4	YES	60	19	63	19	0	0	YES
	R9	Residential	Bedroom	W10/F10	27.7	28	-0.3	-1.1	YES	62	63	-0.9	YES	61	19	61	19	0	0	YES
	R10	Residential	LKD	W11/F10	29.2	30	-0.3	-1	YES	98.6	99	0	YES	66	20	66	20	0	0	YES
				W12/F10	37.9	38	0	0	YES					43	11	43	11	0	0	YES
F11	R1	Residential	LKD	W1/F11	29	29	0	0	YES	94.4	95	-0.6	YES							
				W2/F11	19.5	20	-0.8	-4.1	YES					47	11	53	13	0	0	YES
	R2	Residential	LKD	W3/F11	20.3	21	-0.8	-3.9	YES	28.8	33	-13.4	YES	53	15	56	16	0	0	YES
	R3	Residential	Bedroom	W4/F11	21.2	22	-0.9	-4.2	YES	35.3	41	-16.2	YES	53	14	55	15	0	0	YES
	R4**	Residential	LKD	W5/F11	22.2	23	-0.9	-4.1	YES	34.3	38	-10.8	YES	54	14	55	14	0	0	YES
	R5	Residential	Bedroom	W6/F11	23.4	24	-0.7	-3	YES	35.2	38	-7.8	YES	53	13	54	14	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS	PR	LOSS	LOSS	MEETS CRITERIA	CONS	PR	LOSS	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
					%	%		%		%	%	%		ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R6	Residential	LKD	W7/F11	24.7	25	-0.5	-2	YES	60.5	64	-5.5	YES	59	17	61	18	0	0	YES
	R7	Residential	Bedroom	W8/F11	25.7	26	-0.4	-1.6	YES	72.4	74	-2.8	YES	60	18	62	18	0	0	YES
	R8	Residential	Bedroom	W9/F11	26.9	27	-0.3	-1.1	YES	48.1	48	-0.1	YES	60	19	63	19	0	0	YES
	R9	Residential	Bedroom	W10/F11	28	28	-0.3	-1.1	YES	71.1	72	-0.7	YES	61	19	61	19	0	0	YES
	R10	Residential	LKD	W11/F11	29.5	30	-0.3	-1	YES	98.9	99	-0.1	YES	67	21	67	21	0	0	YES
				W12/F11	38.2	38	0	0	YES					44	12	44	12	0	0	YES
F12	R1	Residential	LKD	W1/F12	29.2	29	-0.1	-0.3	YES	95.8	97	-1.2	YES	53	9	53	9	0	0	
				W2/F12	19.8	21	-0.7	-3.5	YES					47	11	54	13	0	0	YES
	R2	Residential	LKD	W3/F12	20.5	21	-0.9	-4.4	YES	31.5	35	-10.1	YES	54	15	56	16	0	0	YES
	R3	Residential	Bedroom	W4/F12	21.5	22	-0.8	-3.7	YES	44.9	49	-8.4	YES	53	14	56	15	0	0	YES
	R4**	Residential	LKD	W5/F12	22.5	23	-0.8	-3.6	YES	40.9	45	-10.8	YES	54	14	55	14	0	0	YES
	R5	Residential	Bedroom	W6/F12	23.7	24	-0.6	-2.5	YES	41.4	46	-10.2	YES	53	13	55	15	0	0	YES
	R6	Residential	LKD	W7/F12	25	25	-0.4	-1.6	YES	68	69	-0.7	YES	60	18	62	19	0	0	YES
	R7	Residential	Bedroom	W8/F12	26	26	-0.3	-1.2	YES	80.2	83	-3.4	YES	62	19	63	19	0	0	YES
	R8	Residential	Bedroom	W9/F12	27.2	28	-0.3	-1.1	YES	55.6	57	-3.1	YES	60	19	63	20	0	0	YES
	R9	Residential	Bedroom	W10/F12	28.3	29	-0.3	-1.1	YES	78.7	80	-1.1	YES	61	19	62	19	0	0	YES
	R10	Residential	LKD	W11/F12	29.8	30	-0.3	-1	YES	99.8	100	-0.1	YES	67	21	67	21	0	0	YES
				W12/F12	38.4	38	0	0	YES					44	12	44	12	0	0	YES
F13	R1	Residential	LKD	W1/F13	29.4	30	-0.1	-0.3	YES	97.8	99	-1	YES	53	9	53	9	0	0	
				W2/F13	20	21	-0.7	-3.5	YES					48	12	54	13	0	0	YES
	R2	Residential	LKD	W3/F13	20.8	22	-0.8	-3.8	YES	35.8	40	-10.7	YES	53	14	57	17	0	0	YES
	R3	Residential	Bedroom	W4/F13	21.8	23	-0.8	-3.7	YES	53.5	57	-6.6	YES	54	15	56	16	0	0	YES
	R4**	Residential	LKD	W5/F13	22.9	24	-0.7	-3.1	YES	48.9	54	-10.9	YES	55	15	56	15	0	0	YES
	R5	Residential	Bedroom	W6/F13	24	25	-0.6	-2.5	YES	49.6	53	-7.6	YES	54	14	56	16	0	0	YES
	R6	Residential	LKD	W7/F13	25.3	26	-0.4	-1.6	YES	74	74	-0.1	YES	60	19	62	19	0	0	YES
	R7	Residential	Bedroom	W8/F13	26.3	27	-0.3	-1.1	YES	89	90	-1.1	YES	61	19	62	19	0	0	YES
	R8	Residential	Bedroom	W9/F13	27.5	28	-0.3	-1.1	YES	65.6	66	-1	YES	61	19	63	20	0	0	YES
	R9	Residential	Bedroom	W10/F13	28.6	29	-0.2	-0.7	YES	85.9	86	-0.2	YES	61	19	62	19	0	0	YES
	R10	Residential	LKD	W11/F13	30.1	30	-0.2	-0.7	YES	100	100	0	YES	67	21	67	21	0	0	YES
				W12/F13	38.5	39	0	0	YES					44	12	44	12	0	0	YES
F14	R1	Residential	LKD	W1/F14	29.6	30	-0.1	-0.3	YES	92.8	93	0	YES	53	9	53	9	0	0	
				W2/F14	19.9	21	-0.6	-3	YES					49	11	50	12	0	0	YES
	R2	Residential	LKD	W3/F14	20.7	21	-0.7	-3.4	YES	53.9	58	-7.8	YES	52	14	54	15	0	0	YES
	R3	Residential	Bedroom	W4/F14	21.7	22	-0.7	-3.2	YES	32.8	37	-13	YES	55	16	56	16	0	0	YES
	R4	Residential	LKD	W5/F14	22.7	23	-0.7	-3.1	YES	30.8	34	-10	YES	54	15	56	15	0	0	YES
	R5	Residential	Bedroom	W6/F14	23.8	24	-0.6	-2.5	YES	12.2	33	-168	YES	54	14	55	15	0	0	YES
	R6	Residential	LKD	W7/F14	25.2	26	-0.3	-1.2	YES	51.1	55	-7.8	YES	60	18	61	18	0	0	YES
	R7	Residential	Bedroom	W8/F14	26.2	26	-0.2	-0.8	YES	64.9	68	-4.1	YES	61	19	63	19	0	0	YES
	R8	Residential	Bedroom	W9/F14	27.4	28	-0.2	-0.7	YES	41.9	42	-0.5	YES	60	19	64	20	0	0	YES
	R9	Residential	Bedroom	W10/F14	28.4	29	-0.2	-0.7	YES	61.7	62	-0.6	YES	61	19	61	19	0	0	YES
	R10	Residential	LKD	W11/F14	29.4	30	-0.2	-0.7	YES	98.6	99	0	YES	65	20	67	21	0	0	YES
				W12/F14	38.6	39	0	0	YES					44	12	44	12	0	0	YES
F15	R1	Residential	LKD	W1/F15	29.9	30	0	0	YES	92.8	93	0	YES	53	9	53	9	0	0	
				W2/F15	20.2	21	-0.5	-2.5	YES					49	11	51	12	0	0	YES
	R2	Residential	LKD	W3/F15	21	22	-0.7	-3.3	YES	50.4	56	-10.5	YES	53	15	54	15	0	0	YES
	R3	Residential	Bedroom	W4/F15	22	23	-0.7	-3.2	YES	36.9	43	-15.5	YES	54	15	56	16	0	0	YES
	R4**	Residential	LKD	W5/F15	23	24	-0.7	-3	YES	34.5	38	-11.2	YES	56	15	56	15	0	0	YES
	R5	Residential	Bedroom	W6/F15	24.1	25	-0.6	-2.5	YES	34.9	37	-6.9	YES	55	14	55	15	0	0	YES
	R6	Residential	LKD	W7/F15	25.5	26	-0.3	-1.2	YES	61.7	63	-2.8	YES	61	18	62	19	0	0	YES
	R7	Residential	Bedroom	W8/F15	26.5	27	-0.2	-0.8	YES	72.8	75	-2.6	YES	62	19	63	19	0	0	YES
	R8	Residential	Bedroom	W9/F15	27.7	28	-0.2	-0.7	YES	48.4	48	0.8	YES	62	19	64	20	0	0	YES
	R9	Residential	Bedroom	W10/F15	28.7	29	-0.2	-0.7	YES	71.6	71	0.5	YES	62	19	61	19	1.6	0	YES
	R10	Residential	LKD	W11/F15	29.7	30	-0.2	-0.7	YES	98.7	99	0	YES	67	21	68	22	0	0	YES
				W12/F15	38.6	39	0	0	YES					45	13	45	13	0	0	YES
F16	R1	Residential	LKD	W1/F16	30.1	30	-0.1	-0.3	YES	92.8	93	0	YES	53	9	53	9	0	0	
				W2/F16	20.5	21	-0.5	-2.4	YES					49	11	52	13	0	0	YES
	R2	Residential	LKD	W3/F16	21.3	22	-0.6	-2.8	YES	49.7	55	-10.6	YES	53	15	55	15	0	0	YES
	R3	Residential	Bedroom	W4/F16	22.1	23	-0.6	-2.7	YES	32.8	37	-12.5	YES	55	16	56	16	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS	PR	LOSS	LOSS	MEETS	CONS	PR	LOSS	MEETS	CONS		PR		LOSS %		MEETS
					%	%		%	CRITERIA	%	%	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
	R4**	Residential	LKD	W5/F16	23.4	24	-0.6	-2.6	YES	41.3	46	-11.1	YES	56	15	56	15	0	0	YES
	R5	Residential	Bedroom	W6/F16	24.5	25	-0.5	-2	YES	41.3	44	-7.2	YES	55	14	56	16	0	0	YES
	R6	Residential	LKD	W7/F16	25.9	26	-0.2	-0.8	YES	68.1	69	-1.4	YES	62	18	62	19	0	0	YES
	R7	Residential	Bedroom	W8/F16	26.9	27	-0.1	-0.4	YES	80.7	83	-3.3	YES	64	19	63	19	1.6	0	YES
	R8	Residential	Bedroom	W9/F16	28	28	-0.1	-0.4	YES	55.8	57	-1.2	YES	63	19	63	20	0	0	YES
	R9	Residential	Bedroom	W10/F16	28.9	29	-0.1	-0.3	YES	62.5	62	0.5	YES	63	19	61	19	3.2	0	YES
	R10	Residential	LKD	W11/F16	30	30	-0.2	-0.7	YES	98.7	99	0	YES	68	21	68	22	0	0	YES
				W12/F16	38.7	39	0	0	YES					45	13	45	13	0	0	YES
F17	R1	Residential	LKD	W1/F17	30.3	30	-0.1	-0.3	YES	92.9	93	-0.1	YES	53	9	53	9	0.1	0	
				W2/F17	20.9	21	-0.3	-1.4	YES					51	11	53	14	0	0	YES
	R2	Residential	LKD	W3/F17	21.7	22	-0.5	-2.3	YES	51.5	57	-9.8	YES	56	15	56	16	0	0	YES
	R3	Residential	Bedroom	W4/F17	22.5	23	-0.5	-2.2	YES	36.7	42	-14.7	YES	56	15	56	16	0	0	YES
	R4**	Residential	LKD	W5/F17	23.8	24	-0.5	-2.1	YES	49.5	55	-10.7	YES	58	15	56	15	3.4	0	YES
	R5	Residential	Bedroom	W6/F17	24.9	25	-0.4	-1.6	YES	50	52	-3	YES	57	14	56	16	1.8	0	YES
	R6	Residential	LKD	W7/F17	26.3	26	-0.1	-0.4	YES	74.9	75	0.5	YES	63	18	62	19	1.6	0	YES
	R7	Residential	Bedroom	W8/F17	27.2	27	-0.1	-0.4	YES	89.3	90	-1.2	YES	66	19	62	19	6.1	0	YES
	R8	Residential	Bedroom	W9/F17	28.4	28	0	0	YES	66.6	66	0.8	YES	65	19	63	20	3.1	0	YES
	R9	Residential	Bedroom	W10/F17	29.2	29	-0.1	-0.3	YES	72.2	71	1.5	YES	66	19	61	19	7.6	0	YES
	R10	Residential	LKD	W11/F17	30.4	31	-0.1	-0.3	YES	98.7	99	0	YES	70	21	68	22	2.9	0	YES
				W12/F17	38.7	39	0	0	YES					45	13	45	13	0	0	YES
F18	R1	Residential	LKD	W1/F18	30.6	31	0	0	YES	93.3	94	-0.5	YES	53	9	52	9	0	0	
				W2/F18	21.2	22	-0.3	-1.4	YES					51	11	53	13	0	0	YES
	R2	Residential	LKD	W3/F18	21.9	22	-0.4	-1.8	YES	51.6	57	-9.5	YES	56	15	54	15	3.6	0	YES
	R3	Residential	Bedroom	W4/F18	22.7	23	-0.5	-2.2	YES	33.3	37	-11.4	YES	57	16	56	16	1.8	0	YES
	R4	Residential	LKD	W5/F18	23.7	24	-0.4	-1.7	YES	29.8	33	-10.4	YES	57	15	56	15	1.8	0	YES
	R5	Residential	Bedroom	W6/F18	24.9	25	-0.3	-1.2	YES	30.2	16	47.9	NO	57	14	56	15	1.8	0	YES
	R6	Residential	LKD	W7/F18	26.3	26	0	0	YES	53.5	57	-5.8	YES	64	18	62	18	3.1	0	YES
	R7	Residential	Bedroom	W8/F18	27.2	27	0	0	YES	64.5	67	-4	YES	65	19	64	19	1.5	0	YES
	R8	Residential	Bedroom	W9/F18	28.4	28	0.1	0.4	YES	44.7	44	1.1	YES	66	19	65	20	1.5	0	YES
	R9	Residential	Bedroom	W10/F18	29.4	29	0	0	YES	64.5	64	0.7	YES	66	19	63	19	4.5	0	YES
	R10	Residential	LKD	W11/F18	31.1	31	0	0	YES	99.7	100	-0.2	YES	72	22	69	22	4.2	0	YES
				W12/F18	38.8	39	0	0	YES					45	13	45	13	0	0	YES
F19	R1	Residential	LKD	W1/F19	30.9	31	0	0	YES	94.4	95	-0.6	YES	54	9	54	9	0	0	
				W2/F19	21.7	22	-0.2	-0.9	YES					53	12	54	14	0	0	YES
	R2	Residential	LKD	W3/F19	22.3	23	-0.3	-1.3	YES	49.6	55	-10.6	YES	57	15	55	15	3.5	0	YES
	R3	Residential	Bedroom	W4/F19	23.2	24	-0.3	-1.3	YES	37.9	42	-10.6	YES	58	15	56	16	3.4	0	YES
	R4	Residential	LKD	W5/F19	24.2	25	-0.3	-1.2	YES	33.7	38	-11.2	YES	59	15	56	15	5.1	0	YES
	R5	Residential	Bedroom	W6/F19	25.3	26	-0.2	-0.8	YES	38.4	40	-5	YES	58	14	57	16	1.7	0	YES
	R6	Residential	LKD	W7/F19	26.7	27	0	0	YES	64.3	65	-1.2	YES	64	18	63	19	1.6	0	YES
	R7	Residential	Bedroom	W8/F19	27.6	28	0.1	0.4	YES	72.2	74	-2.7	YES	65	19	65	19	0	0	YES
	R8	Residential	Bedroom	W9/F19	28.8	29	0.1	0.3	YES	51.8	50	2.7	YES	66	19	67	20	0	0	YES
	R9	Residential	Bedroom	W10/F19	29.8	30	0.1	0.3	YES	74.7	74	1.2	YES	66	19	64	19	3	0	YES
	R10	Residential	LKD	W11/F19	31.5	31	0.1	0.3	YES	100	100	0	YES	72	22	71	22	1.4	0	YES
				W12/F19	38.8	39	0	0	YES					45	13	45	13	0	0	YES
F20	R1	Residential	LKD	W1/F20	31.1	31	0	0	YES	95.8	97	-1.2	YES	54	9	54	9	0	0	
				W2/F20	22.2	22	0	0	YES					55	12	56	14	0	0	YES
	R2	Residential	LKD	W3/F20	22.8	23	-0.2	-0.9	YES	50.7	56	-10.1	YES	60	15	57	16	5	0	YES
	R3	Residential	Bedroom	W4/F20	23.5	24	-0.2	-0.9	YES	33.6	37	-8.8	YES	61	16	58	16	4.9	0	YES
	R4**	Residential	LKD	W5/F20	24.7	25	-0.1	-0.4	YES	40.2	44	-8.9	YES	61	15	57	15	6.6	0	YES
	R5	Residential	Bedroom	W6/F20	25.6	26	0	0	YES	31.2	15	52.7	NO	60	14	57	15	5	0	YES
	R6	Residential	LKD	W7/F20	27	27	0.2	0.7	YES	54.8	57	-3	YES	66	18	63	18	4.5	0	YES
	R7	Residential	Bedroom	W8/F20	27.9	28	0.2	0.7	YES	63.5	66	-3.8	YES	67	19	66	19	1.5	0	YES
	R8	Residential	Bedroom	W9/F20	29	29	0.2	0.7	YES	46.4	45	3.8	YES	67	19	67	20	0	0	YES
	R9	Residential	Bedroom	W10/F20	30	30	0.2	0.7	YES	66.2	64	3	YES	68	19	64	19	5.9	0	YES
	R10	Residential	LKD	W11/F20	31.7	32	0.2	0.6	YES	99.7	100	-0.1	YES	73	22	71	22	2.7	0	YES
				W12/F20	38.8	39	0	0	YES					45	13	45	13	0	0	YES
F21	R1	Residential	LKD	W1/F21	31.4	31	0	0	YES	97.8	99	-1	YES	54	9	54	9	0	0	
				W2/F21	22.7	23	0.1	0.4	YES					56	12	58	14	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS	PR	LOSS	LOSS	MEETS	CONS	PR	LOSS	MEETS	CONS		PR		LOSS %		MEETS
					%	%		%	CRITERIA	%	%	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
	R2	Residential	LKD	W3/F21	23.3	23	-0.1	-0.4	YES	55	60	-9.6	YES	60	15	60	17	0	0	YES
	R3	Residential	Bedroom	W4/F21	24	24	-0.1	-0.4	YES	39.1	42	-7.9	YES	61	15	59	16	3.3	0	YES
	R4**	Residential	LKD	W5/F21	25.2	25	0	0	YES	47.7	53	-11	YES	62	15	58	15	6.5	0	YES
	R5	Residential	Bedroom	W6/F21	26.1	26	0.1	0.4	YES	39.6	40	-0.8	YES	61	14	60	16	1.6	0	YES
	R6	Residential	LKD	W7/F21	27.4	27	0.2	0.7	YES	66.3	66	0.8	YES	67	18	65	19	3	0	YES
	R7	Residential	Bedroom	W8/F21	28.3	28	0.2	0.7	YES	71.9	74	-2.2	YES	68	19	68	19	0	0	YES
	R8	Residential	Bedroom	W9/F21	29.5	29	0.3	1	YES	53.6	51	5.1	YES	68	19	68	20	0	0	YES
	R9	Residential	Bedroom	W10/F21	30.5	30	0.3	1	YES	76.6	74	3.5	YES	68	19	67	19	1.5	0	YES
	R10	Residential	LKD	W11/F21	32.1	32	0.3	0.9	YES	100	100	0	YES	73	22	72	22	1.4	0	YES
				W12/F21	38.9	39	0	0	YES					45	13	45	13	0	0	YES
F22	R1	Residential	LKD	W1/F22	31.7	32	0	0	YES	93	93	0	YES	54	9	54	9	0	0	
				W2/F22	22.9	23	0.3	1.3	YES					60	12	56	13	6.7	0	YES
	R2	Residential	LKD	W3/F22	23.8	24	0.2	0.8	YES	50.6	56	-9.7	YES	62	15	62	16	0	0	YES
	R3	Residential	Bedroom	W4/F22	24.5	24	0.2	0.8	YES	36.4	38	-5.4	YES	63	16	62	16	1.6	0	YES
	R4	Residential	LKD	W5/F22	25.4	25	0.2	0.8	YES	30.2	33	-9.2	YES	62	15	61	15	1.6	0	YES
	R5	Residential	Bedroom	W6/F22	26.5	26	0.3	1.1	YES	33.4	35	-4.4	YES	62	14	61	15	1.6	0	YES
	R6	Residential	LKD	W7/F22	27.8	27	0.4	1.4	YES	58.2	59	-1.6	YES	67	18	66	18	1.5	0	YES
	R7	Residential	Bedroom	W8/F22	28.9	29	0.4	1.4	YES	80.5	82	-1.2	YES	70	19	69	19	1.4	0	YES
	R8	Residential	Bedroom	W9/F22	29.8	29	0.4	1.3	YES	49.3	46	6.2	YES	69	19	69	20	0	0	YES
	R9	Residential	Bedroom	W10/F22	30.8	30	0.4	1.3	YES	69.7	67	4	YES	69	19	68	19	1.4	0	YES
	R10	Residential	LKD	W11/F22	31.6	31	0.3	0.9	YES	98.7	99	0	YES	73	20	72	21	1.4	0	YES
				W12/F22	38.9	39	0	0	YES					45	13	45	13	0	0	YES
F23	R1	Residential	LKD	W1/F23	31.9	32	0	0	YES	93	93	0	YES	54	9	54	9	0	0	
				W2/F23	23.5	23	0.5	2.1	YES					61	12	59	13	3.3	0	YES
	R2	Residential	LKD	W3/F23	24.4	24	0.3	1.2	YES	52.8	58	-9.1	YES	64	15	62	16	3.1	0	YES
	R3	Residential	Bedroom	W4/F23	25.1	25	0.3	1.2	YES	41.9	44	-3.9	YES	65	15	62	16	4.6	0	YES
	R4	Residential	LKD	W5/F23	26	26	0.3	1.2	YES	34.1	37	-9.8	YES	65	15	61	15	6.2	0	YES
	R5	Residential	Bedroom	W6/F23	27.1	27	0.4	1.5	YES	42.2	42	1.6	YES	63	14	62	16	1.6	0	YES
	R6	Residential	LKD	W7/F23	28.4	28	0.5	1.8	YES	71	68	4.9	YES	69	18	67	19	2.9	0	YES
	R7	Residential	Bedroom	W8/F23	29.4	29	0.5	1.7	YES	89	89	-0.3	YES	71	19	68	19	4.2	0	YES
	R8	Residential	Bedroom	W9/F23	30.3	30	0.5	1.7	YES	57.2	53	7.1	YES	70	19	69	20	1.4	0	YES
	R9	Residential	Bedroom	W10/F23	31.2	31	0.4	1.3	YES	80	77	3.6	YES	71	19	68	19	4.2	0	YES
	R10	Residential	LKD	W11/F23	32.1	32	0.4	1.2	YES	98.7	99	0	YES	74	21	73	22	1.4	0	YES
				W12/F23	38.9	39	0	0	YES					45	13	45	13	0	0	YES
F24	R1	Residential	LKD	W1/F24	32.2	32	0	0	YES	93	93	0	YES	54	9	54	9	0	0	
				W2/F24	24.3	24	0.7	2.9	YES					61	12	60	14	1.6	0	YES
	R2	Residential	LKD	W3/F24	24.8	24	0.5	2	YES	54.3	58	-6.2	YES	65	15	60	15	7.7	0	YES
	R3	Residential	Bedroom	W4/F24	25.6	25	0.5	2	YES	39.3	39	1.1	YES	66	16	62	16	6.1	0	YES
	R4	Residential	LKD	W5/F24	26.5	26	0.5	1.9	YES	29.8	32	-8.7	YES	64	15	61	15	4.7	0	YES
	R5	Residential	Bedroom	W6/F24	27.6	27	0.5	1.8	YES	60.9	64	-4.9	YES	64	14	62	16	3.1	0	YES
	R6	Residential	LKD	W7/F24	28.8	28	0.6	2.1	YES	64.2	61	4.4	YES	69	18	66	18	4.3	0	YES
	R7	Residential	Bedroom	W8/F24	29.6	29	0.6	2	YES	65.9	66	-0.7	YES	72	19	69	19	4.2	0	YES
	R8	Residential	Bedroom	W9/F24	30.7	30	0.6	2	YES	52.7	49	7.9	YES	71	19	71	20	0	0	YES
	R9	Residential	Bedroom	W10/F24	31.6	31	0.6	1.9	YES	74.5	69	7	YES	72	19	69	19	4.2	0	YES
	R10	Residential	LKD	W11/F24	32.5	32	0.5	1.5	YES	98.6	99	0	YES	74	21	74	22	0	0	YES
				W12/F24	38.9	39	0	0	YES					45	13	45	13	0	0	YES
F25	R1	Residential	LKD	W1/F25	32.4	32	0	0	YES	93.1	93	-0.2	YES	54	9	54	9	0	0	
				W2/F25	25	24	0.9	3.6	YES					64	12	63	15	1.6	0	YES
	R2	Residential	LKD	W3/F25	25.6	25	0.7	2.7	YES	51.5	55	-6.4	YES	66	15	62	15	6.1	0	YES
	R3	Residential	Bedroom	W4/F25	26.4	26	0.7	2.7	YES	44.9	45	0.2	YES	68	15	63	16	7.4	0	YES
	R4	Residential	LKD	W5/F25	27.2	27	0.6	2.2	YES	33.9	37	-7.9	YES	68	15	62	15	8.8	0	YES
	R5	Residential	Bedroom	W6/F25	28.4	28	0.7	2.5	YES	67.9	70	-2.5	YES	67	14	64	16	4.5	0	YES
	R6	Residential	LKD	W7/F25	29.5	29	0.8	2.7	YES	73.4	68	6.7	YES	73	18	68	19	6.8	0	YES
	R7	Residential	Bedroom	W8/F25	30.3	30	0.8	2.6	YES	74.4	74	1.1	YES	74	19	70	19	5.4	0	YES
	R8	Residential	Bedroom	W9/F25	31.3	31	0.7	2.2	YES	59.7	55	8.4	YES	73	19	71	20	2.7	0	YES
	R9	Residential	Bedroom	W10/F25	32.1	32	0.6	1.9	YES	81.7	78	4.1	YES	74	19	70	19	5.4	0	YES
	R10	Residential	LKD	W11/F25	33	33	0.5	1.5	YES	98.6	99	0	YES	76	21	74	22	2.6	0	YES
				W12/F25	39	39	0	0	YES					45	13	45	13	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS	PR	LOSS	LOSS	MEETS	CONS	PR	LOSS	MEETS	CONS		PR		LOSS %		MEETS
					%	%		%	CRITERIA	%	%	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
F26	R1	Residential	LKD	W1/F26	32.8	33	0.1	0.3	YES	93.6	94	-0.4	YES	58	9	58	9	0	0	
				W2/F26	25.9	25	1.1	4.2	YES					66	12	64	14	3	0	YES
	R2	Residential	LKD	W3/F26	26.5	26	1	3.8	YES	53.8	56	-3.2	YES	68	15	66	16	2.9	0	YES
	R3	Residential	Bedroom	W4/F26	27.3	26	0.9	3.3	YES	57.5	53	7.1	YES	69	15	66	16	4.3	0	YES
	R4**	Residential	LKD	W5/F26	28.1	27	0.9	3.2	YES	41.2	42	-1.9	YES	69	15	65	15	5.8	0	YES
	R5	Residential	Bedroom	W6/F26	29.2	28	0.9	3.1	YES	77.6	76	2.7	YES	68	14	68	17	0	0	YES
	R6	Residential	LKD	W7/F26	30.2	29	0.9	3	YES	81.5	77	6.2	YES	73	18	71	19	2.7	0	YES
	R7	Residential	Bedroom	W8/F26	31	30	0.9	2.9	YES	83.7	82	1.7	YES	74	19	72	19	2.7	0	YES
	R8	Residential	Bedroom	W9/F26	32	31	0.9	2.8	YES	70.8	67	5.8	YES	74	19	73	20	1.4	0	YES
	R9	Residential	Bedroom	W10/F26	32.8	32	0.8	2.4	YES	87.4	86	2.1	YES	74	19	72	19	2.7	0	YES
	R10	Residential	LKD	W11/F26	33.6	33	0.6	1.8	YES	98.7	99	0	YES	76	21	76	22	0	0	YES
				W12/F26	39	39	0	0	YES					45	13	45	13	0	0	YES
VIADUX - PHASE 1																				
F02	R1	Residential	LKD	W1/F02	29.5	30	0	0	YES	100	100	0	YES	60	15	60	15	0	0	YES
				W2/F02	29.1	29	0	0	YES					59	14	59	15	0	0	YES
				W9/F02	26.8	27	0	0	YES					32	5	32	5	0	0	
	R2	Residential	Bedroom	W3/F02	28.7	29	0	0	YES	91.6	92	0	YES	58	14	58	15	0	0	YES
	R3	Residential	Bedroom	W4/F02	28.4	28	0.1	0.4	YES	98.8	99	0	YES	56	12	56	13	0	0	YES
	R4	Residential	LKD	W5/F02	27.8	28	0	0	YES	99.9	100	0	YES	57	14	57	15	0	0	YES
				W6/F02	28.1	28	0	0	YES					38	9	37	9	2.6	0	YES
				W7/F02	28.4	28	0	0	YES					37	8	37	8	0	0	YES
				W8/F02	28.6	29	0	0	YES					39	8	39	8	0	0	YES
F03	R1	Residential	LKD	W1/F03	29.8	30	0	0	YES	100	100	0	YES	62	15	62	15	0	0	YES
				W2/F03	29.5	30	0	0	YES					59	14	60	15	0	0	YES
				W9/F03	27.3	27	0	0	YES					33	6	33	6	0	0	
	R2	Residential	Bedroom	W3/F03	29.1	29	0	0	YES	91.6	92	0	YES	59	14	59	15	0	0	YES
	R3	Residential	Bedroom	W4/F03	28.7	29	0	0	YES	98.7	99	0	YES	58	13	58	14	0	0	YES
	R4	Residential	LKD	W5/F03	28.2	28	0.1	0.4	YES	99.9	100	0	YES	59	15	59	16	0	0	YES
				W6/F03	28.6	29	-0.1	-0.3	YES					40	10	39	10	2.5	0	YES
				W7/F03	29	29	0	0	YES					38	8	39	8	0	0	YES
				W8/F03	29.2	29	0	0	YES					40	8	40	8	0	0	YES
F04	R1	Residential	LKD	W1/F04	30.2	30	0.1	0.3	YES	100	100	0	YES	62	15	62	15	0	0	YES
				W2/F04	29.8	30	0	0	YES					61	14	62	15	0	0	YES
				W9/F04	27.6	28	0	0	YES					33	6	33	6	0	0	
	R2	Residential	Bedroom	W3/F04	29.4	29	0	0	YES	91.5	92	0	YES	59	14	60	15	0	0	YES
	R3	Residential	Bedroom	W4/F04	29.1	29	0.1	0.3	YES	98.8	99	0	YES	59	14	60	15	0	0	YES
	R4	Residential	LKD	W5/F04	28.5	28	0.1	0.4	YES	99.9	100	0	YES	59	15	60	16	0	0	YES
				W6/F04	29.1	29	0	0	YES					40	10	40	10	0	0	YES
				W7/F04	29.5	30	0	0	YES					38	8	39	8	0	0	YES
				W8/F04	29.7	30	0	0	YES					42	8	41	8	2.4	0	YES
F05	R1	Residential	LKD	W1/F05	30.5	30	0.1	0.3	YES	100	100	0	YES	64	15	63	15	1.6	0	YES
				W2/F05	30.1	30	0	0	YES					62	14	62	15	0	0	YES
				W9/F05	27.9	28	0	0	YES					34	6	34	6	0	0	
	R2	Residential	Bedroom	W3/F05	29.8	30	0.1	0.3	YES	91.8	92	0	YES	61	15	62	16	0	0	YES
	R3	Residential	Bedroom	W4/F05	29.4	29	0.1	0.3	YES	98.8	99	0	YES	60	14	61	15	0	0	YES
	R4	Residential	LKD	W5/F05	28.8	29	0	0	YES	100	100	0	YES	60	15	61	16	0	0	YES
				W6/F05	29.5	30	-0.1	-0.3	YES					41	10	41	10	0	0	YES
				W7/F05	29.9	30	0	0	YES					38	8	39	8	0	0	YES
				W8/F05	30.2	30	0.1	0.3	YES					43	8	42	8	2.3	0	YES
F06	R1	Residential	LKD	W1/F06	30.8	31	0	0	YES	100	100	0	YES	64	15	63	15	1.6	0	YES
				W2/F06	30.5	30	0.1	0.3	YES					62	14	62	15	0	0	YES
				W9/F06	28.1	28	0	0	YES					34	6	34	6	0	0	
	R2	Residential	Bedroom	W3/F06	30.1	30	0.1	0.3	YES	91.7	92	0	YES	62	15	63	16	0	0	YES
	R3	Residential	Bedroom	W4/F06	29.7	30	0	0	YES	98.8	99	0	YES	61	14	62	15	0	0	YES
	R4	Residential	LKD	W5/F06	29.2	29	0.1	0.3	YES	99.9	100	0	YES	62	15	63	16	0	0	YES
				W6/F06	30	30	0	0	YES					42	10	41	10	2.4	0	YES
				W7/F06	30.4	30	0	0	YES					41	8	41	8	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
				W8/F06	30.6	31	0	0	YES					44	8	43	8	2.3	0	YES
F07	R1	Residential	LKD	W1/F07	31.2	31	0.1	0.3	YES	100	100	0	YES	66	15	65	15	1.5	0	YES
				W2/F07	30.8	31	0.1	0.3	YES					66	16	66	17	0	0	YES
				W9/F07	28.4	28	0	0	YES					35	6	35	6	0	0	
	R2	Residential	Bedroom	W3/F07	30.4	30	0.1	0.3	YES	91.6	92	0	YES	65	15	65	16	0	0	YES
	R3	Residential	Bedroom	W4/F07	30.1	30	0.1	0.3	YES	98.8	99	0	YES	64	14	64	15	0	0	YES
	R4	Residential	LKD	W5/F07	29.5	29	0.1	0.3	YES	99.9	100	0	YES	64	15	64	16	0	0	YES
				W6/F07	30.4	30	0	0	YES					42	10	41	10	2.4	0	YES
				W7/F07	30.8	31	0	0	YES					43	8	43	8	0	0	YES
				W8/F07	31	31	0	0	YES					44	8	44	8	0	0	YES
F08	R1	Residential	LKD	W1/F08	31.5	31	0.1	0.3	YES	100	100	0	YES	69	16	68	16	1.4	0	YES
				W2/F08	31.1	31	0.1	0.3	YES					68	16	68	17	0	0	YES
				W9/F08	28.6	29	0	0	YES					37	7	37	7	0	0	
	R2	Residential	Bedroom	W3/F08	30.7	31	0	0	YES	91.8	92	0	YES	67	16	67	17	0	0	YES
	R3	Residential	Bedroom	W4/F08	30.4	30	0.1	0.3	YES	98.8	99	0	YES	64	14	64	15	0	0	YES
	R4	Residential	LKD	W5/F08	29.8	30	0.1	0.3	YES	100	100	0	YES	65	15	65	16	0	0	YES
				W6/F08	30.8	31	0	0	YES					43	10	42	10	2.3	0	YES
				W7/F08	31.2	31	0.1	0.3	YES					43	8	44	8	0	0	YES
				W8/F08	31.4	31	0	0	YES					44	8	44	8	0	0	YES
F09	R1	Residential	LKD	W1/F09	31.8	32	0.1	0.3	YES	100	100	0	YES	69	16	68	16	1.4	0	YES
				W2/F09	31.5	31	0.1	0.3	YES					69	16	69	17	0	0	YES
				W9/F09	28.8	29	0	0	YES					37	7	37	7	0	0	
	R2	Residential	Bedroom	W3/F09	31.1	31	0.1	0.3	YES	91.7	92	0	YES	67	16	68	17	0	0	YES
	R3	Residential	Bedroom	W4/F09	30.7	31	0.1	0.3	YES	98.8	99	0	YES	67	15	68	16	0	0	YES
	R4	Residential	LKD	W5/F09	30.2	30	0.1	0.3	YES	100	100	0	YES	69	16	68	17	1.4	0	YES
				W6/F09	31.2	31	0.1	0.3	YES					44	10	44	10	0	0	YES
				W7/F09	31.6	32	0.1	0.3	YES					45	8	45	8	0	0	YES
				W8/F09	31.8	32	0.1	0.3	YES					46	8	45	8	2.2	0	YES
F10	R1	Residential	LKD	W1/F10	32.1	32	0.1	0.3	YES	100	100	0	YES	71	16	70	16	1.4	0	YES
				W2/F10	31.8	32	0.1	0.3	YES					71	16	71	17	0	0	YES
				W9/F10	29.1	29	0	0	YES					37	7	37	7	0	0	
	R2	Residential	Bedroom	W3/F10	31.4	31	0.1	0.3	YES	91.8	92	0	YES	70	16	69	17	1.4	0	YES
	R3	Residential	Bedroom	W4/F10	31.1	31	0.1	0.3	YES	98.9	99	0	YES	68	15	68	16	0	0	YES
	R4	Residential	LKD	W5/F10	30.6	30	0.2	0.7	YES	100	100	0	YES	69	16	69	17	0	0	YES
				W6/F10	31.6	32	0.1	0.3	YES					46	10	45	10	2.2	0	YES
				W7/F10	31.9	32	0	0	YES					45	8	45	8	0	0	YES
				W8/F10	32.2	32	0.1	0.3	YES					46	8	45	8	2.2	0	YES
F11	R1	Residential	LKD	W1/F11	32.5	32	0.1	0.3	YES	100	100	0	YES	72	16	72	16	0	0	YES
				W2/F11	32.2	32	0.2	0.6	YES					72	16	72	17	0	0	YES
				W9/F11	29.3	29	0	0	YES					39	7	39	7	0	0	
	R2	Residential	Bedroom	W3/F11	31.8	32	0.1	0.3	YES	91.7	92	0	YES	72	16	71	17	1.4	0	YES
	R3	Residential	Bedroom	W4/F11	31.5	31	0.2	0.6	YES	98.8	99	0	YES	69	15	69	16	0	0	YES
	R4	Residential	LKD	W5/F11	30.9	31	0.1	0.3	YES	100	100	0	YES	70	16	70	17	0	0	YES
				W6/F11	32	32	0.1	0.3	YES					47	10	46	10	2.1	0	YES
				W7/F11	32.4	32	0.1	0.3	YES					46	8	45	8	2.2	0	YES
				W8/F11	32.6	33	0.1	0.3	YES					46	8	45	8	2.2	0	YES
F12	R1	Residential	LKD	W1/F12	32.8	33	0.1	0.3	YES	100	100	0	YES	73	16	73	16	0	0	YES
				W2/F12	32.5	32	0.1	0.3	YES					73	16	74	17	0	0	YES
				W9/F12	29.6	30	0	0	YES					38	7	38	7	0	0	
	R2	Residential	Bedroom	W3/F12	32.2	32	0.2	0.6	YES	91.7	92	0	YES	73	16	74	17	0	0	YES
	R3	Residential	Bedroom	W4/F12	31.8	32	0.1	0.3	YES	98.8	99	0	YES	72	15	72	16	0	0	YES
	R4	Residential	LKD	W5/F12	31.3	31	0.1	0.3	YES	100	100	0	YES	72	16	72	17	0	0	YES
				W6/F12	32.4	32	0.1	0.3	YES					48	10	47	10	2.1	0	YES
				W7/F12	32.8	33	0.1	0.3	YES					46	8	45	8	2.2	0	YES
				W8/F12	33	33	0.1	0.3	YES					46	8	46	8	0	0	YES
F13	R1	Residential	LKD	W1/F13	33.2	33	0.1	0.3	YES	100	100	0	YES	73	16	73	16	0	0	YES
				W2/F13	32.9	33	0.2	0.6	YES					73	16	74	17	0	0	YES
				W9/F13	29.8	30	0	0	YES					39	7	39	7	0	0	

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R2	Residential	Bedroom	W3/F13	32.5	32	0.1	0.3	YES	91.6	92	0	YES	73	16	74	17	0	0	YES
	R3	Residential	Bedroom	W4/F13	32.2	32	0.1	0.3	YES	98.8	99	0	YES	72	15	73	16	0	0	YES
	R4	Residential	LKD	W5/F13	31.8	32	0.2	0.6	YES	100	100	0	YES	73	16	73	17	0	0	YES
				W6/F13	32.8	33	0.1	0.3	YES					49	10	48	10	2	0	YES
				W7/F13	33.2	33	0.1	0.3	YES					48	9	48	9	0	0	YES
				W8/F13	33.4	33	0.1	0.3	YES					49	10	48	9	2	10	YES
F14	R1	Residential	LKD	W1/F14	33.6	33	0.2	0.6	YES	100	100	0	YES	74	17	73	16	1.4	5.9	YES
				W2/F14	33.3	33	0.2	0.6	YES					74	17	74	17	0	0	YES
				W9/F14	30.1	30	0	0	YES					39	7	39	7	0	0	
	R2	Residential	Bedroom	W3/F14	32.9	33	0.1	0.3	YES	91.6	92	0	YES	73	16	74	17	0	0	YES
	R3	Residential	Bedroom	W4/F14	32.6	32	0.2	0.6	YES	98.8	99	0	YES	73	16	73	16	0	0	YES
	R4	Residential	LKD	W5/F14	32.2	32	0.2	0.6	YES	100	100	0	YES	74	17	74	17	0	0	YES
				W6/F14	33.3	33	0.1	0.3	YES					49	10	49	10	0	0	YES
				W7/F14	33.6	34	0.1	0.3	YES					49	10	48	9	2	10	YES
				W8/F14	33.9	34	0.2	0.6	YES					49	10	48	9	2	10	YES
F15	R1	Residential	LKD	W1/F15	33.9	34	0.1	0.3	YES	100	100	0	YES	74	17	73	16	1.4	5.9	YES
				W2/F15	33.6	34	0.1	0.3	YES					74	17	74	17	0	0	YES
				W9/F15	30.3	30	0	0	YES					39	7	39	7	0	0	
	R2	Residential	Bedroom	W3/F15	33.3	33	0.2	0.6	YES	91.6	92	0	YES	73	16	74	17	0	0	YES
	R3	Residential	Bedroom	W4/F15	33	33	0.2	0.6	YES	98.9	99	0	YES	73	16	73	16	0	0	YES
	R4	Residential	LKD	W5/F15	32.6	32	0.2	0.6	YES	100	100	0	YES	74	17	74	17	0	0	YES
				W6/F15	33.8	34	0.1	0.3	YES					50	11	49	10	2	9.1	YES
				W7/F15	34.1	34	0.1	0.3	YES					49	10	48	9	2	10	YES
				W8/F15	34.3	34	0.1	0.3	YES					49	10	49	10	0	0	YES
F16	R1	Residential	LKD	W1/F16	34.3	34	0.2	0.6	YES	100	100	0	YES	75	18	74	17	1.3	5.6	YES
				W2/F16	34	34	0.2	0.6	YES					74	17	74	17	0	0	YES
				W9/F16	30.6	31	0	0	YES					39	7	39	7	0	0	
	R2	Residential	Bedroom	W3/F16	33.7	34	0.2	0.6	YES	91.8	92	0	YES	73	16	74	17	0	0	YES
	R3	Residential	Bedroom	W4/F16	33.4	33	0.2	0.6	YES	98.8	99	0	YES	73	16	74	17	0	0	YES
	R4	Residential	LKD	W5/F16	33	33	0.2	0.6	YES	100	100	0	YES	74	17	74	17	0	0	YES
				W6/F16	34.3	34	0.2	0.6	YES					50	11	49	10	2	9.1	YES
				W7/F16	34.6	34	0.2	0.6	YES					50	11	50	11	0	0	YES
				W8/F16	34.8	35	0.2	0.6	YES					51	12	50	11	2	8.3	YES
F17	R1	Residential	LKD	W1/F17	34.6	35	0.1	0.3	YES	100	100	0	YES	76	19	75	18	1.3	5.3	YES
				W2/F17	34.4	34	0.2	0.6	YES					74	17	74	17	0	0	YES
				W9/F17	30.8	31	0	0	YES					39	7	39	7	0	0	
	R2	Residential	Bedroom	W3/F17	34.1	34	0.2	0.6	YES	91.7	92	0	YES	74	17	74	17	0	0	YES
	R3	Residential	Bedroom	W4/F17	33.9	34	0.3	0.9	YES	98.8	99	0	YES	74	17	74	17	0	0	YES
	R4	Residential	LKD	W5/F17	33.5	33	0.3	0.9	YES	100	100	0	YES	74	17	75	18	0	0	YES
				W6/F17	34.8	35	0.2	0.6	YES					50	11	50	11	0	0	YES
				W7/F17	35.1	35	0.2	0.6	YES					51	12	50	11	2	8.3	YES
				W8/F17	35.2	35	0.1	0.3	YES					51	12	50	11	2	8.3	YES
F18	R1	Residential	LKD	W1/F18	35	35	0.2	0.6	YES	100	100	0	YES	77	20	77	20	0	0	YES
				W2/F18	34.8	35	0.2	0.6	YES					77	20	76	19	1.3	5	YES
				W9/F18	31	31	0	0	YES					39	7	39	7	0	0	
	R2	Residential	Bedroom	W3/F18	34.5	34	0.2	0.6	YES	91.6	92	0	YES	77	20	76	19	1.3	5	YES
	R3	Residential	Bedroom	W4/F18	34.3	34	0.3	0.9	YES	98.9	99	0	YES	76	19	75	18	1.3	5.3	YES
	R4	Residential	LKD	W5/F18	33.9	34	0.2	0.6	YES	100	100	0	YES	76	19	76	19	0	0	YES
				W6/F18	35.3	35	0.2	0.6	YES					52	13	51	12	1.9	7.7	YES
				W7/F18	35.5	35	0.1	0.3	YES					51	12	50	11	2	8.3	YES
				W8/F18	35.7	36	0.2	0.6	YES					52	13	51	12	1.9	7.7	YES
F19	R1	Residential	LKD	W1/F19	35.4	35	0.2	0.6	YES	100	100	0	YES	78	21	77	20	1.3	4.8	YES
				W2/F19	35.1	35	0.2	0.6	YES					78	21	77	20	1.3	4.8	YES
				W9/F19	31.3	31	0	0	YES					39	7	39	7	0	0	
	R2	Residential	Bedroom	W3/F19	34.9	35	0.2	0.6	YES	91.9	92	0	YES	77	20	76	19	1.3	5	YES
	R3	Residential	Bedroom	W4/F19	34.7	34	0.3	0.9	YES	98.9	99	0	YES	77	20	76	19	1.3	5	YES
	R4	Residential	LKD	W5/F19	34.4	34	0.3	0.9	YES	100	100	0	YES	78	21	77	20	1.3	4.8	YES
				W6/F19	35.8	36	0.2	0.6	YES					53	14	52	13	1.9	7.1	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS	PR	LOSS	LOSS	MEETS	CONS	PR	LOSS	MEETS	CONS		PR		LOSS %		MEETS
					%	%		%	CRITERIA	%	%	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
				W7/F19	36	36	0.2	0.6	YES					53	14	53	14	0	0	YES
				W8/F19	36.2	36	0.2	0.6	YES					53	14	53	14	0	0	YES
F20	R1	Residential	LKD	W1/F20	35.7	36	0.2	0.6	YES	100	100	0	YES	79	22	77	20	2.5	9.1	YES
				W2/F20	35.5	35	0.3	0.8	YES					78	21	77	20	1.3	4.8	YES
				W9/F20	31.3	31	0	0	YES					39	7	39	7	0	0	
	R2	Residential	Bedroom	W3/F20	35.2	35	0.2	0.6	YES	91.7	92	0	YES	77	20	77	20	0	0	YES
	R3	Residential	Bedroom	W4/F20	35.1	35	0.3	0.9	YES	98.8	99	0	YES	77	20	77	20	0	0	YES
	R4	Residential	LKD	W5/F20	34.8	35	0.3	0.9	YES	100	100	0	YES	78	21	78	21	0	0	YES
				W6/F20	36.3	36	0.2	0.6	YES					53	14	53	14	0	0	YES
				W7/F20	36.5	36	0.2	0.5	YES					53	14	53	14	0	0	YES
				W8/F20	36.6	36	0.2	0.5	YES					53	14	53	14	0	0	YES
F21	R1	Residential	LKD	W1/F21	36	36	0.2	0.6	YES	100	100	0	YES	79	22	78	21	1.3	4.5	YES
				W2/F21	35.8	36	0.2	0.6	YES					78	21	78	21	0	0	YES
				W9/F21	31.4	31	0	0	YES					39	7	39	7	0	0	
	R2	Residential	Bedroom	W3/F21	35.6	35	0.3	0.8	YES	91.7	92	0	YES	78	21	78	21	0	0	YES
	R3	Residential	Bedroom	W4/F21	35.4	35	0.2	0.6	YES	98.8	99	0	YES	77	20	78	21	0	0	YES
	R4	Residential	LKD	W5/F21	35.2	35	0.3	0.9	YES	100	100	0	YES	78	21	78	21	0	0	YES
				W6/F21	36.7	37	0.2	0.5	YES					53	14	53	14	0	0	YES
				W7/F21	36.9	37	0.2	0.5	YES					53	14	53	14	0	0	YES
				W8/F21	37.1	37	0.2	0.5	YES					54	15	53	14	1.9	6.7	YES
F22	R1	Residential	LKD	W1/F22	36.3	36	0.3	0.8	YES	100	100	0	YES	80	23	80	23	0	0	YES
				W2/F22	36.1	36	0.2	0.6	YES					80	23	79	22	1.2	4.3	YES
				W9/F22	31.5	32	0	0	YES					39	7	39	7	0	0	
	R2	Residential	Bedroom	W3/F22	35.9	36	0.2	0.6	YES	91.8	92	0	YES	79	22	79	22	0	0	YES
	R3	Residential	Bedroom	W4/F22	35.8	36	0.3	0.8	YES	98.8	99	0	YES	78	21	78	21	0	0	YES
	R4	Residential	LKD	W5/F22	35.6	35	0.3	0.8	YES	100	100	0	YES	79	22	78	21	1.3	4.5	YES
				W6/F22	37.2	37	0.2	0.5	YES					54	15	53	14	1.9	6.7	YES
				W7/F22	37.4	37	0.2	0.5	YES					54	15	53	14	1.9	6.7	YES
				W8/F22	37.5	37	0.2	0.5	YES					54	15	53	14	1.9	6.7	YES
F23	R1	Residential	LKD	W1/F23	36.5	36	0.2	0.5	YES	100	100	0	YES	81	24	80	23	1.2	4.2	YES
				W2/F23	36.4	36	0.2	0.5	YES					81	24	80	23	1.2	4.2	YES
				W9/F23	31.7	32	0	0	YES					39	7	39	7	0	0	
	R2	Residential	Bedroom	W3/F23	36.3	36	0.3	0.8	YES	91.7	92	0	YES	80	23	79	22	1.2	4.3	YES
	R3	Residential	Bedroom	W4/F23	36.2	36	0.3	0.8	YES	98.9	99	0	YES	80	23	79	22	1.2	4.3	YES
	R4	Residential	LKD	W5/F23	36	36	0.3	0.8	YES	100	100	0	YES	80	23	79	22	1.2	4.3	YES
				W6/F23	37.7	37	0.3	0.8	YES					55	16	54	15	1.8	6.2	YES
				W7/F23	37.8	38	0.2	0.5	YES					55	16	54	15	1.8	6.2	YES
				W8/F23	37.9	38	0.2	0.5	YES					55	16	55	16	0	0	YES
F24	R1	Residential	LKD	W1/F24	36.8	37	0.2	0.5	YES	100	100	0	YES	81	24	80	23	1.2	4.2	YES
				W2/F24	36.7	37	0.2	0.5	YES					81	24	80	23	1.2	4.2	YES
				W9/F24	31.8	32	0	0	YES					39	7	39	7	0	0	
	R2	Residential	Bedroom	W3/F24	36.6	36	0.3	0.8	YES	91.7	92	0	YES	80	23	80	23	0	0	YES
	R3	Residential	Bedroom	W4/F24	36.5	36	0.3	0.8	YES	98.9	99	0	YES	80	23	80	23	0	0	YES
	R4	Residential	LKD	W5/F24	36.4	36	0.4	1.1	YES	100	100	0	YES	80	23	80	23	0	0	YES
				W6/F24	38.1	38	0.3	0.8	YES					55	16	55	16	0	0	YES
				W7/F24	38.2	38	0.2	0.5	YES					56	17	55	16	1.8	5.9	YES
				W8/F24	38.3	38	0.3	0.8	YES					56	17	55	16	1.8	5.9	YES
F25	R1	Residential	LKD	W1/F25	37.1	37	0.3	0.8	YES	100	100	0	YES	83	26	82	25	1.2	3.8	YES
				W2/F25	37	37	0.3	0.8	YES					83	26	82	25	1.2	3.8	YES
				W9/F25	31.9	32	0	0	YES					40	8	40	8	0	0	
	R2	Residential	Bedroom	W3/F25	36.9	37	0.3	0.8	YES	91.7	92	0	YES	81	24	80	23	1.2	4.2	YES
	R3	Residential	Bedroom	W4/F25	36.8	37	0.3	0.8	YES	98.8	99	0	YES	82	25	81	24	1.2	4	YES
	R4	Residential	LKD	W5/F25	36.7	36	0.3	0.8	YES	100	100	0	YES	81	24	80	23	1.2	4.2	YES
				W6/F25	38.4	38	0.3	0.8	YES					56	17	55	16	1.8	5.9	YES
				W7/F25	38.5	38	0.2	0.5	YES					56	17	55	16	1.8	5.9	YES
				W8/F25	38.5	38	0.2	0.5	YES					56	17	55	16	1.8	5.9	YES
F26	R1	Residential	LKD	W1/F26	37.3	37	0.2	0.5	YES	100	100	0	YES	83	26	83	26	0	0	YES
				W2/F26	37.2	37	0.2	0.5	YES					83	26	82	25	1.2	3.8	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS	PR	LOSS	LOSS	MEETS	CONS	PR	LOSS	MEETS	CONS		PR		LOSS %		MEETS
					%	%		%	CRITERIA	%	%	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
				W9/F26	32.1	32	0	0	YES					40	8	40	8	0	0	
	R2	Residential	Bedroom	W3/F26	37.1	37	0.2	0.5	YES	91.7	92	0	YES	81	24	80	23	1.2	4.2	YES
	R3	Residential	Bedroom	W4/F26	37.1	37	0.3	0.8	YES	98.9	99	0	YES	82	25	81	24	1.2	4	YES
	R4	Residential	LKD	W5/F26	37	37	0.4	1.1	YES	100	100	0	YES	82	25	81	24	1.2	4	YES
				W6/F26	38.5	38	0.2	0.5	YES					56	17	55	16	1.8	5.9	YES
				W7/F26	38.6	38	0.2	0.5	YES					56	17	56	17	0	0	YES
				W8/F26	38.7	39	0.2	0.5	YES					56	17	56	17	0	0	YES
F27	R1	Residential	LKD	W1/F27	37.5	37	0.2	0.5	YES	100	100	0	YES	84	27	83	26	1.2	3.7	YES
				W2/F27	37.4	37	0.2	0.5	YES					84	27	83	26	1.2	3.7	YES
				W9/F27	32.2	32	0	0	YES					40	8	40	8	0	0	
	R2	Residential	Bedroom	W3/F27	37.4	37	0.3	0.8	YES	91.8	92	0	YES	84	27	82	25	2.4	7.4	YES
	R3	Residential	Bedroom	W4/F27	37.3	37	0.3	0.8	YES	98.9	99	0	YES	83	26	82	25	1.2	3.8	YES
	R4	Residential	LKD	W5/F27	37.2	37	0.3	0.8	YES	100	100	0	YES	83	26	82	25	1.2	3.8	YES
				W6/F27	38.7	38	0.3	0.8	YES					57	18	56	17	1.8	5.6	YES
				W7/F27	38.8	39	0.3	0.8	YES					58	19	56	17	3.4	10.5	YES
				W8/F27	38.8	39	0.2	0.5	YES					58	19	56	17	3.4	10.5	YES
F28	R1	Residential	LKD	W1/F28	37.7	38	0.2	0.5	YES	100	100	0	YES	84	27	83	26	1.2	3.7	YES
				W2/F28	37.7	37	0.3	0.8	YES					84	27	83	26	1.2	3.7	YES
				W9/F28	32.4	32	0	0	YES					40	8	40	8	0	0	
	R2	Residential	Bedroom	W3/F28	37.6	37	0.3	0.8	YES	91.7	92	0	YES	84	27	82	25	2.4	7.4	YES
	R3	Residential	Bedroom	W4/F28	37.6	37	0.3	0.8	YES	98.9	99	0	YES	84	27	82	25	2.4	7.4	YES
	R4	Residential	LKD	W5/F28	37.5	37	0.3	0.8	YES	100	100	0	YES	84	27	82	25	2.4	7.4	YES
				W6/F28	38.9	39	0.3	0.8	YES					58	19	56	17	3.4	10.5	YES
				W7/F28	38.9	39	0.2	0.5	YES					58	19	56	17	3.4	10.5	YES
				W8/F28	39	39	0.3	0.8	YES					58	19	56	17	3.4	10.5	YES
F29	R1	Residential	LKD	W1/F29	37.9	38	0.2	0.5	YES	100	100	0	YES	84	27	84	27	0	0	YES
				W2/F29	37.9	38	0.3	0.8	YES					84	27	84	27	0	0	YES
				W9/F29	32.6	33	0	0	YES					40	8	40	8	0	0	
	R2	Residential	Bedroom	W3/F29	37.8	38	0.2	0.5	YES	91.6	92	0	YES	84	27	84	27	0	0	YES
	R3	Residential	Bedroom	W4/F29	37.8	38	0.3	0.8	YES	98.9	99	0	YES	84	27	84	27	0	0	YES
	R4	Residential	LKD	W5/F29	37.8	37	0.4	1.1	YES	100	100	0	YES	84	27	83	26	1.2	3.7	YES
				W6/F29	39	39	0.3	0.8	YES					58	19	57	18	1.7	5.3	YES
				W7/F29	39.1	39	0.3	0.8	YES					58	19	58	19	0	0	YES
				W8/F29	39.1	39	0.2	0.5	YES					58	19	58	19	0	0	YES
F30	R1	Residential	LKD	W1/F30	38.1	38	0.2	0.5	YES	100	100	0	YES	84	27	84	27	0	0	YES
				W2/F30	38.1	38	0.3	0.8	YES					84	27	84	27	0	0	YES
				W9/F30	32.8	33	0	0	YES					40	8	40	8	0	0	
	R2	Residential	Bedroom	W3/F30	38.1	38	0.3	0.8	YES	91.8	92	0	YES	84	27	84	27	0	0	YES
	R3	Residential	Bedroom	W4/F30	38	38	0.3	0.8	YES	98.9	99	0	YES	84	27	84	27	0	0	YES
	R4	Residential	LKD	W5/F30	38	38	0.3	0.8	YES	100	100	0	YES	84	27	84	27	0	0	YES
				W6/F30	39.2	39	0.3	0.8	YES					58	19	58	19	0	0	YES
				W7/F30	39.2	39	0.2	0.5	YES					58	19	58	19	0	0	YES
				W8/F30	39.2	39	0.2	0.5	YES					58	19	58	19	0	0	YES
F31	R1	Residential	LKD	W1/F31	38.3	38	0.2	0.5	YES	100	100	0	YES	84	27	84	27	0	0	YES
				W2/F31	38.3	38	0.2	0.5	YES					84	27	84	27	0	0	YES
				W9/F31	33	33	0	0	YES					40	8	40	8	0	0	
	R2	Residential	Bedroom	W3/F31	38.3	38	0.3	0.8	YES	91.6	92	0	YES	84	27	84	27	0	0	YES
	R3	Residential	Bedroom	W4/F31	38.3	38	0.3	0.8	YES	98.8	99	0	YES	84	27	84	27	0	0	YES
	R4	Residential	LKD	W5/F31	38.3	38	0.4	1	YES	100	100	0	YES	84	27	84	27	0	0	YES
				W6/F31	39.3	39	0.3	0.8	YES					58	19	58	19	0	0	YES
				W7/F31	39.3	39	0.2	0.5	YES					58	19	58	19	0	0	YES
				W8/F31	39.3	39	0.2	0.5	YES					58	19	58	19	0	0	YES
F32	R1	Residential	LKD	W1/F32	38.5	38	0.2	0.5	YES	100	100	0	YES	85	28	85	28	0	0	YES
				W2/F32	38.5	38	0.2	0.5	YES					85	28	85	28	0	0	YES
				W9/F32	33.3	33	0	0	YES					41	7	41	7	1	1	
	R2	Residential	Bedroom	W3/F32	38.5	38	0.3	0.8	YES	91.8	92	0	YES	85	28	85	28	0	0	YES
	R3	Residential	Bedroom	W4/F32	38.5	38	0.3	0.8	YES	98.8	99	0	YES	85	28	85	28	0	0	YES
	R4	Residential	LKD	W5/F32	38.5	38	0.3	0.8	YES	100	100	0	YES	85	28	85	28	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS	PR	LOSS	LOSS	MEETS	CONS	PR	LOSS	MEETS	CONS		PR		LOSS %		MEETS
					%	%		%	CRITERIA	%	%	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
				W6/F32	39.4	39	0.2	0.5	YES					58	19	58	19	0	0	YES
				W7/F32	39.4	39	0.2	0.5	YES					58	19	58	19	0	0	YES
				W8/F32	39.4	39	0.2	0.5	YES					58	19	58	19	0	0	YES
F33	R1	Residential	LKD	W1/F33	38.7	39	0.2	0.5	YES	100	100	0	YES	85	28	85	28	0	0	YES
				W2/F33	38.7	39	0.2	0.5	YES					86	29	86	29	0	0	YES
				W9/F33	33.5	34	0	0	YES					42	10	42	10	0	0	
	R2	Residential	Bedroom	W3/F33	38.7	39	0.2	0.5	YES	91.8	92	0	YES	85	28	85	28	0	0	YES
	R3	Residential	Bedroom	W4/F33	38.7	38	0.3	0.8	YES	98.8	99	0	YES	86	29	86	29	0	0	YES
	R4	Residential	LKD	W5/F33	38.7	38	0.3	0.8	YES	100	100	0	YES	86	29	86	29	0	0	YES
				W6/F33	39.5	39	0.2	0.5	YES					58	19	58	19	0	0	YES
				W7/F33	39.5	39	0.1	0.3	YES					58	19	58	19	0	0	YES
				W8/F33	39.5	39	0.1	0.3	YES					58	19	58	19	0	0	YES
F34	R1	Residential	LKD	W1/F34	38.8	39	0.1	0.3	YES	100	100	0	YES	86	29	86	29	0	0	YES
				W2/F34	38.8	39	0.1	0.3	YES					86	29	86	29	0	0	YES
				W9/F34	33.8	34	0	0	YES					42	10	42	10	0	0	
	R2	Residential	Bedroom	W3/F34	38.8	39	0.1	0.3	YES	91.6	92	0	YES	86	29	86	29	0	0	YES
	R3	Residential	Bedroom	W4/F34	38.8	39	0.2	0.5	YES	98.8	99	0	YES	86	29	86	29	0	0	YES
	R4	Residential	LKD	W5/F34	38.8	39	0.2	0.5	YES	100	100	0	YES	86	29	86	29	0	0	YES
				W6/F34	39.6	40	0.1	0.3	YES					58	19	58	19	0	0	YES
				W7/F34	39.6	40	0.1	0.3	YES					58	19	58	19	0	0	YES
				W8/F34	39.6	40	0.1	0.3	YES					58	19	58	19	0	0	YES
F35	R1	Residential	LKD	W1/F35	38.9	39	0.1	0.3	YES	100	100	0	YES	86	29	86	29	0	0	YES
				W2/F35	38.9	39	0.1	0.3	YES					86	29	86	29	0	0	YES
				W9/F35	34.1	34	0	0	YES					42	10	42	10	0	0	
	R2	Residential	Bedroom	W3/F35	38.9	39	0.1	0.3	YES	91.7	92	0	YES	86	29	86	29	0	0	YES
	R3	Residential	Bedroom	W4/F35	38.9	39	0.1	0.3	YES	98.9	99	0	YES	86	29	86	29	0	0	YES
	R4	Residential	LKD	W5/F35	38.9	39	0.1	0.3	YES	100	100	0	YES	86	29	86	29	0	0	YES
				W6/F35	39.6	40	0	0	YES					58	19	58	19	0	0	YES
				W7/F35	39.6	40	0	0	YES					58	19	58	19	0	0	YES
				W8/F35	39.6	40	0	0	YES					58	19	58	19	0	0	YES
F36	R1	Residential	LKD	W1/F36	38.9	39	0	0	YES	100	100	0	YES	86	29	86	29	0	0	YES
				W2/F36	38.9	39	0	0	YES					86	29	86	29	0	0	YES
				W9/F36	34.4	34	0	0	YES					42	10	42	10	0	0	
	R2	Residential	Bedroom	W3/F36	38.9	39	0	0	YES	91.7	92	0	YES	86	29	86	29	0	0	YES
	R3	Residential	Bedroom	W4/F36	38.9	39	0	0	YES	98.8	99	0	YES	86	29	86	29	0	0	YES
	R4	Residential	LKD	W5/F36	38.9	39	0	0	YES	100	100	0	YES	86	29	86	29	0	0	YES
				W6/F36	39.6	40	0	0	YES					58	19	58	19	0	0	YES
				W7/F36	39.6	40	0	0	YES					58	19	58	19	0	0	YES
				W8/F36	39.6	40	0	0	YES					58	19	58	19	0	0	YES
F37	R1	Residential	LKD	W1/F37	39	39	0	0	YES	100	100	0	YES	86	29	86	29	0	0	YES
				W2/F37	39	39	0	0	YES					86	29	86	29	0	0	YES
				W9/F37	34.8	35	0	0	YES					42	10	42	10	0	0	
	R2	Residential	Bedroom	W3/F37	39	39	0	0	YES	91.6	92	0	YES	86	29	86	29	0	0	YES
	R3	Residential	Bedroom	W4/F37	39	39	0	0	YES	98.9	99	0	YES	86	29	86	29	0	0	YES
	R4	Residential	LKD	W5/F37	39	39	0	0	YES	100	100	0	YES	86	29	86	29	0	0	YES
				W6/F37	39.6	40	0	0	YES					58	19	58	19	0	0	YES
				W7/F37	39.6	40	0	0	YES					58	19	58	19	0	0	YES
				W8/F37	39.6	40	0	0	YES					58	19	58	19	0	0	YES
F38	R1	Residential	LKD	W1/F38	39.1	39	0	0	YES	100	100	0	YES	86	29	86	29	0	0	YES
				W2/F38	39.1	39	0	0	YES					86	29	86	29	0	0	YES
				W9/F38	35.1	35	0	0	YES					42	10	42	10	0	0	
	R2	Residential	Bedroom	W3/F38	39.1	39	0	0	YES	91.7	92	0	YES	86	29	86	29	0	0	YES
	R3	Residential	Bedroom	W4/F38	39.1	39	0	0	YES	98.9	99	0	YES	86	29	86	29	0	0	YES
	R4	Residential	LKD	W5/F38	39.1	39	0	0	YES	100	100	0	YES	86	29	86	29	0	0	YES
				W6/F38	39.6	40	0	0	YES					58	19	58	19	0	0	YES
				W7/F38	39.6	40	0	0	YES					58	19	58	19	0	0	YES
				W8/F38	39.6	40	0	0	YES					58	19	58	19	0	0	YES
F39	R1	Residential	LKD	W1/F39	39.1	39	0	0	YES	100	100	0	YES	86	29	86	29	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
				W2/F39	39.1	39	0	0	YES					86	29	86	29	0	0	YES
				W9/F39	35.5	36	0	0	YES					42	10	42	10	0	0	
	R2	Residential	Bedroom	W3/F39	39.1	39	0	0	YES	91.6	92	0	YES	86	29	86	29	0	0	YES
	R3	Residential	Bedroom	W4/F39	39.1	39	0	0	YES	98.9	99	0	YES	86	29	86	29	0	0	YES
	R4	Residential	LKD	W5/F39	39.1	39	0	0	YES	100	100	0	YES	86	29	86	29	0	0	YES
				W6/F39	39.6	40	0	0	YES					58	19	58	19	0	0	YES
				W7/F39	39.6	40	0	0	YES					58	19	58	19	0	0	YES
				W8/F39	39.6	40	0	0	YES					58	19	58	19	0	0	YES
325 DEANSGATE STAYCITY APARTHOTEL																				
F01	R1	Residential	#NAME?	W1/F01	9.8	9.8	0	0	YES	86.6	87	0	YES							
				W2/F01	9.6	9.6	0	0	YES					0	0	0	0	0	0	
				W3/F01	9.5	9.5	0	0	YES											
				W4/F01	9.4	9.4	0	0	YES					0	0	0	0	0	0	
				W5/F01	9.2	9.2	0	0	YES											
				W6/F01	9.1	9.1	0	0	YES					0	0	0	0	0	0	
				W7/F01	9	9	0	0	YES											
				W8/F01	19.9	20	0	0	YES					37	11	37	11	0	0	YES
				W9/F01	19.9	20	0	0	YES					37	11	37	11	0	0	YES
	R2**	Residential	#NAME?	W10/F01	20	20	0	0	YES	94.6	95	0	YES	37	11	37	11	0	0	YES
				W11/F01	20.3	20	0	0	YES					37	11	38	11	0	0	YES
	R3**	Residential	#NAME?	W12/F01	20.5	21	0	0	YES	49.3	51	-3.6	YES	38	11	38	11	0	0	YES
				W13/F01	21.3	21	0	0	YES					37	10	38	11	0	0	YES
	R4**	Residential	#NAME?	W14/F01	21.5	22	0	0	YES	99.1	99	0	YES	34	10	36	11	0	0	YES
				W15/F01	21.9	22	0	0	YES					36	11	36	11	0	0	YES
				W16/F01	22.2	22	0	0	YES					35	11	35	11	0	0	YES
	R5**	Residential	#NAME?	W17/F01	22.5	23	0	0	YES	95.8	96	0	YES	35	11	35	11	0	0	YES
				W18/F01	22.7	23	0	0	YES					37	11	37	11	0	0	YES
	R6	Residential	#NAME?	W19/F01	22.9	23	0	0	YES	69.9	70	-0.1	YES	38	11	38	11	0	0	YES
				W20/F01	21.8	22	0	0	YES					31	9	30	9	3.2	0	YES
				W21/F01	20.7	21	0	0	YES					44	18	43	18	2.3	0	YES
				W22/F01	20.5	21	0	0	YES					43	18	43	18	0	0	YES
F02	R1	Residential	#NAME?	W1/F02	13	13	0	0	YES	91	91	0	YES							
				W2/F02	12.8	13	0	0	YES					0	0	0	0	0	0	
				W3/F02	12.6	13	0	0	YES											
				W4/F02	12.4	12	0	0	YES					0	0	0	0	0	0	
				W5/F02	12.3	12	0	0	YES											
				W6/F02	12.1	12	0	0	YES					0	0	0	0	0	0	
				W7/F02	11.9	12	0	0	YES											
				W8/F02	21.1	21	0	0	YES					37	11	37	11	0	0	YES
				W9/F02	21.4	21	0	0	YES					37	11	37	11	0	0	YES
	R2**	Residential	#NAME?	W10/F02	21.6	22	0	0	YES	94.7	95	0	YES	37	11	37	11	0	0	YES
				W11/F02	21.8	22	0	0	YES					37	11	38	11	0	0	YES
	R3**	Residential	#NAME?	W12/F02	22.1	22	0	0	YES	49.8	52	-3.5	YES	38	11	38	11	0	0	YES
				W13/F02	22.5	23	0	0	YES					37	10	38	11	0	0	YES
	R4**	Residential	#NAME?	W14/F02	22.7	23	0	0	YES	99.1	99	0	YES	36	10	37	11	0	0	YES
				W15/F02	22.9	23	0	0	YES					39	11	38	11	2.6	0	YES
				W16/F02	23.1	23	0	0	YES					37	11	37	11	0	0	YES
	R5**	Residential	#NAME?	W17/F02	23.3	23	0	0	YES	95.8	96	0	YES	38	11	37	11	2.6	0	YES
				W18/F02	23.5	24	0	0	YES					38	11	38	11	0	0	YES
	R6	Residential	#NAME?	W19/F02	23.7	24	0	0	YES	70	70	-0.1	YES	39	11	39	11	0	0	YES
				W20/F02	22.5	23	0	0	YES					33	9	33	9	0	0	YES
				W21/F02	7.7	7.7	0	0	YES					10	10	10	10	0	0	YES
				W22/F02	6.3	6.4	-0.1	-1.6	YES					9	9	9	9	0	0	YES
F03	R1	Residential	#NAME?	W1/F03	18.6	19	0	0	YES	95.2	95	-0.2	YES							
				W2/F03	17.4	17	0	0	YES					6	0	6	0	0	0	
				W3/F03	22	22	0	0	YES					37	11	37	11	0	0	YES
				W4/F03	22.2	22	0	0	YES					37	11	37	11	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS	PR	LOSS	LOSS	MEETS	CONS	PR	LOSS	MEETS	CONS		PR		LOSS %		MEETS
					%	%		%	CRITERIA	%	%	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
	R2**	Residential	#NAME?	W5/F03	22.6	23	0	0	YES	87	87	0	YES	37	11	38	11	0	0	YES
				W6/F03	22.8	23	0	0	YES					38	11	38	11	0	0	YES
				W7/F03	23.2	23	0	0	YES					37	10	38	11	0	0	YES
	R3**	Residential	#NAME?	W8/F03	23.4	23	0	0	YES	97.8	98	0	YES	37	10	38	11	0	0	YES
				W9/F03	23.6	24	0	0	YES					39	11	38	11	2.6	0	YES
				W10/F03	23.8	24	0	0	YES					39	11	38	11	2.6	0	YES
				W11/F03	23.9	24	-0.1	-0.4	YES					39	11	38	11	2.6	0	YES
	R4**	Residential	#NAME?	W12/F03	24.1	24	0	0	YES	94.3	94	0	YES	40	11	39	11	2.5	0	YES
				W13/F03	24.3	24	0	0	YES					39	11	39	11	0	0	YES
				W14/F03	24.7	25	0	0	YES					38	10	38	10	0	0	YES
				W15/F03	24.8	25	0	0	YES					38	10	38	10	0	0	YES
	R5	Residential	#NAME?	W16/F03	25	25	0	0	YES	98.5	99	0	YES	38	10	38	10	0	0	YES
				W17/F03	25.2	25	0	0	YES					38	10	38	10	0	0	YES
				W18/F03	29.8	30	0	0	YES					63	20	62	20	1.6	0	YES
				W19/F03	27.6	28	0	0	YES					59	19	58	19	1.7	0	YES
				W20/F03	23.3	23	0	0	YES					50	15	50	15	0	0	YES
				W21/F03	17.6	18	0	0	YES					41	13	41	13	0	0	YES
F04	R1	Residential	#NAME?	W1/F04	21.9	22	0	0	YES	95.2	95	-0.2	YES	6	0	6	0	0	0	
				W2/F04	20.3	20	0	0	YES					0	0	0	0	0	0	
				W3/F04	22.5	23	0	0	YES					38	11	38	11	0	0	YES
				W4/F04	22.6	23	0	0	YES					38	11	38	11	0	0	YES
	R2**	Residential	#NAME?	W5/F04	23	23	-0.1	-0.4	YES	87.3	87	0	YES	39	11	39	11	0	0	YES
				W6/F04	23.2	23	0	0	YES					39	11	39	11	0	0	YES
				W7/F04	23.6	24	0	0	YES					39	11	40	12	0	0	YES
	R3**	Residential	#NAME?	W8/F04	23.8	24	0	0	YES	97.8	98	0	YES	38	11	39	12	0	0	YES
				W9/F04	24	24	0	0	YES					39	11	38	11	2.6	0	YES
				W10/F04	24.2	24	0	0	YES					39	11	38	11	2.6	0	YES
				W11/F04	24.3	24	-0.1	-0.4	YES					39	11	38	11	2.6	0	YES
	R4**	Residential	#NAME?	W12/F04	24.5	25	0	0	YES	94.6	95	0	YES	40	11	39	11	2.5	0	YES
				W13/F04	24.7	25	0	0	YES					40	11	39	11	2.5	0	YES
				W14/F04	25	25	0	0	YES					38	10	38	10	0	0	YES
				W15/F04	25.2	25	0	0	YES					39	10	38	10	2.6	0	YES
	R5	Residential	#NAME?	W16/F04	25.4	25	0	0	YES	98.5	99	0	YES	38	10	38	10	0	0	YES
				W17/F04	25.5	26	0	0	YES					38	10	39	10	0	0	YES
				W18/F04	30.1	30	0	0	YES					63	20	63	20	0	0	YES
				W19/F04	27.8	28	0	0	YES					59	19	59	19	0	0	YES
				W20/F04	23.5	24	0	0	YES					51	16	51	16	0	0	YES
				W21/F04	17.8	18	0	0	YES					41	13	41	13	0	0	YES
F05	R1	Residential	#NAME?	W1/F05	22.4	22	0	0	YES	95.3	95	-0.2	YES	7	0	7	0	0	0	
				W2/F05	20.7	21	0	0	YES					7	0	7	0	0	0	
				W3/F05	22.7	23	0	0	YES					38	11	38	11	0	0	YES
				W4/F05	22.9	23	0	0	YES					38	11	38	11	0	0	YES
	R2**	Residential	#NAME?	W5/F05	23.3	23	0	0	YES	87.7	87	0.4	YES	39	11	39	11	0	0	YES
				W6/F05	23.5	24	0	0	YES					39	11	39	11	0	0	YES
				W7/F05	23.9	24	0	0	YES					39	11	40	12	0	0	YES
	R3**	Residential	#NAME?	W8/F05	24.1	24	0	0	YES	97.8	98	0	YES	38	11	39	12	0	0	YES
				W9/F05	24.3	24	0	0	YES					39	11	39	11	0	0	YES
				W10/F05	24.5	25	0	0	YES					39	11	39	11	0	0	YES
				W11/F05	24.6	25	-0.1	-0.4	YES					39	11	39	11	0	0	YES
	R4**	Residential	#NAME?	W12/F05	24.8	25	0	0	YES	94.4	94	0.1	YES	40	11	39	11	2.5	0	YES
				W13/F05	25	25	0	0	YES					40	11	39	11	2.5	0	YES
				W14/F05	25.3	25	0	0	YES					39	10	38	10	2.6	0	YES
				W15/F05	25.5	26	0	0	YES					39	10	38	10	2.6	0	YES
	R5	Residential	#NAME?	W16/F05	25.7	26	0	0	YES	98.5	99	0	YES	38	10	38	10	0	0	YES
				W17/F05	25.8	26	0	0	YES					38	10	39	10	0	0	YES
				W18/F05	30.3	30	0	0	YES					63	20	63	20	0	0	YES
				W19/F05	28	28	0	0	YES					59	19	59	19	0	0	YES
				W20/F05	23.7	24	0	0	YES					51	16	51	16	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
				W21/F05	17.9	18	0	0	YES					42	14	42	14	0	0	YES
F06	R1	Residential	#NAME?	W1/F06	22.5	23	0	0	YES	95.3	95	-0.2	YES	0	0	6	0	0	0	
				W2/F06	20.8	21	0	0	YES						0		0	0	0	
				W3/F06	23	23	0	0	YES					38	11	38	11	0	0	YES
				W4/F06	23.2	23	0	0	YES					39	11	38	11	2.6	0	YES
	R2**	Residential	#NAME?	W5/F06	23.6	24	0	0	YES	88	88	0.5	YES	39	11	39	11	0	0	YES
				W6/F06	23.8	24	0	0	YES					39	11	39	11	0	0	YES
				W7/F06	24.2	24	0	0	YES					39	11	40	12	0	0	YES
	R3**	Residential	#NAME?	W8/F06	24.4	24	0	0	YES	97.9	98	0	YES	38	11	39	12	0	0	YES
				W9/F06	24.6	25	0	0	YES					39	11	39	11	0	0	YES
				W10/F06	24.7	25	0	0	YES					39	11	39	11	0	0	YES
				W11/F06	24.9	25	0	0	YES					39	11	39	11	0	0	YES
	R4**	Residential	#NAME?	W12/F06	25.1	25	0	0	YES	94.6	94	0.2	YES	40	11	40	11	0	0	YES
				W13/F06	25.3	25	0	0	YES					40	11	40	11	0	0	YES
				W14/F06	25.6	26	0	0	YES					39	10	38	10	2.6	0	YES
				W15/F06	25.8	26	0	0	YES					39	10	38	10	2.6	0	YES
	R5	Residential	#NAME?	W16/F06	25.9	26	0	0	YES	98.5	99	0	YES	39	10	38	10	2.6	0	YES
				W17/F06	26.1	26	0	0	YES					39	10	39	10	0	0	YES
				W18/F06	30.5	31	0	0	YES					63	20	63	20	0	0	YES
				W19/F06	28.2	28	0	0	YES					60	19	59	19	1.7	0	YES
				W20/F06	23.9	24	0	0	YES					51	16	51	16	0	0	YES
				W21/F06	18.1	18	0	0	YES					42	14	42	14	0	0	YES
F07	R1	Residential	#NAME?	W1/F07	22.5	23	0	0	YES	95.3	95	-0.2	YES		0	6	0	0	0	
				W2/F07	20.9	21	0	0	YES					7	0	7	0	0	0	
				W3/F07	23.3	23	0	0	YES					39	11	38	11	2.6	0	YES
				W4/F07	23.5	24	0	0	YES					39	11	38	11	2.6	0	YES
	R2**	Residential	#NAME?	W5/F07	23.9	24	0	0	YES	88.4	88	0.6	YES	39	11	39	11	0	0	YES
				W6/F07	24.1	24	0	0	YES					39	11	39	11	0	0	YES
				W7/F07	24.5	25	0	0	YES					39	11	40	12	0	0	YES
	R3**	Residential	#NAME?	W8/F07	24.7	25	0	0	YES	97.9	98	0	YES	39	11	40	12	0	0	YES
				W9/F07	24.9	25	0	0	YES					40	11	40	11	0	0	YES
				W10/F07	25	25	0	0	YES					40	11	40	11	0	0	YES
				W11/F07	25.2	25	0	0	YES					40	11	40	11	0	0	YES
	R4**	Residential	#NAME?	W12/F07	25.4	25	0	0	YES	94.8	95	0.3	YES	41	11	41	11	0	0	YES
				W13/F07	25.6	26	0	0	YES					41	11	41	11	0	0	YES
				W14/F07	25.9	26	0	0	YES					40	10	40	10	0	0	YES
				W15/F07	26.1	26	0	0	YES					40	10	39	10	2.5	0	YES
	R5	Residential	#NAME?	W16/F07	26.2	26	0	0	YES	98.5	99	0	YES	40	10	39	10	2.5	0	YES
				W17/F07	26.4	26	0	0	YES					40	10	40	10	0	0	YES
				W18/F07	30.7	31	0	0	YES					65	21	64	21	1.5	0	YES
				W19/F07	28.4	28	0	0	YES					61	20	60	20	1.6	0	YES
				W20/F07	24.1	24	0	0	YES					53	17	52	17	1.9	0	YES
				W21/F07	18.2	18	0	0	YES					44	15	43	15	2.3	0	YES
F08	R1	Residential	#NAME?	W1/F08	22.6	23	0	0	YES	95.3	95	-0.2	YES	6	0	6	0	0	0	
				W2/F08	21	21	0	0	YES						0		0	0	0	
				W3/F08	23.6	24	0.1	0.4	YES					39	11	39	11	0	0	YES
				W4/F08	23.8	24	0.1	0.4	YES					39	11	39	11	0	0	YES
	R2**	Residential	#NAME?	W5/F08	24.2	24	0	0	YES	88.7	88	0.4	YES	39	11	39	11	0	0	YES
				W6/F08	24.4	24	0	0	YES					39	11	39	11	0	0	YES
				W7/F08	24.8	25	0.1	0.4	YES					39	11	40	12	0	0	YES
	R3**	Residential	#NAME?	W8/F08	25	25	0.1	0.4	YES	98	98	0	YES	39	11	40	12	0	0	YES
				W9/F08	25.1	25	0	0	YES					40	11	40	11	0	0	YES
				W10/F08	25.3	25	0	0	YES					40	11	40	11	0	0	YES
				W11/F08	25.5	26	0	0	YES					40	11	40	11	0	0	YES
	R4**	Residential	#NAME?	W12/F08	25.7	26	0	0	YES	94.8	95	0.2	YES	41	11	41	11	0	0	YES
				W13/F08	25.9	26	0.1	0.4	YES					41	11	41	11	0	0	YES
				W14/F08	26.2	26	0	0	YES					40	10	40	10	0	0	YES
				W15/F08	26.4	26	0.1	0.4	YES					40	10	40	10	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R5	Residential	#NAME?	W16/F08	26.5	27	0	0	YES	98.6	99	0	YES	40	10	40	10	0	0	YES
				W17/F08	26.7	27	0	0	YES					40	10	41	10	0	0	YES
				W18/F08	30.9	31	0	0	YES					65	21	64	21	1.5	0	YES
				W19/F08	28.6	29	0	0	YES					61	20	60	20	1.6	0	YES
				W20/F08	24.3	24	0	0	YES					53	17	52	17	1.9	0	YES
				W21/F08	18.3	18	0	0	YES					44	15	43	15	2.3	0	YES
F09	R1	Residential	#NAME?	W1/F09	22.7	23	0	0	YES	95.3	96	-0.2	YES							
				W2/F09	21.1	21	0	0	YES											
				W3/F09	23.8	24	0	0	YES					40	12	40	12	0	0	YES
				W4/F09	24	24	0	0	YES					40	12	40	12	0	0	YES
	R2**	Residential	#NAME?	W5/F09	24.4	24	0	0	YES	89.2	89	0.4	YES	40	12	40	12	0	0	YES
				W6/F09	24.6	25	0	0	YES					39	11	39	11	0	0	YES
				W7/F09	25	25	0	0	YES					39	11	40	12	0	0	YES
	R3**	Residential	#NAME?	W8/F09	25.2	25	0	0	YES	98	98	0	YES	39	11	40	12	0	0	YES
				W9/F09	25.4	25	0	0	YES					40	11	40	11	0	0	YES
				W10/F09	25.6	26	0	0	YES					40	11	40	11	0	0	YES
				W11/F09	25.8	26	0	0	YES					40	11	40	11	0	0	YES
	R4**	Residential	#NAME?	W12/F09	25.9	26	0	0	YES	94.9	95	0	YES	41	11	41	11	0	0	YES
				W13/F09	26.1	26	0	0	YES					41	11	41	11	0	0	YES
				W14/F09	26.5	27	0	0	YES					41	11	41	11	0	0	YES
				W15/F09	26.6	27	0	0	YES					41	11	41	11	0	0	YES
	R5	Residential	#NAME?	W16/F09	26.8	27	0	0	YES	98.6	99	0	YES	41	11	41	11	0	0	YES
				W17/F09	27	27	0.1	0.4	YES					41	11	42	11	0	0	YES
				W18/F09	31	31	0	0	YES					66	22	65	22	1.5	0	YES
				W19/F09	28.8	29	0.1	0.3	YES					62	21	61	21	1.6	0	YES
				W20/F09	24.4	24	0	0	YES					54	18	54	18	0	0	YES
				W21/F09	18.4	18	0	0	YES					45	16	45	16	0	0	YES
F10	R1	Residential	#NAME?	W1/F10	22.8	23	0	0	YES	95.3	96	-0.2	YES							
				W2/F10	21.1	21	0	0	YES											
				W3/F10	24.1	24	0	0	YES					40	12	40	12	0	0	YES
				W4/F10	24.3	24	0	0	YES					39	12	39	12	0	0	YES
	R2**	Residential	#NAME?	W5/F10	24.7	25	0	0	YES	89.5	89	0.4	YES	40	12	40	12	0	0	YES
				W6/F10	24.9	25	0	0	YES					40	12	40	12	0	0	YES
				W7/F10	25.3	25	0	0	YES					40	12	41	13	0	0	YES
	R3**	Residential	#NAME?	W8/F10	25.5	26	0	0	YES	98	98	0	YES	40	12	41	13	0	0	YES
				W9/F10	25.7	26	0	0	YES					41	12	41	12	0	0	YES
				W10/F10	25.9	26	0.1	0.4	YES					41	12	41	12	0	0	YES
				W11/F10	26	26	0	0	YES					41	12	41	12	0	0	YES
	R4**	Residential	#NAME?	W12/F10	26.2	26	0	0	YES	94.9	95	0	YES	42	12	42	12	0	0	YES
				W13/F10	26.4	26	0	0	YES					42	12	42	12	0	0	YES
				W14/F10	26.7	27	0	0	YES					41	11	41	11	0	0	YES
				W15/F10	26.9	27	0	0	YES					41	11	41	11	0	0	YES
	R5	Residential	#NAME?	W16/F10	27.1	27	0.1	0.4	YES	98.6	99	0	YES	41	11	41	11	0	0	YES
				W17/F10	27.2	27	0	0	YES					42	11	42	11	0	0	YES
				W18/F10	31.2	31	0	0	YES					66	22	66	22	0	0	YES
				W19/F10	28.9	29	0	0	YES					62	21	62	21	0	0	YES
				W20/F10	24.6	25	0	0	YES					54	18	54	18	0	0	YES
				W21/F10	18.5	19	0	0	YES					45	16	45	16	0	0	YES
F11	R1	Residential	#NAME?	W1/F11	22.9	23	0	0	YES	95.3	96	-0.2	YES							
				W2/F11	21.2	21	0	0	YES											
				W3/F11	24.4	24	0.1	0.4	YES					40	12	40	12	0	0	YES
				W4/F11	24.6	25	0.1	0.4	YES					40	12	40	12	0	0	YES
	R2**	Residential	#NAME?	W5/F11	25	25	0.1	0.4	YES	89.9	90	0.4	YES	40	12	40	12	0	0	YES
				W6/F11	25.2	25	0.1	0.4	YES					40	12	40	12	0	0	YES
				W7/F11	25.6	26	0.1	0.4	YES					40	12	41	13	0	0	YES
	R3**	Residential	#NAME?	W8/F11	25.8	26	0.1	0.4	YES	98	98	0	YES	40	12	41	13	0	0	YES
				W9/F11	26	26	0.1	0.4	YES					41	12	41	12	0	0	YES
				W10/F11	26.1	26	0	0	YES					41	12	41	12	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS	PR	LOSS	LOSS	MEETS	CONS	PR	LOSS	MEETS	CONS		PR		LOSS %		MEETS
					%	%		%	CRITERIA	%	%	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
				W11/F11	26.3	26	0	0	YES					41	12	41	12	0	0	YES
	R4**	Residential	#NAME?	W12/F11	26.5	27	0	0	YES	94.9	95	0	YES	42	12	42	12	0	0	YES
				W13/F11	26.7	27	0.1	0.4	YES					42	12	42	12	0	0	YES
				W14/F11	27	27	0	0	YES					42	12	42	12	0	0	YES
				W15/F11	27.2	27	0.1	0.4	YES					42	12	42	12	0	0	YES
	R5	Residential	#NAME?	W16/F11	27.3	27	0	0	YES	98.6	99	0	YES	42	12	42	12	0	0	YES
				W17/F11	27.5	28	0	0	YES					43	12	43	12	0	0	YES
				W18/F11	31.4	31	0	0	YES					66	22	66	22	0	0	YES
				W19/F11	29.1	29	0	0	YES					62	21	62	21	0	0	YES
				W20/F11	24.8	25	0	0	YES					54	18	54	18	0	0	YES
				W21/F11	18.6	19	0	0	YES					45	16	45	16	0	0	YES
F12	R1	Residential	#NAME?	W1/F12	23	23	0	0	YES	95.4	96	-0.1	YES	6	0	6	0	0	0	
				W2/F12	21.3	21	0	0	YES					7	0	7	0	0	0	
				W3/F12	24.6	25	0	0	YES					40	12	40	12	0	0	YES
				W4/F12	24.8	25	0	0	YES					39	12	39	12	0	0	YES
	R2**	Residential	#NAME?	W5/F12	25.3	25	0.1	0.4	YES	90.8	90	0.4	YES	40	12	40	12	0	0	YES
				W6/F12	25.5	25	0.1	0.4	YES					40	12	40	12	0	0	YES
				W7/F12	25.9	26	0.1	0.4	YES					40	12	41	13	0	0	YES
	R3**	Residential	#NAME?	W8/F12	26.1	26	0.1	0.4	YES	98.1	98	0	YES	40	12	41	13	0	0	YES
				W9/F12	26.2	26	0	0	YES					41	12	41	12	0	0	YES
				W10/F12	26.4	26	0	0	YES					41	12	41	12	0	0	YES
				W11/F12	26.6	27	0	0	YES					41	12	41	12	0	0	YES
	R4**	Residential	#NAME?	W12/F12	26.8	27	0.1	0.4	YES	94.9	95	0	YES	42	12	42	12	0	0	YES
				W13/F12	27	27	0.1	0.4	YES					42	12	42	12	0	0	YES
				W14/F12	27.3	27	0.1	0.4	YES					42	12	42	12	0	0	YES
				W15/F12	27.5	27	0.1	0.4	YES					42	12	42	12	0	0	YES
	R5	Residential	#NAME?	W16/F12	27.6	28	0	0	YES	98.5	99	0	YES	42	12	42	12	0	0	YES
				W17/F12	27.8	28	0.1	0.4	YES					43	12	43	12	0	0	YES
				W18/F12	31.6	32	0.1	0.3	YES					67	22	66	22	1.5	0	YES
				W19/F12	29.3	29	0	0	YES					63	21	62	21	1.6	0	YES
				W20/F12	24.9	25	0	0	YES					55	18	54	18	1.8	0	YES
				W21/F12	18.7	19	0	0	YES					46	16	45	16	2.2	0	YES
F13	R1	Residential	#NAME?	W1/F13	23.1	23	0	0	YES	95.4	96	-0.1	YES	6	0	6	0	0	0	
				W2/F13	21.4	21	0	0	YES					7	0	7	0	0	0	
				W3/F13	24.9	25	0	0	YES					40	12	40	12	0	0	YES
				W4/F13	25.1	25	0	0	YES					40	12	40	12	0	0	YES
	R2**	Residential	#NAME?	W5/F13	25.5	26	0	0	YES	91.8	91	0.4	YES	40	12	40	12	0	0	YES
				W6/F13	25.7	26	0	0	YES					40	12	40	12	0	0	YES
				W7/F13	26.1	26	0	0	YES					40	12	41	13	0	0	YES
	R3**	Residential	#NAME?	W8/F13	26.3	26	0	0	YES	98.1	98	0	YES	40	12	41	13	0	0	YES
				W9/F13	26.5	27	0	0	YES					41	12	41	12	0	0	YES
				W10/F13	26.7	27	0	0	YES					41	12	41	12	0	0	YES
				W11/F13	26.9	27	0.1	0.4	YES					41	12	41	12	0	0	YES
	R4**	Residential	#NAME?	W12/F13	27.1	27	0.1	0.4	YES	95	95	0	YES	42	12	42	12	0	0	YES
				W13/F13	27.2	27	0	0	YES					42	12	42	12	0	0	YES
				W14/F13	27.6	28	0.1	0.4	YES					42	12	42	12	0	0	YES
				W15/F13	27.7	28	0	0	YES					42	12	42	12	0	0	YES
	R5	Residential	#NAME?	W16/F13	27.9	28	0.1	0.4	YES	98.6	99	0	YES	42	12	42	12	0	0	YES
				W17/F13	28.1	28	0.1	0.4	YES					43	12	43	12	0	0	YES
				W18/F13	31.7	32	0	0	YES					67	22	66	22	1.5	0	YES
				W19/F13	29.4	29	0	0	YES					63	21	62	21	1.6	0	YES
				W20/F13	25.1	25	0	0	YES					55	18	54	18	1.8	0	YES
				W21/F13	18.8	19	0	0	YES					46	16	45	16	2.2	0	YES
F14	R1	Residential	#NAME?	W1/F14	23.2	23	0	0	YES	95.5	96	0	YES	6	0	6	0	0	0	
				W2/F14	21.5	22	0	0	YES					7	0	7	0	0	0	
				W3/F14	25.2	25	0	0	YES					40	12	40	12	0	0	YES
				W4/F14	25.4	25	0	0	YES					40	12	40	12	0	0	YES
	R2**	Residential	#NAME?	W5/F14	25.8	26	0	0	YES	92.6	92	0.1	YES	40	12	40	12	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS	PR	LOSS	LOSS	MEETS	CONS	PR	LOSS	MEETS	CONS		PR		LOSS %		MEETS
					%	%		%	CRITERIA	%	%	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
				W6/F14	26	26	0	0	YES					40	12	40	12	0	0	YES
				W7/F14	26.4	26	0	0	YES					40	12	41	13	0	0	YES
	R3**	Residential	#NAME?	W8/F14	26.6	27	0	0	YES	98.2	98	0	YES	40	12	41	13	0	0	YES
				W9/F14	26.8	27	0	0	YES					41	12	41	12	0	0	YES
				W10/F14	27	27	0.1	0.4	YES					41	12	41	12	0	0	YES
				W11/F14	27.2	27	0.1	0.4	YES					41	12	41	12	0	0	YES
	R4**	Residential	#NAME?	W12/F14	27.4	27	0.1	0.4	YES	95	95	0	YES	42	12	42	12	0	0	YES
				W13/F14	27.5	28	0	0	YES					42	12	42	12	0	0	YES
				W14/F14	27.9	28	0.1	0.4	YES					42	12	42	12	0	0	YES
				W15/F14	28	28	0	0	YES					42	12	42	12	0	0	YES
	R5	Residential	#NAME?	W16/F14	28.2	28	0.1	0.4	YES	98.5	99	0	YES	42	12	42	12	0	0	YES
				W17/F14	28.3	28	0	0	YES					43	12	43	12	0	0	YES
				W18/F14	31.9	32	0	0	YES					67	22	66	22	1.5	0	YES
				W19/F14	29.6	30	0	0	YES					63	21	63	21	0	0	YES
				W20/F14	25.3	25	0	0	YES					55	18	55	18	0	0	YES
				W21/F14	18.9	19	0	0	YES					46	16	46	16	0	0	YES
F15	R1	Residential	#NAME?	W1/F15	23.3	23	0	0	YES	95.7	96	0.2	YES							
				W2/F15	21.7	22	0.1	0.5	YES					7	0	7	0	0	0	
				W3/F15	25.5	26	0	0	YES					40	12	40	12	0	0	YES
				W4/F15	25.7	26	0	0	YES					40	12	40	12	0	0	YES
	R2**	Residential	#NAME?	W5/F15	26.1	26	0	0	YES	92.7	93	0.1	YES	40	12	40	12	0	0	YES
				W6/F15	26.3	26	0	0	YES					40	12	40	12	0	0	YES
				W7/F15	26.7	27	0	0	YES					40	12	41	13	0	0	YES
	R3**	Residential	#NAME?	W8/F15	26.9	27	0	0	YES	98.3	98	0	YES	40	12	41	13	0	0	YES
				W9/F15	27.1	27	0	0	YES					41	12	41	12	0	0	YES
				W10/F15	27.3	27	0.1	0.4	YES					41	12	41	12	0	0	YES
				W11/F15	27.5	27	0.1	0.4	YES					41	12	41	12	0	0	YES
	R4**	Residential	#NAME?	W12/F15	27.6	28	0	0	YES	95	95	0	YES	42	12	42	12	0	0	YES
				W13/F15	27.8	28	0	0	YES					42	12	42	12	0	0	YES
				W14/F15	28.2	28	0.1	0.4	YES					42	12	42	12	0	0	YES
				W15/F15	28.3	28	0	0	YES					42	12	42	12	0	0	YES
	R5	Residential	#NAME?	W16/F15	28.5	28	0.1	0.4	YES	98.5	99	0	YES	42	12	42	12	0	0	YES
				W17/F15	28.6	29	0	0	YES					43	12	43	12	0	0	YES
				W18/F15	32.1	32	0	0	YES					67	22	67	22	0	0	YES
				W19/F15	29.8	30	0	0	YES					63	21	63	21	0	0	YES
				W20/F15	25.5	25	0.1	0.4	YES					55	18	55	18	0	0	YES
				W21/F15	19	19	0	0	YES					46	16	46	16	0	0	YES
F16	R1	Residential	#NAME?	W1/F16	23.4	23	0	0	YES	96	96	0.3	YES	6	0	6	0	0	0	
				W2/F16	21.8	22	0	0	YES					7	0	7	0	0	0	
				W3/F16	25.8	26	0	0	YES					41	13	41	13	0	0	YES
				W4/F16	26	26	0	0	YES					41	13	41	13	0	0	YES
	R2**	Residential	#NAME?	W5/F16	26.4	26	0	0	YES	92.8	93	0.1	YES	41	13	41	13	0	0	YES
				W6/F16	26.7	27	0.1	0.4	YES					41	13	41	13	0	0	YES
				W7/F16	27.1	27	0.1	0.4	YES					40	12	41	13	0	0	YES
	R3**	Residential	#NAME?	W8/F16	27.2	27	0	0	YES	98.4	98	0	YES	40	12	41	13	0	0	YES
				W9/F16	27.4	27	0	0	YES					41	12	41	12	0	0	YES
				W10/F16	27.6	28	0.1	0.4	YES					41	12	41	12	0	0	YES
				W11/F16	27.8	28	0.1	0.4	YES					41	12	41	12	0	0	YES
	R4**	Residential	#NAME?	W12/F16	27.9	28	0	0	YES	95	95	0	YES	42	12	42	12	0	0	YES
				W13/F16	28.1	28	0.1	0.4	YES					42	12	42	12	0	0	YES
				W14/F16	28.5	28	0.1	0.4	YES					42	12	42	12	0	0	YES
				W15/F16	28.6	29	0.1	0.3	YES					42	12	42	12	0	0	YES
	R5	Residential	#NAME?	W16/F16	28.8	29	0.1	0.3	YES	98.6	99	0	YES	42	12	42	12	0	0	YES
				W17/F16	28.9	29	0	0	YES					43	12	43	12	0	0	YES
				W18/F16	32.3	32	0	0	YES					67	22	67	22	0	0	YES
				W19/F16	30	30	0	0	YES					63	21	63	21	0	0	YES
				W20/F16	25.6	26	0	0	YES					55	18	55	18	0	0	YES
				W21/F16	19.1	19	0	0	YES					46	16	46	16	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS %	PR %	LOSS	LOSS %	MEETS CRITERIA	CONS %	PR %	LOSS %	MEETS CRITERIA	CONS		PR		LOSS %		MEETS CRITERIA
														ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
F17	R1	Residential	#NAME?	W1/F17	23.5	24	0	0	YES	96.2	96	0.4	YES							
				W2/F17	21.9	22	0	0	YES					7	0	7	0	0	0	
				W3/F17	26.2	26	0.1	0.4	YES					41	13	41	13	0	0	YES
				W4/F17	26.4	26	0.1	0.4	YES					41	13	41	13	0	0	YES
	R2**	Residential	#NAME?	W5/F17	26.8	27	0.1	0.4	YES	92.8	93	0	YES	41	13	41	13	0	0	YES
				W6/F17	27	27	0.1	0.4	YES					41	13	41	13	0	0	YES
				W7/F17	27.4	27	0.1	0.4	YES					42	14	42	14	0	0	YES
	R3**	Residential	#NAME?	W8/F17	27.6	28	0.1	0.4	YES	98.4	98	0	YES	42	14	42	14	0	0	YES
				W9/F17	27.7	28	0	0	YES					42	13	42	13	0	0	YES
				W10/F17	27.9	28	0	0	YES					42	13	42	13	0	0	YES
				W11/F17	28.1	28	0.1	0.4	YES					42	13	42	13	0	0	YES
	R4**	Residential	#NAME?	W12/F17	28.3	28	0.1	0.4	YES	95.1	95	0	YES	43	13	43	13	0	0	YES
				W13/F17	28.4	28	0	0	YES					43	13	43	13	0	0	YES
				W14/F17	28.8	29	0.1	0.3	YES					43	13	43	13	0	0	YES
				W15/F17	28.9	29	0	0	YES					43	13	43	13	0	0	YES
	R5	Residential	#NAME?	W16/F17	29.1	29	0.1	0.3	YES	98.5	99	0	YES	42	12	42	12	0	0	YES
				W17/F17	29.2	29	0	0	YES					43	12	43	12	0	0	YES
				W18/F17	32.6	33	0.1	0.3	YES					68	23	68	23	0	0	YES
				W19/F17	30.2	30	0	0	YES					63	21	63	21	0	0	YES
				W20/F17	25.9	26	0.1	0.4	YES					55	18	55	18	0	0	YES
				W21/F17	19.3	19	0.1	0.5	YES					46	16	46	16	0	0	YES
F18	R1	Residential	#NAME?	W1/F18	23.6	24	0	0	YES	96.3	96	0.2	YES	6	0	6	0	0	0	
				W2/F18	22	22	0	0	YES					7	0	7	0	0	0	
				W3/F18	26.5	26	0.1	0.4	YES					41	13	41	13	0	0	YES
				W4/F18	26.7	27	0.1	0.4	YES					40	13	40	13	0	0	YES
	R2**	Residential	#NAME?	W5/F18	27.1	27	0.1	0.4	YES	92.9	93	0	YES	41	13	41	13	0	0	YES
				W6/F18	27.3	27	0.1	0.4	YES					41	13	41	13	0	0	YES
				W7/F18	27.7	28	0.1	0.4	YES					42	14	42	14	0	0	YES
	R3**	Residential	#NAME?	W8/F18	27.9	28	0.1	0.4	YES	98.4	98	0	YES	42	14	42	14	0	0	YES
				W9/F18	28.1	28	0.1	0.4	YES					42	13	42	13	0	0	YES
				W10/F18	28.2	28	0	0	YES					42	13	42	13	0	0	YES
				W11/F18	28.4	28	0.1	0.4	YES					43	14	42	13	2.3	7.1	YES
	R4**	Residential	#NAME?	W12/F18	28.6	29	0.1	0.3	YES	95.1	95	0	YES	43	13	43	13	0	0	YES
				W13/F18	28.7	29	0	0	YES					44	14	43	13	2.3	7.1	YES
				W14/F18	29.1	29	0.1	0.3	YES					43	13	43	13	0	0	YES
				W15/F18	29.2	29	0	0	YES					43	13	43	13	0	0	YES
	R5	Residential	#NAME?	W16/F18	29.4	29	0.1	0.3	YES	98.6	99	0	YES	43	13	43	13	0	0	YES
				W17/F18	29.6	30	0.1	0.3	YES					44	13	44	13	0	0	YES
				W18/F18	32.9	33	0	0	YES					69	24	69	24	0	0	YES
				W19/F18	30.6	31	0.1	0.3	YES					65	23	65	23	0	0	YES
				W20/F18	26.1	26	0	0	YES					57	20	57	20	0	0	YES
				W21/F18	19.4	19	0	0	YES					47	17	47	17	0	0	YES
F19	R1	Residential	#NAME?	W1/F19	23.8	24	0	0	YES	96.3	96	0	YES							
				W2/F19	22.2	22	0	0	YES					7	0	7	0	0	0	
				W3/F19	26.8	27	0	0	YES					41	13	41	13	0	0	YES
				W4/F19	27	27	0	0	YES					41	13	41	13	0	0	YES
	R2**	Residential	#NAME?	W5/F19	27.4	27	0	0	YES	93.3	93	0	YES	41	13	41	13	0	0	YES
				W6/F19	27.6	28	0	0	YES					41	13	41	13	0	0	YES
				W7/F19	28	28	0.1	0.4	YES					42	14	42	14	0	0	YES
	R3**	Residential	#NAME?	W8/F19	28.2	28	0.1	0.4	YES	98.4	98	0	YES	42	14	42	14	0	0	YES
				W9/F19	28.4	28	0.1	0.4	YES					43	14	42	13	2.3	7.1	YES
				W10/F19	28.6	29	0.1	0.3	YES					43	14	42	13	2.3	7.1	YES
				W11/F19	28.7	29	0	0	YES					43	14	42	13	2.3	7.1	YES
	R4**	Residential	#NAME?	W12/F19	28.9	29	0.1	0.3	YES	95.3	95	0	YES	44	14	43	13	2.3	7.1	YES
				W13/F19	29.1	29	0.1	0.3	YES					44	14	43	13	2.3	7.1	YES
				W14/F19	29.4	29	0.1	0.3	YES					43	13	43	13	0	0	YES
				W15/F19	29.6	30	0.1	0.3	YES					43	13	43	13	0	0	YES
	R5	Residential	#NAME?	W16/F19	29.7	30	0.1	0.3	YES	98.8	99	0	YES	43	13	43	13	0	0	YES

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS	PR	LOSS	LOSS	MEETS	CONS	PR	LOSS	MEETS	CONS		PR		LOSS %		MEETS
					%	%		%	CRITERIA	%	%	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
				W17/F19	29.9	30	0.1	0.3	YES					44	13	44	13	0	0	YES
				W18/F19	33.5	34	0	0	YES					70	25	70	25	0	0	YES
				W19/F19	31.1	31	0	0	YES					66	24	66	24	0	0	YES
				W20/F19	26.6	27	0	0	YES					58	21	58	21	0	0	YES
				W21/F19	19.6	20	0.1	0.5	YES					47	17	47	17	0	0	YES
F20	R1	Residential	#NAME?	W1/F20	23.9	24	0	0	YES	96.3	96	0	YES	8	0	8	0	0	0	
				W2/F20	22.3	22	0	0	YES					0	0	0	0	0	0	
				W3/F20	27.2	27	0.1	0.4	YES					41	13	41	13	0	0	YES
				W4/F20	27.4	27	0.1	0.4	YES					40	13	40	13	0	0	YES
	R2**	Residential	#NAME?	W5/F20	27.8	28	0.1	0.4	YES	93.4	93	0	YES	41	13	41	13	0	0	YES
				W6/F20	28	28	0.1	0.4	YES					41	13	41	13	0	0	YES
				W7/F20	28.4	28	0.1	0.4	YES					42	14	42	14	0	0	YES
	R3**	Residential	#NAME?	W8/F20	28.6	29	0.1	0.3	YES	98.4	98	0	YES	42	14	42	14	0	0	YES
				W9/F20	28.7	29	0.1	0.3	YES					43	14	42	13	2.3	7.1	YES
				W10/F20	28.9	29	0.1	0.3	YES					43	14	42	13	2.3	7.1	YES
				W11/F20	29.1	29	0.1	0.3	YES					43	14	42	13	2.3	7.1	YES
	R4**	Residential	#NAME?	W12/F20	29.2	29	0	0	YES	95.3	95	0	YES	44	14	43	13	2.3	7.1	YES
				W13/F20	29.4	29	0.1	0.3	YES					44	14	43	13	2.3	7.1	YES
				W14/F20	29.7	30	0.1	0.3	YES					44	14	43	13	2.3	7.1	YES
				W15/F20	29.9	30	0.1	0.3	YES					44	14	43	13	2.3	7.1	YES
	R5	Residential	#NAME?	W16/F20	30	30	0.1	0.3	YES	99	99	0	YES	44	14	43	13	2.3	7.1	YES
				W17/F20	30.2	30	0.1	0.3	YES					44	13	44	13	0	0	YES
				W18/F20	34.7	35	0.1	0.3	YES					73	25	73	25	0	0	YES
				W19/F20	32.8	33	0	0	YES					68	24	68	24	0	0	YES
				W20/F20	28.4	28	0.1	0.4	YES					60	21	60	21	0	0	YES
				W21/F20	20.1	20	0	0	YES					49	18	48	17	2	5.6	YES
THE ROPEWORKS																				
F00	R5	Residential	Bedroom	W20/F00	4.7	4.6	0.1	2.1	YES	4.5	4.6	-3.4	YES	15	7	15	7	0	0	YES
	R7	Residential	Bedroom	W22/F00	7.6	7.6	0	0	YES	33.4	33	0	YES	21	8	21	8	0	0	YES
	R8	Residential	Bedroom	W23/F00	10.3	10	0	0	YES	57.6	58	0	YES	26	8	26	8	0	0	YES
F01	R1	Residential	LKD	W1/F01	6.1	6.3	-0.2	-3.3	YES	58.7	62	-6.2	YES	14	6	14	6	0	0	YES
				W2/F01	9.4	9.5	-0.1	-1.1	YES					17	6	17	6	0	0	YES
				W3/F01	13.2	13	-0.1	-0.8	YES					8	0	8	0	0	0	
	R2	Residential	Bedroom	W4/F01	14	14	-0.2	-1.4	YES	78.7	79	-0.3	YES	0	0	0	0	0	0	
				W5/F01	7.9	7.9	0	0	YES					4	0	4	0	0	0	YES
	R10	Residential	Bedroom	W20/F01	6.6	6.5	0.1	1.5	YES	12.6	13	-4.5	YES	17	7	17	7	0	0	YES
	R12	Residential	Bedroom	W22/F01	9.5	9.5	0	0	YES	38.4	38	0	YES	24	9	24	9	0	0	YES
	R13	Residential	Bedroom	W23/F01	12.6	13	0	0	YES	61.6	62	0	YES	30	10	30	10	0	0	YES
F02	R1	Residential	LKD	W1/F02	7.5	7.6	-0.1	-1.3	YES	95.2	96	-1	YES	14	6	14	6	0	0	YES
				W2/F02	10.7	11	-0.1	-0.9	YES					18	6	18	6	0	0	YES
				W3/F02	16.6	17	-0.3	-1.8	YES					10	0	10	0	0	0	
	R2	Residential	Bedroom	W4/F02	17.9	18	-0.3	-1.7	YES	98.5	99	-0.1	YES	0	0	0	0	0	0	
				W5/F02	25.6	26	0	0	YES					29	0	29	0	0	0	YES
	R10	Residential	Bedroom	W20/F02	7.8	7.7	0.1	1.3	YES	13.7	14	-4.3	YES	15	7	15	7	0	0	YES
	R12	Residential	Bedroom	W22/F02	10.5	10	0.1	1	YES	40	40	0	YES	23	9	23	9	0	0	YES
	R13	Residential	Bedroom	W23/F02	13.5	13	0.1	0.7	YES	62.9	63	-0.2	YES	30	10	30	10	0	0	YES
F03	R1	Residential	LKD	W1/F03	9.2	9.3	-0.1	-1.1	YES	98.6	99	-0.4	YES	17	6	17	6	0	0	YES
				W2/F03	12.1	12	-0.2	-1.7	YES					20	6	20	6	0	0	YES
				W3/F03	18.3	19	-0.3	-1.6	YES					11	0	11	0	0	0	
	R2	Residential	Bedroom	W4/F03	19.3	20	-0.3	-1.6	YES	99.1	99	-0.1	YES	1	0	1	0	0	0	
				W5/F03	29.7	30	0	0	YES					37	2	37	2	0	0	YES
	R10	Residential	Bedroom	W20/F03	9.5	9.5	0	0	YES	17.3	18	-3.4	YES	18	7	18	7	0	0	YES
	R12	Residential	Bedroom	W22/F03	11.9	12	0	0	YES	41.7	42	-0.1	YES	22	9	22	9	0	0	YES
	R13	Residential	Bedroom	W23/F03	14.7	15	0	0	YES	64	64	-0.2	YES	29	10	29	10	0	0	YES
F04	R1	Residential	LKD	W1/F04	10.9	11	-0.1	-0.9	YES	97.5	98	-0.3	YES	17	6	17	6	0	0	YES
				W2/F04	13.5	14	-0.2	-1.5	YES					21	6	21	6	0	0	YES
				W3/F04	17.8	18	-0.3	-1.7	YES					8	0	8	0	0	0	

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS	PR	LOSS	LOSS	MEETS	CONS	PR	LOSS	MEETS	CONS		PR		LOSS %		MEETS
					%	%		%	CRITERIA	%	%	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
	R2	Residential	Bedroom	W4/F04	17.7	18	-0.3	-1.7	YES	96.4	96	0	YES	9	0	9	0	0	0	
				W5/F04	29.9	30	0	0	YES					37	6	37	6	0	0	YES
	R10	Residential	Bedroom	W20/F04	11.5	12	-0.1	-0.9	YES	28.7	29	-1.4	YES	21	8	21	8	0	0	YES
	R12	Residential	Bedroom	W22/F04	13.7	14	-0.1	-0.7	YES	49.9	50	-1	YES	22	9	22	9	0	0	YES
	R13	Residential	Bedroom	W23/F04	16	16	0	0	YES	69.1	69	0	YES	26	10	26	10	0	0	YES
14-32 HEWIT STREET																				
F01	R6	School	Unknown	W7/F01	0	0	0	0	YES	100	100	0	YES	0	0	0	0	0	0	
				W8/F01*	72.6	73	0	0	YES					59	0	59	0	0	0	
				W10/F01*	75	75	0	0	YES					59	0	59	0	0	0	
				W11/F01*	76.7	77	0	0	YES					59	0	59	0	0	0	
				W12/F01*	77.4	77	0	0	YES					54	0	54	0	0	0	
				W15/F01*	76.3	76	0	0	YES					49	0	49	0	0	0	
				W16/F01*	71.9	72	0.1	0.1	YES					35	0	35	0	0	0	
				W17/F01*	59.1	59	0.1	0.2	YES					13	0	13	0	0	0	
				W32/F01*	37.6	38	0.1	0.3	YES					5	0	5	0	0	0	YES
	R7	School	Unknown	W9/F01	4.4	4.4	0	0	YES	100	100	0	YES	7	0	7	0	0	0	YES
				W14/F01	10.1	10	0	0	YES					1	0	1	0	0	0	
				W18/F01*	69.5	70	0	0	YES					47	0	47	0	0	0	
				W19/F01*	71.7	72	0	0	YES					47	0	47	0	0	0	
				W20/F01*	73.4	73	0	0	YES					46	0	46	0	0	0	
				W21/F01*	74.4	74	0	0	YES					46	0	46	0	0	0	
				W22/F01*	73.7	74	0	0	YES					41	0	41	0	0	0	
				W24/F01*	69.7	70	0	0	YES					26	0	26	0	0	0	
				W25/F01*	57	57	0.1	0.2	YES					8	0	8	0	0	0	
				W31/F01*	34.3	34	0.1	0.3	YES					2	0	2	0	0	0	YES
2-4 LITTLE PETER STREET																				
F00	R2	Residential	Lobby	W5/F00	0.4	0.4	0	0	YES	0.2	0.2	0	YES							
F02	R1	Residential	Lobby	W1/F02	28	28	0	0	YES	100	100	0	YES							
				W2/F02	14.8	15	0	0	YES											
DEANSGATE LOCK 1																				
F00	R3	Residential	Lobby	W3/F00	21.6	22	0	0	YES	100	100	0	YES	53	15	53	15	0	0	YES
4 WHITWORTH STREET WEST																				
F00	R1	Residential	Unknown	W1/F00	15	15	0	0	YES	99.8	100	0	YES	20	3	20	3	0	0	YES
				W2/F00	21.2	21	0	0	YES					7	0	7	0	0	0	
				W3/F00	22.2	22	0	0	YES					3	0	3	0	0	0	
	R2	Residential	Unknown	W4/F00	21.9	22	0	0	YES	99.5	100	0	YES							
				W5/F00	21.6	22	0	0	YES											
	R3	Residential	Unknown	W6/F00	21.2	21	0	0	YES	99.5	100	0	YES							
				W7/F00	21	21	0	0	YES											
	R4	Residential	Unknown	W8/F00	20.5	21	0	0	YES	99.8	100	0	YES	8	0	8	0	0	0	
				W9/F00	16.6	17	-0.6	-3.6	YES					2	0	2	0	0	0	
				W10/F00	10.4	12	-1.1	-10.6	YES					19	5	21	5	0	0	YES
F01	R1	Residential	Unknown	W1/F01	18.6	19	0	0	YES	99.9	100	0	YES	27	7	27	7	0	0	YES
				W2/F01	23.1	23	0	0	YES					10	0	10	0	0	0	
				W3/F01	23.4	23	0	0	YES					3	0	3	0	0	0	
	R2	Residential	Unknown	W4/F01	23.2	23	0	0	YES	100	100	0	YES	10	0	10	0	0	0	
				W5/F01	25.3	25	0	0	YES					57	12	57	12	0	0	YES
				W6/F01	22.9	23	0	0	YES					10	0	10	0	0	0	
				W7/F01	25.4	26	-0.1	-0.4	YES					58	12	59	12	0	0	YES
	R3	Residential	Unknown	W8/F01	22.5	23	0	0	YES	100	100	0	YES	10	0	10	0	0	0	
				W9/F01	25.3	25	-0.1	-0.4	YES					54	10	56	11	0	0	YES
				W10/F01	22.2	22	0	0	YES					11	0	11	0	0	0	
				W11/F01	24.9	25	-0.1	-0.4	YES					54	10	54	10	0	0	YES
	R4	Residential	Unknown	W12/F01	21.7	22	0	0	YES	99.8	100	0	YES	8	0	8	0	0	0	

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS	PR	LOSS	LOSS	MEETS	CONS	PR	LOSS	MEETS	CONS		PR		LOSS %		MEETS
					%	%		%	CRITERIA	%	%	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
				W13/F01	17.4	18	-0.7	-4	YES					0	0	0	0	0	0	
				W14/F01	10.7	12	-1.6	-15	YES					24	9	25	9	0	0	YES
F02	R1	Residential	Unknown	W1/F02	22.6	23	0	0	YES	99.8	100	0	YES	32	7	32	7	0	0	YES
				W2/F02	25	25	0	0	YES					15	0	15	0	0	0	
				W3/F02	24.1	24	0	0	YES					2	0	2	0	0	0	
	R2	Residential	Unknown	W4/F02	23.9	24	0	0	YES	99.8	100	0	YES	9	0	9	0	0	0	
				W5/F02	28.8	29	0	0	YES					68	20	68	20	0	0	YES
				W6/F02	23.5	24	0	0	YES					9	0	9	0	0	0	
	R3	Residential	Unknown	W7/F02	23.2	23	0	0	YES	99.8	100	0	YES	0	0	0	0	0	0	
				W8/F02	22.8	23	0	0	YES					10	0	10	0	0	0	
				W9/F02	27.9	28	-0.1	-0.4	YES					62	17	62	17	0	0	YES
	R4	Residential	Unknown	W10/F02	22.4	22	0	0	YES	99.9	100	0	YES	9	0	9	0	0	0	
				W11/F02	17.9	19	-0.8	-4.5	YES					0	0	0	0	0	0	
				W12/F02	10.8	13	-2.1	-19.4	YES					24	10	26	10	0	0	YES
JURYS INN																				
B01	R1	Residential	Bedroom	W1/B01	11.2	11	0	0	YES	26.8	27	0	YES							
F00	R1	Residential	Bedroom	W1/F00	16.2	16	0	0	YES	80	80	0	YES	36	2	36	2	0	0	YES
	R2	Residential	Bedroom	W2/F00	15.6	16	0	0	YES	89.7	90	0	YES	32	2	32	2	0	0	YES
	R3	Residential	Bedroom	W3/F00	9.5	9.5	0	0	YES	70.9	71	0.1	YES							
	R4	Residential	Bedroom	W4/F00	10.5	11	0	0	YES	62.1	62	0	YES							
	R5	Residential	Bedroom	W5/F00	12.1	12	0	0	YES	70.2	70	0	YES							
	R6	Residential	Bedroom	W6/F00	12	12	0	0	YES	83.4	83	0	YES							
	R7**	Residential	Bedroom	W7/F00	10.5	11	0	0	YES	43.2	43	0	YES							
	R8	Residential	Bedroom	W8/F00	6.8	6.8	0	0	YES	8.7	8.7	0	YES							
	R9	Residential	Bedroom	W9/F00	7.8	7.8	0	0	YES	9.9	9.9	0	YES							
	R10	Residential	Bedroom	W10/F00	9.5	9.5	0	0	YES	22.8	23	0	YES							
	R11	Residential	Bedroom	W11/F00	10.6	11	0	0	YES	19.9	20	0	YES							
	R12**	Residential	Bedroom	W12/F00	12.3	12	0	0	YES	32.5	33	0	YES							
F01	R2	Residential	Bedroom	W2/F01	18.7	19	0	0	YES	52.2	52	0	YES	42	3	42	3	0	0	YES
	R3	Residential	Bedroom	W3/F01	17.9	18	0.1	0.6	YES	59.1	59	0	YES	40	2	40	2	0	0	YES
	R4	Residential	Bedroom	W4/F01	16.7	17	0	0	YES	58.8	59	0.1	YES	36	2	36	2	0	0	YES
	R6	Residential	Bedroom	W6/F01	10.9	11	0	0	YES	76.9	77	0.2	YES							
	R7	Residential	Bedroom	W7/F01	12.1	12	0	0	YES	62.7	63	0	YES							
	R8	Residential	Bedroom	W8/F01	13.8	14	0	0	YES	78.3	78	0	YES							
	R9	Residential	Bedroom	W9/F01	13.8	14	0	0	YES	89.9	90	0	YES							
	R10**	Residential	Bedroom	W10/F01	11.7	12	0	0	YES	43.6	44	0	YES							
	R11	Residential	Bedroom	W11/F01	8.2	8.2	0	0	YES	11.5	12	0	YES							
	R12	Residential	Bedroom	W12/F01	9.6	9.6	0	0	YES	13	13	0	YES							
	R13	Residential	Bedroom	W13/F01	11.7	12	0	0	YES	26.2	26	0	YES							
	R14	Residential	Bedroom	W14/F01	13	13	0	0	YES	23.4	23	0	YES							
	R15**	Residential	Bedroom	W15/F01	14.9	15	0	0	YES	35.2	35	0	YES							
F02	R1	Residential	Bedroom	W1/F02	33.2	33	0	0	YES	98.2	98	0	YES							
				W2/F02	27.1	27	0	0	YES											
	R3	Residential	Bedroom	W4/F02	20.6	21	0	0	YES	67.5	68	0	YES	46	3	46	3	0	0	YES
	R4	Residential	Bedroom	W5/F02	19.8	20	0	0	YES	69.2	69	0	YES	44	3	43	3	2.3	0	YES
	R5	Residential	Bedroom	W6/F02	18.7	19	0	0	YES	66	66	0.2	YES	43	2	42	2	2.3	0	YES
	R7	Residential	Bedroom	W8/F02	12	12	0	0	YES	79.4	79	0.2	YES							
	R8	Residential	Bedroom	W9/F02	13.6	14	0	0	YES	63.2	63	0	YES							
	R9	Residential	Bedroom	W10/F02	15.5	16	0	0	YES	79.7	80	0	YES							
	R10	Residential	Bedroom	W11/F02	15.3	15	0	0	YES	90.8	91	0	YES							
	R11**	Residential	Bedroom	W12/F02	12.7	13	0	0	YES	44.6	45	0	YES							
	R12	Residential	Bedroom	W13/F02	9.6	9.6	0	0	YES	14.3	14	0	YES							
	R13	Residential	Bedroom	W14/F02	11.3	11	0	0	YES	16.2	16	0	YES							
	R14	Residential	Bedroom	W15/F02	13.8	14	0	0	YES	30	30	0	YES							
	R15	Residential	Bedroom	W16/F02	15.3	15	0	0	YES	27.8	28	0	YES							
	R16**	Residential	Bedroom	W17/F02	17.3	17	0	0	YES	38.6	39	0	YES							
F03	R1	Residential	Bedroom	W1/F03	34.2	34	0	0	YES	98.3	98	0	YES							

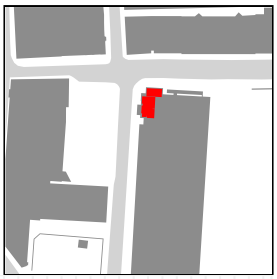
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)					NSL				APSH (WINDOW)						
					CONS	PR	LOSS	LOSS	MEETS	CONS	PR	LOSS	MEETS	CONS		PR		LOSS %		MEETS
					%	%		%	CRITERIA	%	%	%	CRITERIA	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	CRITERIA
				W2/F03	27.9	28	0	0	YES											
	R3	Residential	Bedroom	W4/F03	22.6	23	0	0	YES	76.9	77	0	YES	51	5	50	5	2	0	YES
	R4	Residential	Bedroom	W5/F03	21.9	22	0	0	YES	78.8	79	0	YES	49	5	48	5	2	0	YES
	R5	Residential	Bedroom	W6/F03	20.8	21	0	0	YES	76.2	76	0.2	YES	45	4	44	4	2.2	0	YES
	R7	Residential	Bedroom	W8/F03	13.5	13	0.1	0.7	YES	83.4	83	0.2	YES							
	R8	Residential	Bedroom	W9/F03	15.6	16	0.1	0.6	YES	64.3	64	0	YES							
	R9	Residential	Bedroom	W10/F03	17.6	18	0	0	YES	80.8	81	0	YES							
	R10	Residential	Bedroom	W11/F03	17.3	17	0	0	YES	91.7	92	0	YES							
	R11**	Residential	Bedroom	W12/F03	13.9	14	0	0	YES	45.2	45	0	YES							
	R12	Residential	Bedroom	W13/F03	11.2	11	0	0	YES	18.2	18	0	YES							
	R13	Residential	Bedroom	W14/F03	13.4	13	0	0	YES	21	21	0	YES							
	R14	Residential	Bedroom	W15/F03	16.5	17	0	0	YES	37	37	0	YES							
	R15	Residential	Bedroom	W16/F03	18.2	18	0	0	YES	35.8	36	0	YES							
	R16**	Residential	Bedroom	W17/F03	20.3	20	0	0	YES	43.7	44	-0.1	YES							
F04	R1	Residential	Unknown	W1/F04	34.2	34	0	0	YES	100	100	0	YES							
				W2/F04	27.8	28	0.1	0.4	YES											
	R3	Residential	Bedroom	W4/F04	24.8	25	0.1	0.4	YES	84	84	0	YES	56	9	55	9	1.8	0	YES
	R4	Residential	Bedroom	W5/F04	24.2	24	0	0	YES	90.3	90	0	YES	54	9	53	9	1.9	0	YES
	R5	Residential	Bedroom	W6/F04	23.2	23	0	0	YES	87.4	87	0.2	YES	51	9	50	9	2	0	YES
	R7	Residential	Bedroom	W8/F04	15.3	15	0	0	YES	89.7	90	0	YES							
	R8	Residential	Bedroom	W9/F04	18	18	0.1	0.6	YES	67	67	0	YES							
	R9	Residential	Bedroom	W10/F04	20.2	20	0	0	YES	83.5	83	0.2	YES							
	R10	Residential	Bedroom	W11/F04	19.8	20	0	0	YES	93	93	0	YES							
	R11**	Residential	Bedroom	W12/F04	15.4	15	0	0	YES	46.6	47	0	YES							
	R12	Residential	Bedroom	W13/F04	13.1	13	0	0	YES	23.9	24	0	YES							
	R13	Residential	Bedroom	W14/F04	16	16	0	0	YES	28.8	29	0	YES							
	R14	Residential	Bedroom	W15/F04	19.9	20	0	0	YES	50.8	51	0	YES							
	R15	Residential	Bedroom	W16/F04	21.7	22	0	0	YES	50.5	51	0	YES							
	R16**	Residential	Bedroom	W17/F04	23.9	24	0	0	YES	53.8	54	0	YES							
F05	R1	Residential	Unknown	W1/F05	35	35	0	0	YES	100	100	0	YES							
				W2/F05	28.4	28	0.1	0.4	YES											
	R3	Residential	Bedroom	W4/F05	26.9	27	0	0	YES	91.6	92	0	YES	62	13	61	13	1.6	0	YES
	R4	Residential	Bedroom	W5/F05	26.6	27	0.1	0.4	YES	96.9	97	0	YES	59	12	58	12	1.7	0	YES
	R5	Residential	Bedroom	W6/F05	25.7	26	0.1	0.4	YES	94.3	94	0.3	YES	57	14	56	14	1.8	0	YES
	R7	Residential	Bedroom	W8/F05	18.1	18	0.1	0.6	YES	95.3	95	0	YES							
	R8	Residential	Bedroom	W9/F05	21.2	21	0.1	0.5	YES	75.1	75	0	YES							
	R9	Residential	Bedroom	W10/F05	23.5	23	0.1	0.4	YES	91	91	0.1	YES							
	R10	Residential	Bedroom	W11/F05	22.9	23	0	0	YES	96.1	96	0	YES							
	R11**	Residential	Bedroom	W12/F05	17.6	18	0	0	YES	51.8	52	0	YES							
	R12	Residential	Bedroom	W13/F05	15.2	15	0	0	YES	33	33	0	YES							
	R13	Residential	Bedroom	W14/F05	19.3	19	0	0	YES	41.6	42	0	YES							
	R14	Residential	Bedroom	W15/F05	24.1	24	0	0	YES	77.3	77	0	YES							
	R15	Residential	Bedroom	W16/F05	26	26	0	0	YES	77.9	78	0	YES							
	R16**	Residential	Bedroom	W17/F05	28	28	0	0	YES	79.2	79	0	YES							
F06	R1	Residential	Unknown	W1/F06	36.7	37	0	0	YES	98.1	98	0	YES							
	R3	Residential	Bedroom	W3/F06	28.9	29	0.1	0.3	YES	98.2	98	0	YES	70	21	70	21	0	0	YES
	R4	Residential	Bedroom	W4/F06	28.7	29	0	0	YES	99.1	99	0	YES	69	20	69	20	0	0	YES
	R5	Residential	Bedroom	W5/F06	28	28	0.1	0.4	YES	99	99	0.2	YES	62	19	62	19	0	0	YES
	R7	Residential	Bedroom	W7/F06	22.1	22	0.1	0.5	YES	98	98	0	YES							
	R8	Residential	Bedroom	W8/F06	25	25	0	0	YES	92.3	92	0	YES							
	R9	Residential	Bedroom	W9/F06	27.2	27	0	0	YES	98	98	0	YES							
	R10	Residential	Bedroom	W10/F06	26.8	27	0	0	YES	98.5	99	0	YES							
	R11**	Residential	Bedroom	W11/F06	21.2	21	0	0	YES	71.5	72	0	YES							
	R12	Residential	Bedroom	W12/F06	17.6	18	0	0	YES	51.4	51	0	YES							
	R13	Residential	Bedroom	W13/F06	23.7	24	0	0	YES	64.4	64	0	YES							
	R14	Residential	Bedroom	W14/F06	29.1	29	0	0	YES	98.5	99	0	YES							
	R15	Residential	Bedroom	W15/F06	30.8	31	0	0	YES	97.5	98	0	YES							
	R16**	Residential	Bedroom	W16/F06	32.3	32	0	0	YES	98.1	98	0	YES							

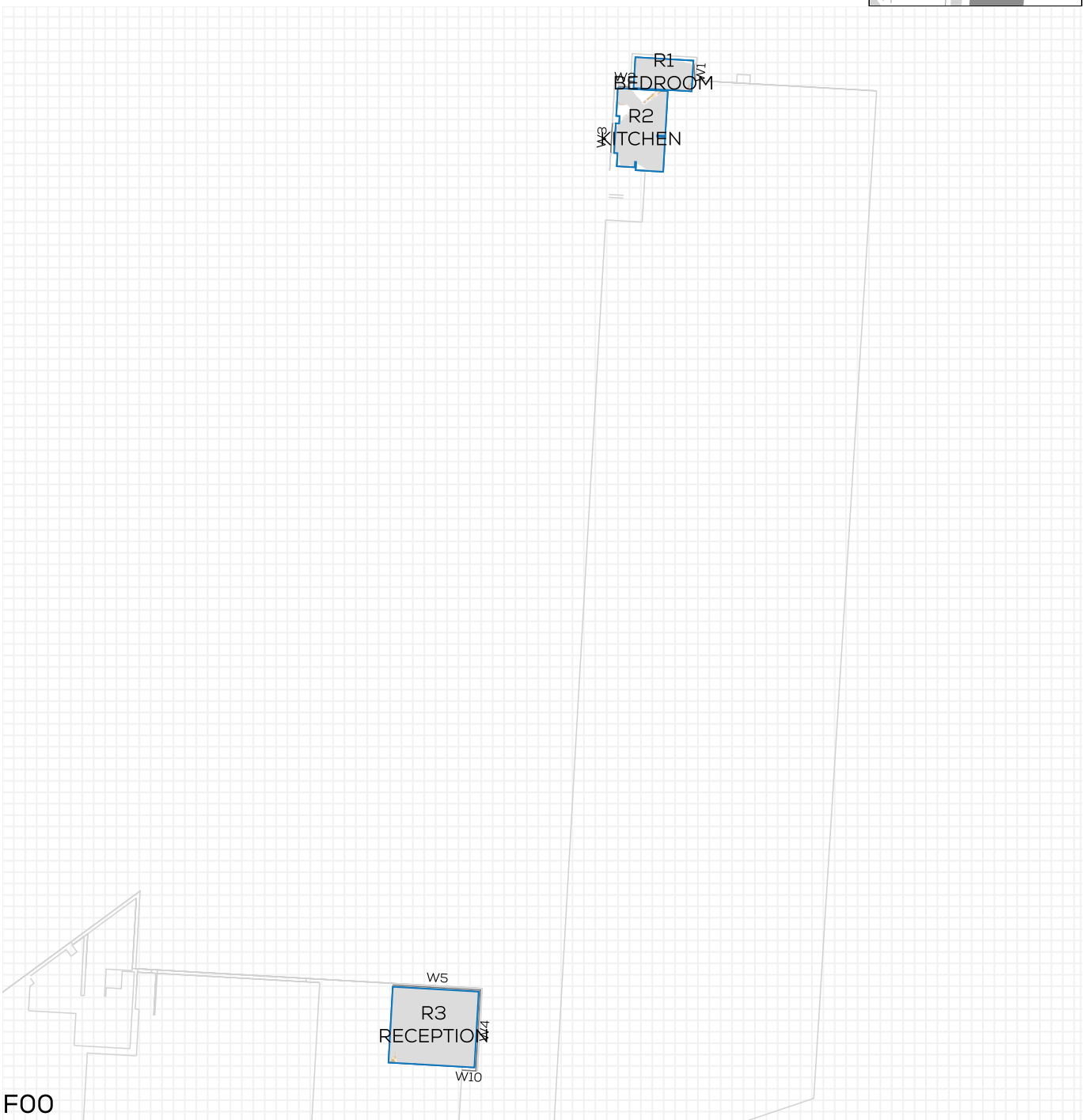
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	HILL QUAYS
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL1
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





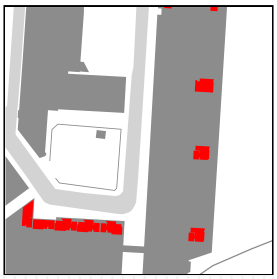
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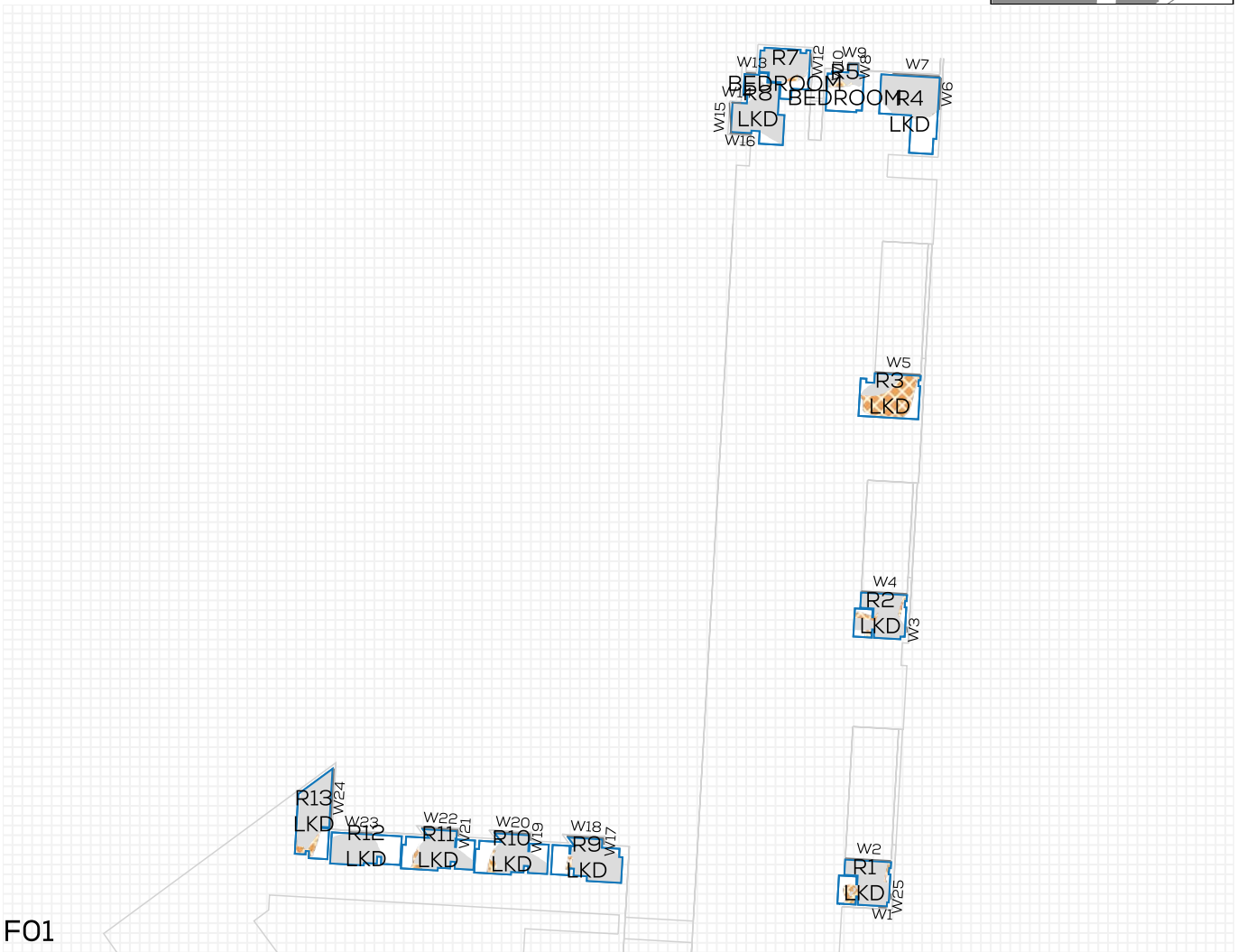
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
HILL QUAYS								
F00	R1	RESIDENTIAL	BEDROOM	13.8	95.2	94.1	0.2	1.2
F00	R2	RESIDENTIAL	KITCHEN	29.9	88.4	85.9	0.7	2.8
F00	R3	RESIDENTIAL	RECEPTION	50.2	100	99.4	0.3	0.6

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: HILL QUAYS
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL2
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F01

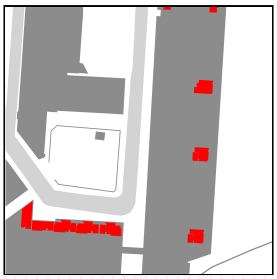
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
HILL QUAYS								
F01	R1	RESIDENTIAL	LKD	22.2	84.3	70.9	3.0	15.9
F01	R2	RESIDENTIAL	LKD	22.2	86.1	75.4	2.4	12.5
F01	R3	RESIDENTIAL	LKD	25.9	80	21.1	15.2	73.6
F01	R4	RESIDENTIAL	LKD	33.8	68.3	67.9	0.1	0.6
F01	R5	RESIDENTIAL	BEDROOM	15.3	34.7	28.5	0.9	17.8
F01	R7	RESIDENTIAL	BEDROOM	19.2	76.3	71.8	0.9	5.9
F01	R8	RESIDENTIAL	LKD	27.5	88.2	86.1	0.6	2.4
F01	R9	RESIDENTIAL	LKD	25.2	77.3	74.4	0.7	3.8
F01	R10	RESIDENTIAL	LKD	25.3	68.4	63.3	1.3	7.3
F01	R11	RESIDENTIAL	LKD	25.2	69.9	66	1.0	5.7
F01	R12	RESIDENTIAL	LKD	21.5	68.3	68.3	0.0	0
F01	R13	RESIDENTIAL	LKD	25.7	82.4	73	2.4	11.4

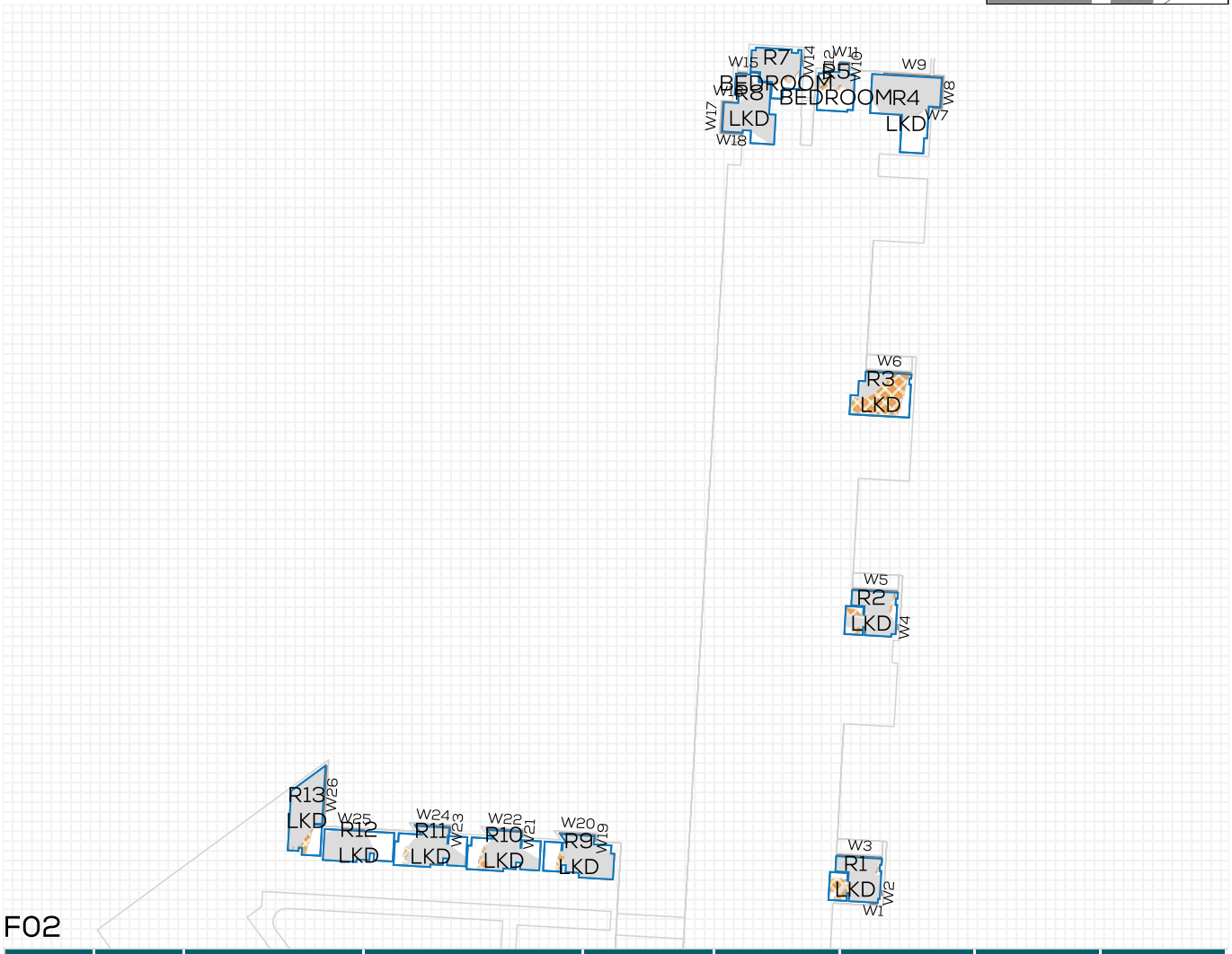
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	HILL QUAYS
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL3
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





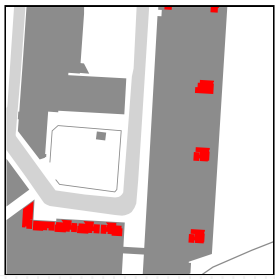
F02

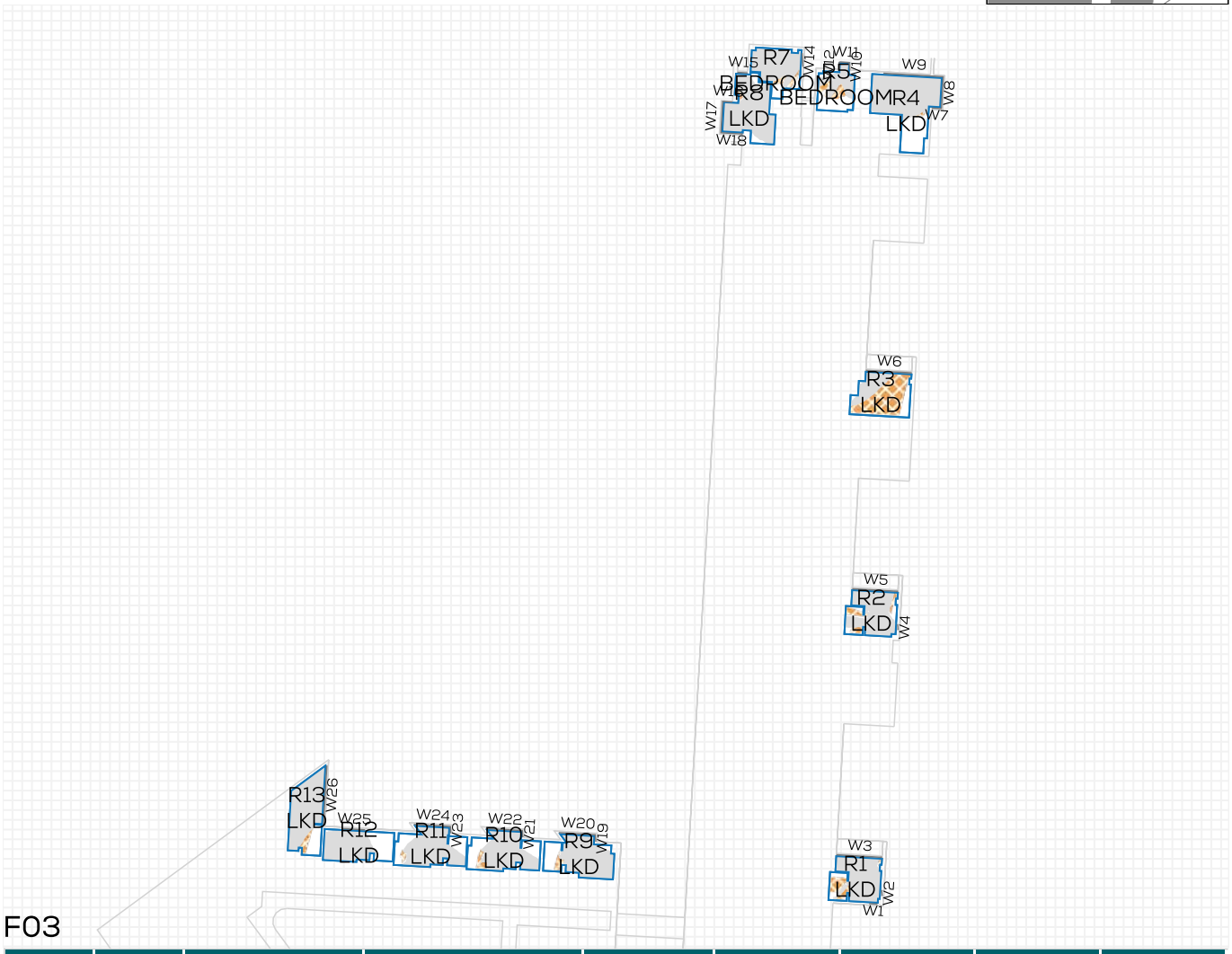
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
HILL QUAYS								
F02	R1	RESIDENTIAL	LKD	22.2	89.4	73.2	3.6	18.1
F02	R2	RESIDENTIAL	LKD	22.2	87.7	75.9	2.6	13.4
F02	R3	RESIDENTIAL	LKD	24.5	86.2	23.9	15.3	72.2
F02	R4	RESIDENTIAL	LKD	37.2	71.5	70.9	0.2	0.9
F02	R5	RESIDENTIAL	BEDROOM	15.3	44.4	36	1.3	19
F02	R7	RESIDENTIAL	BEDROOM	19.2	80.9	73.6	1.4	9
F02	R8	RESIDENTIAL	LKD	27.5	91.4	87.8	1.0	4
F02	R9	RESIDENTIAL	LKD	25.2	78.7	75.1	0.9	4.7
F02	R10	RESIDENTIAL	LKD	25.3	70.1	65.6	1.1	6.4
F02	R11	RESIDENTIAL	LKD	25.2	71.7	68.6	0.8	4.4
F02	R12	RESIDENTIAL	LKD	21.5	68.5	68.5	0.0	0
F02	R13	RESIDENTIAL	LKD	25.7	86.5	79.3	1.8	8.3

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: HILL QUAYS
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL4
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F03

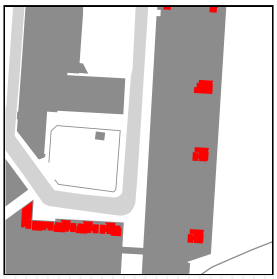
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
HILL QUAYS								
F03	R1	RESIDENTIAL	LKD	22.2	91.5	76.2	3.4	16.7
F03	R2	RESIDENTIAL	LKD	22.2	88.6	76.4	2.7	13.8
F03	R3	RESIDENTIAL	LKD	24.5	87.2	27.7	14.6	68.2
F03	R4	RESIDENTIAL	LKD	37.2	75.2	73.8	0.5	1.8
F03	R5	RESIDENTIAL	BEDROOM	15.3	63.8	45.9	2.7	28
F03	R7	RESIDENTIAL	BEDROOM	19.2	85.4	76	1.8	11
F03	R8	RESIDENTIAL	LKD	27.5	93.2	89.7	0.9	3.7
F03	R9	RESIDENTIAL	LKD	25.2	79.7	75.9	0.9	4.7
F03	R10	RESIDENTIAL	LKD	25.3	71.7	67.1	1.2	6.5
F03	R11	RESIDENTIAL	LKD	25.2	74.1	72.2	0.5	2.6
F03	R12	RESIDENTIAL	LKD	21.5	68.7	68.7	0.0	0
F03	R13	RESIDENTIAL	LKD	25.7	86.6	80.2	1.7	7.4

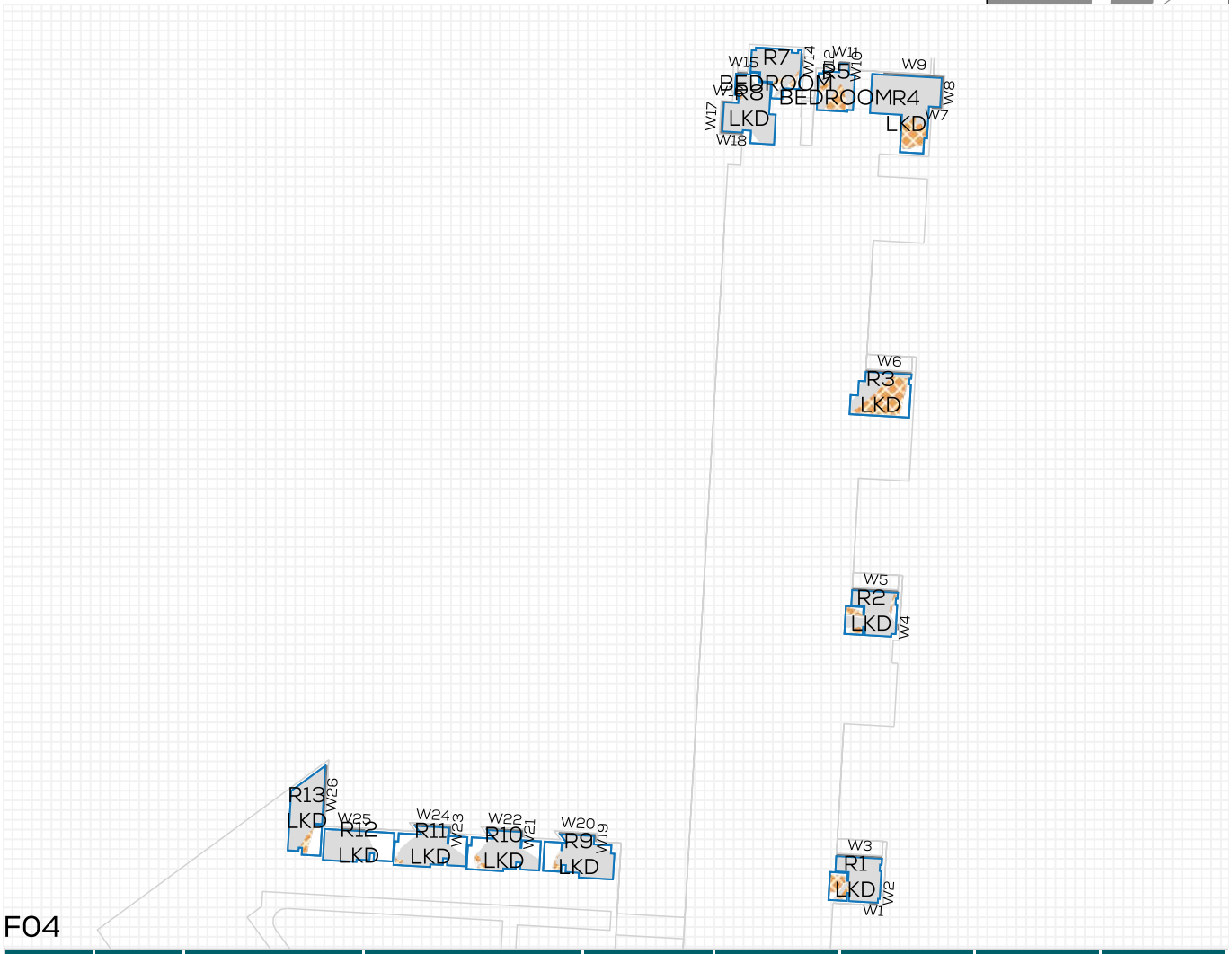
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	HILL QUAYS
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL5
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F04

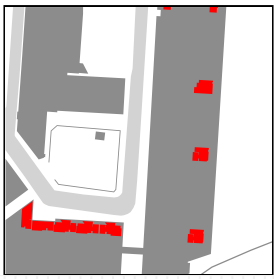
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
HILL QUAYS								
F04	R1	RESIDENTIAL	LKD	22.2	93.4	78.5	3.3	15.9
F04	R2	RESIDENTIAL	LKD	22.2	88.9	76.9	2.7	13.4
F04	R3	RESIDENTIAL	LKD	24.5	87.4	33.2	13.3	62
F04	R4	RESIDENTIAL	LKD	37.2	96.8	79.3	6.5	18.1
F04	R5	RESIDENTIAL	BEDROOM	15.3	90.6	59.3	4.8	34.6
F04	R7	RESIDENTIAL	BEDROOM	19.2	88.8	78.8	1.9	11.2
F04	R8	RESIDENTIAL	LKD	27.5	94.2	91	0.9	3.5
F04	R9	RESIDENTIAL	LKD	25.2	80.9	77.8	0.8	3.8
F04	R10	RESIDENTIAL	LKD	25.3	74.1	69.8	1.1	5.8
F04	R11	RESIDENTIAL	LKD	25.2	78.9	77	0.5	2.5
F04	R12	RESIDENTIAL	LKD	21.5	69	69	0.0	0
F04	R13	RESIDENTIAL	LKD	25.7	86.7	80.2	1.7	7.5

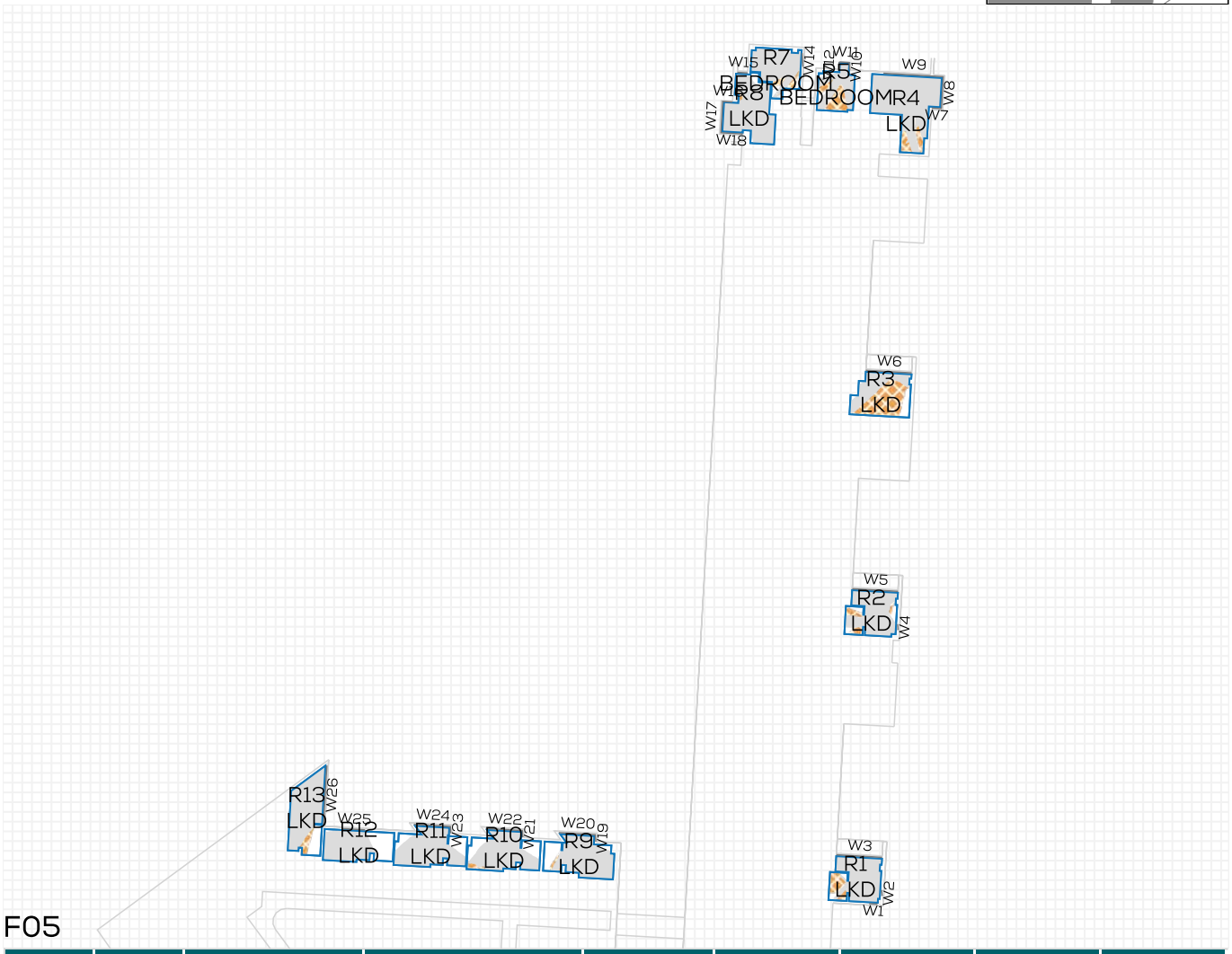
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	HILL QUAYS
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL6
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





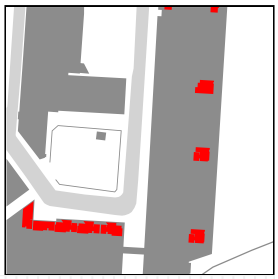
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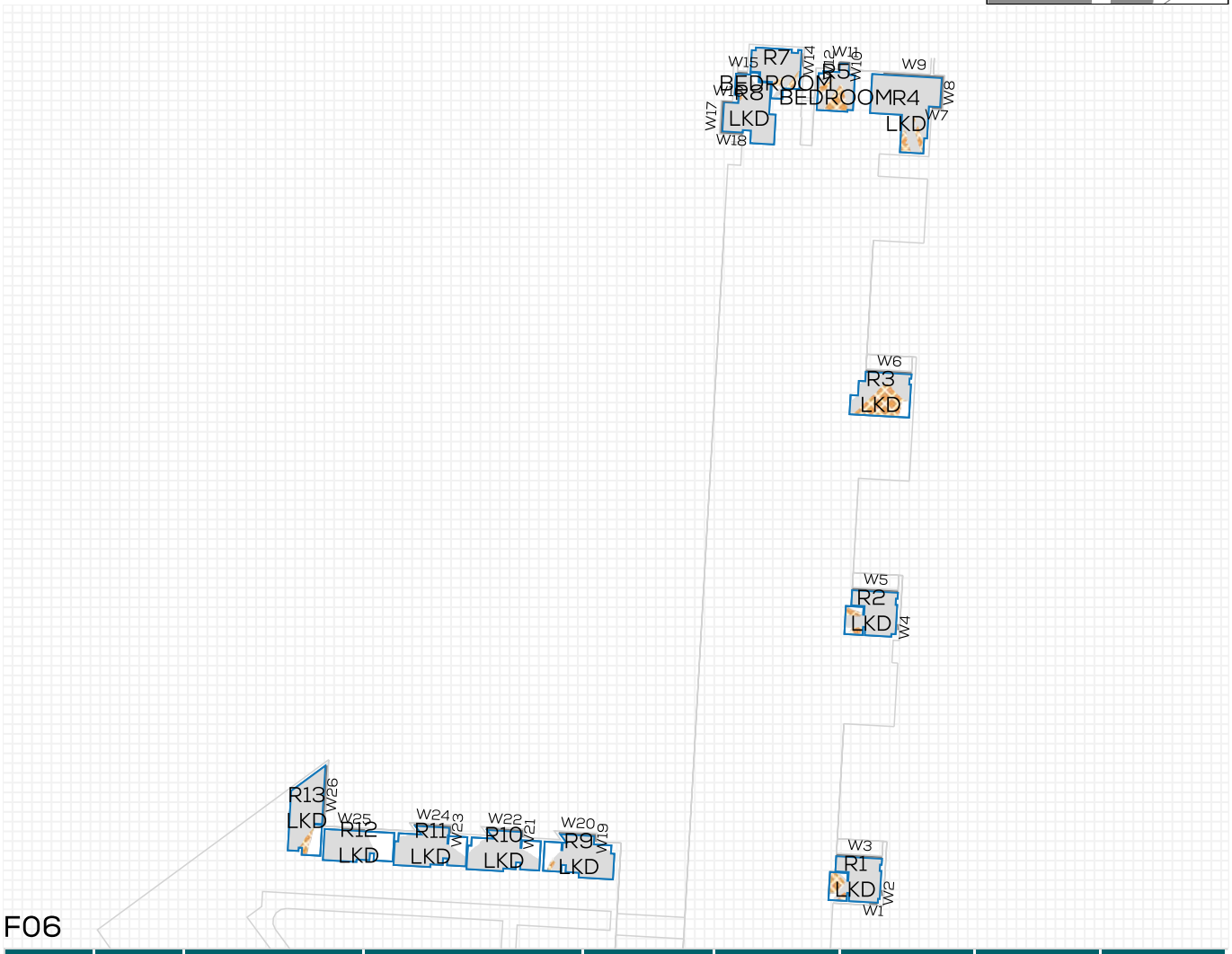
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
HILL QUAYS								
F05	R1	RESIDENTIAL	LKD	22.2	95.6	80.3	3.4	16
F05	R2	RESIDENTIAL	LKD	22.2	89.4	79.4	2.2	11.3
F05	R3	RESIDENTIAL	LKD	24.5	88.6	38.6	12.3	56.4
F05	R4	RESIDENTIAL	LKD	37.2	99.4	90.4	3.3	9
F05	R5	RESIDENTIAL	BEDROOM	15.3	92.5	59.9	5.0	35.2
F05	R7	RESIDENTIAL	BEDROOM	19.2	89.3	79.3	1.9	11.2
F05	R8	RESIDENTIAL	LKD	27.5	95.8	92.6	0.9	3.3
F05	R9	RESIDENTIAL	LKD	25.2	82.2	80.1	0.5	2.5
F05	R10	RESIDENTIAL	LKD	25.3	79	76	0.8	3.8
F05	R11	RESIDENTIAL	LKD	25.2	83	83	0.0	0
F05	R12	RESIDENTIAL	LKD	21.5	69	69	0.0	0
F05	R13	RESIDENTIAL	LKD	25.7	86.7	80.3	1.7	7.5

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: HILL QUAYS
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL7
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F06

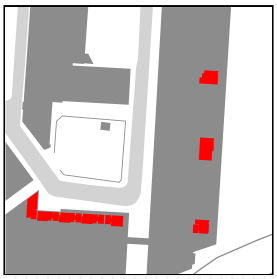
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
HILL QUAYS								
F06	R1	RESIDENTIAL	LKD	22.2	96	81.6	3.2	15
F06	R2	RESIDENTIAL	LKD	22.2	93.4	85.1	1.8	8.9
F06	R3	RESIDENTIAL	LKD	24.5	92.2	50.4	10.2	45.3
F06	R4	RESIDENTIAL	LKD	37.2	99.6	91.2	3.2	8.5
F06	R5	RESIDENTIAL	BEDROOM	15.3	92.6	60	5.0	35.2
F06	R7	RESIDENTIAL	BEDROOM	19.2	89.6	79.6	1.9	11.1
F06	R8	RESIDENTIAL	LKD	27.5	95.9	92.9	0.8	3.2
F06	R9	RESIDENTIAL	LKD	25.2	83.7	81.4	0.6	2.7
F06	R10	RESIDENTIAL	LKD	25.3	84.6	84.6	0.0	0
F06	R11	RESIDENTIAL	LKD	25.2	87.6	87.6	0.0	0
F06	R12	RESIDENTIAL	LKD	21.5	69.2	69.2	0.0	0
F06	R13	RESIDENTIAL	LKD	25.7	86.7	80.3	1.6	7.4

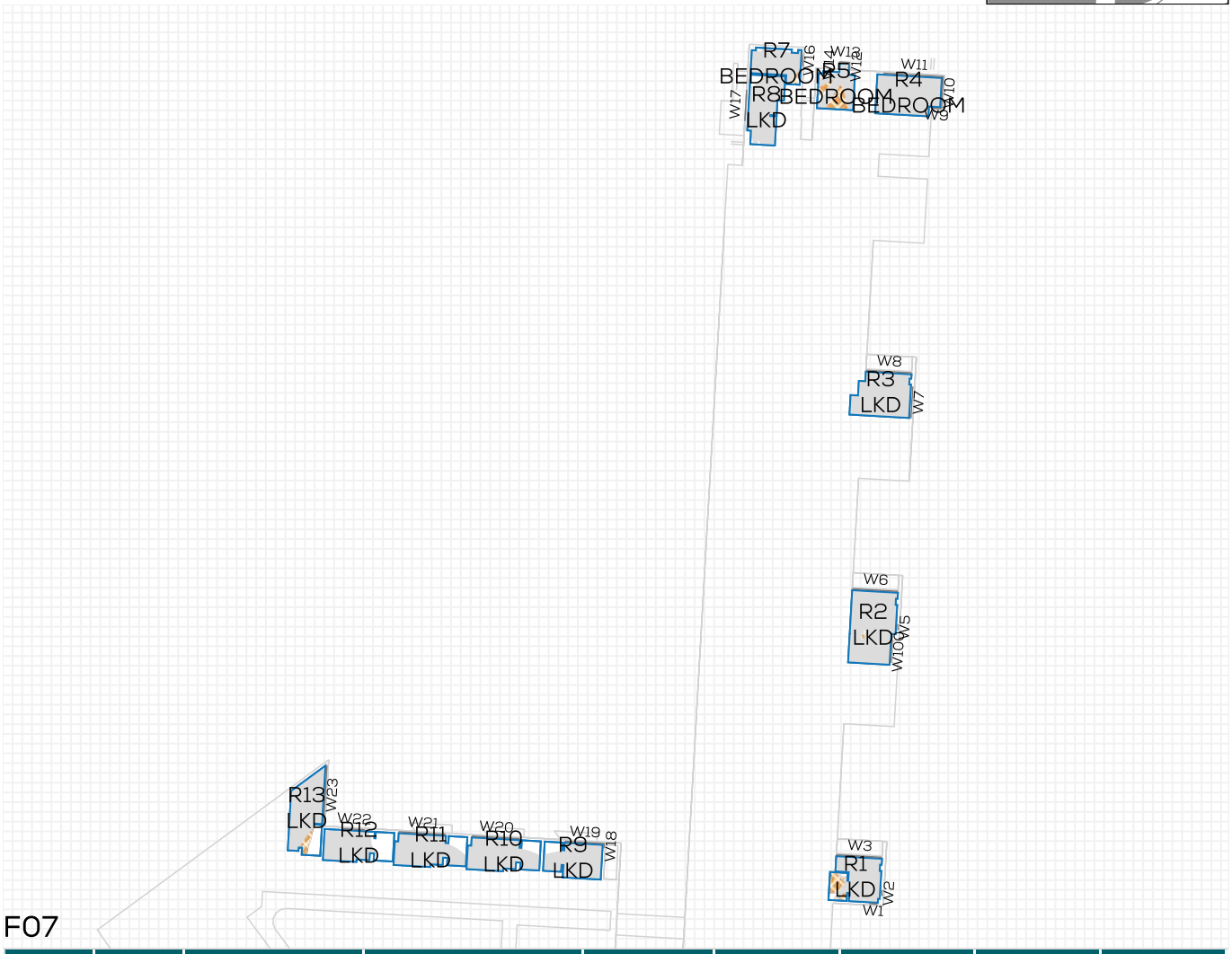
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	HILL QUAYS
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL8
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F07

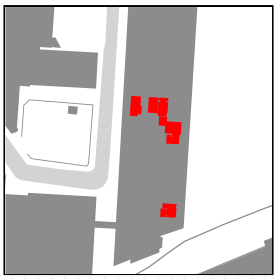
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
HILL QUAYS								
F07	R1	RESIDENTIAL	LKD	22.2	96.1	81.9	3.2	14.8
F07	R2	RESIDENTIAL	LKD	33.3	99.7	98.6	0.3	1
F07	R3	RESIDENTIAL	LKD	24.7	100	100	0.0	0
F07	R4	RESIDENTIAL	BEDROOM	25.2	100	100	0.0	0
F07	R5	RESIDENTIAL	BEDROOM	14.8	91.9	61.2	4.5	33.5
F07	R7	RESIDENTIAL	BEDROOM	14.4	91.9	87.6	0.6	4.7
F07	R8	RESIDENTIAL	LKD	21.8	92.8	91.6	0.3	1.2
F07	R9	RESIDENTIAL	LKD	19.7	89.8	89.6	0.0	0.2
F07	R10	RESIDENTIAL	LKD	22.6	90.3	90.3	0.0	0
F07	R11	RESIDENTIAL	LKD	22.3	88.8	88.8	0.0	0
F07	R12	RESIDENTIAL	LKD	21.4	70.1	70.1	0.0	0
F07	R13	RESIDENTIAL	LKD	25.7	86.8	80.3	1.7	7.4

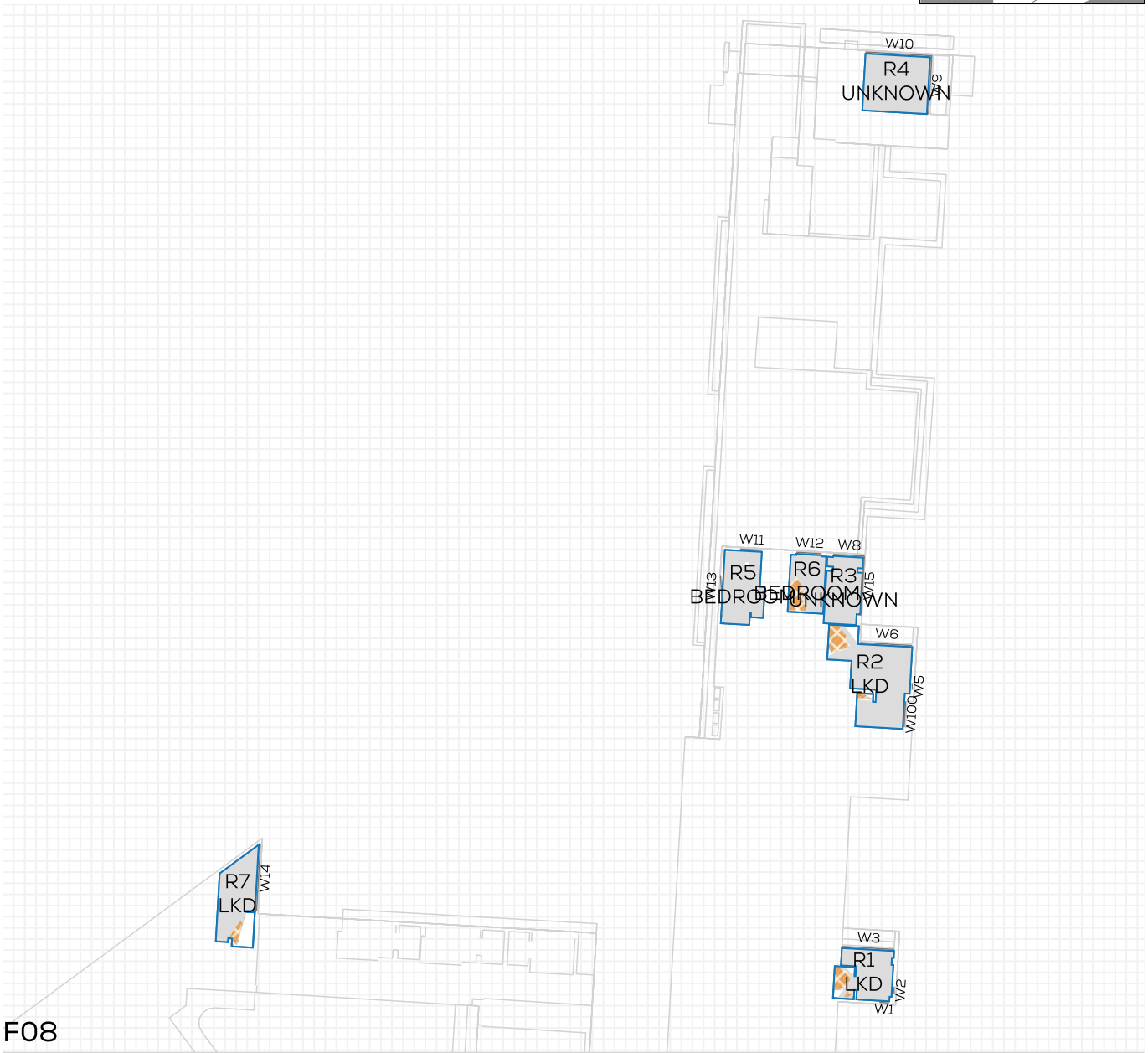
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	HILL QUAYS
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL9
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F08

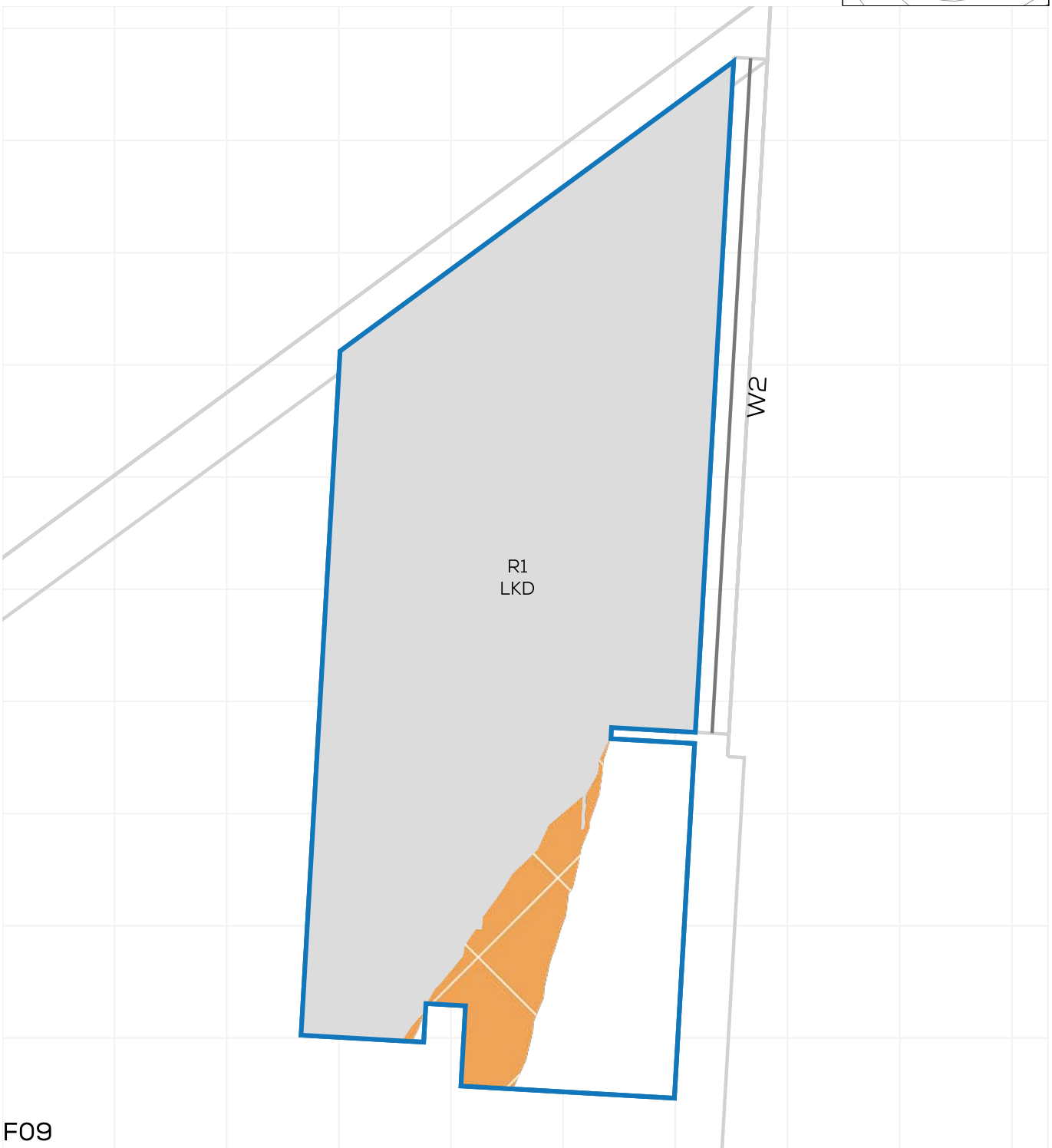
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
HILL QUAYS								
F08	R1	RESIDENTIAL	LKD	22.2	96.2	83.4	2.9	13.4
F08	R2	RESIDENTIAL	LKD	42.8	96.3	86.7	4.1	9.9
F08	R3	RESIDENTIAL	UNKNOWN	18.8	100	100	0.0	0
F08	R4	RESIDENTIAL	UNKNOWN	29.6	100	100	0.0	0
F08	R5	RESIDENTIAL	BEDROOM	22.6	99.1	97.5	0.4	1.6
F08	R6	RESIDENTIAL	BEDROOM	16.6	99.9	77.1	3.8	22.8
F08	R7	RESIDENTIAL	LKD	25.7	86.7	80.5	1.6	7.2

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	HILL QUAYS
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL10
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



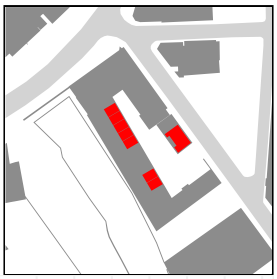
F09

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
HILL QUAYS								
F09	R1	RESIDENTIAL	LKD	25.7	86.7	80.4	1.6	7.3

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: RIVERSIDE MEWS
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL11
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F00

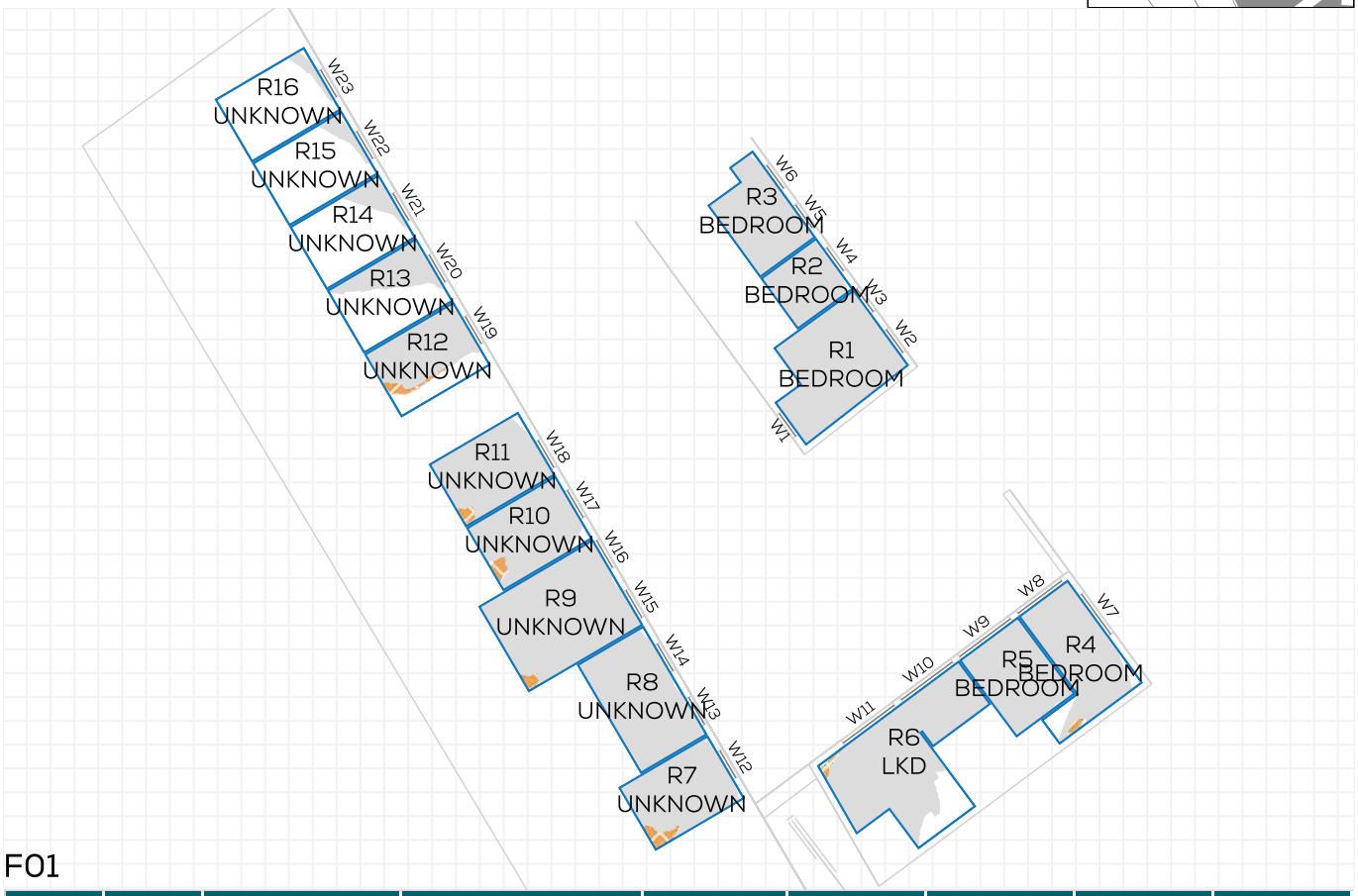
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
RIVERSIDE MEWS								
F00	R1	RESIDENTIAL	LKD	36.9	99.6	99.6	0.0	0
F00	R2	RESIDENTIAL	UNKNOWN	12.8	97.1	80.6	2.1	17
F00	R3	RESIDENTIAL	UNKNOWN	12.8	95.6	89.3	0.8	6.5
F00	R4	RESIDENTIAL	UNKNOWN	12.8	38.1	36.6	0.2	4.1
F00	R5	RESIDENTIAL	UNKNOWN	12.8	26.7	26.7	0.0	0
F00	R6	RESIDENTIAL	UNKNOWN	12.8	14.4	14.4	0.0	0
F00	R7	RESIDENTIAL	UNKNOWN	12.8	8.1	8.1	0.0	0
F00	R8	RESIDENTIAL	UNKNOWN	12.8	5	5	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: RIVERSIDE MEWS
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL12
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F01

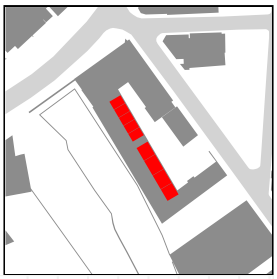
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
RIVERSIDE MEWS								
F01	R1	RESIDENTIAL	BEDROOM	18.9	99.7	99.7	0.0	0
F01	R2	RESIDENTIAL	BEDROOM	7.3	98.6	98.6	0.0	0
F01	R3	RESIDENTIAL	BEDROOM	11.2	98.9	98.9	0.0	0
F01	R4	RESIDENTIAL	BEDROOM	15.3	91.1	89.5	0.3	1.8
F01	R5	RESIDENTIAL	BEDROOM	11.9	99.6	99.6	0.0	0
F01	R6	RESIDENTIAL	LKD	27.1	87.9	86.9	0.3	1.2
F01	R7	RESIDENTIAL	UNKNOWN	12.8	98.9	93	0.8	5.9
F01	R8	RESIDENTIAL	UNKNOWN	16.6	99	99	0.0	0
F01	R9	RESIDENTIAL	UNKNOWN	22.5	99.7	98	0.4	1.7
F01	R10	RESIDENTIAL	UNKNOWN	12.8	96.4	92.3	0.5	4.3
F01	R11	RESIDENTIAL	UNKNOWN	12.8	98.4	95.2	0.4	3.3
F01	R12	RESIDENTIAL	UNKNOWN	12.8	75.8	69.5	0.8	8.4
F01	R13	RESIDENTIAL	UNKNOWN	12.8	38.2	38.2	0.0	0
F01	R14	RESIDENTIAL	UNKNOWN	12.8	15.3	15.3	0.0	0
F01	R15	RESIDENTIAL	UNKNOWN	12.8	9.3	9.3	0.0	0.1
F01	R16	RESIDENTIAL	UNKNOWN	12.8	6.4	6.4	0.0	0

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	RIVERSIDE MEWS
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL13
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
RIVERSIDE MEWS								
F02	R1	RESIDENTIAL	UNKNOWN	18.9	89.8	84	1.1	6.5
F02	R2	RESIDENTIAL	UNKNOWN	22.4	86.6	81.4	1.2	6
F02	R3	RESIDENTIAL	UNKNOWN	23.8	85.4	80.9	1.0	5.2
F02	R4	RESIDENTIAL	UNKNOWN	20.7	86	81.2	1.0	5.5
F02	R5	RESIDENTIAL	UNKNOWN	12.8	80.2	76	0.5	5.2
F02	R6	RESIDENTIAL	UNKNOWN	12.8	41.6	41.6	0.0	0
F02	R7	RESIDENTIAL	UNKNOWN	12.8	18.6	18.6	0.0	0
F02	R8	RESIDENTIAL	UNKNOWN	12.8	13.1	13.1	0.0	0
F02	R9	RESIDENTIAL	UNKNOWN	12.8	10.6	10.6	0.0	0

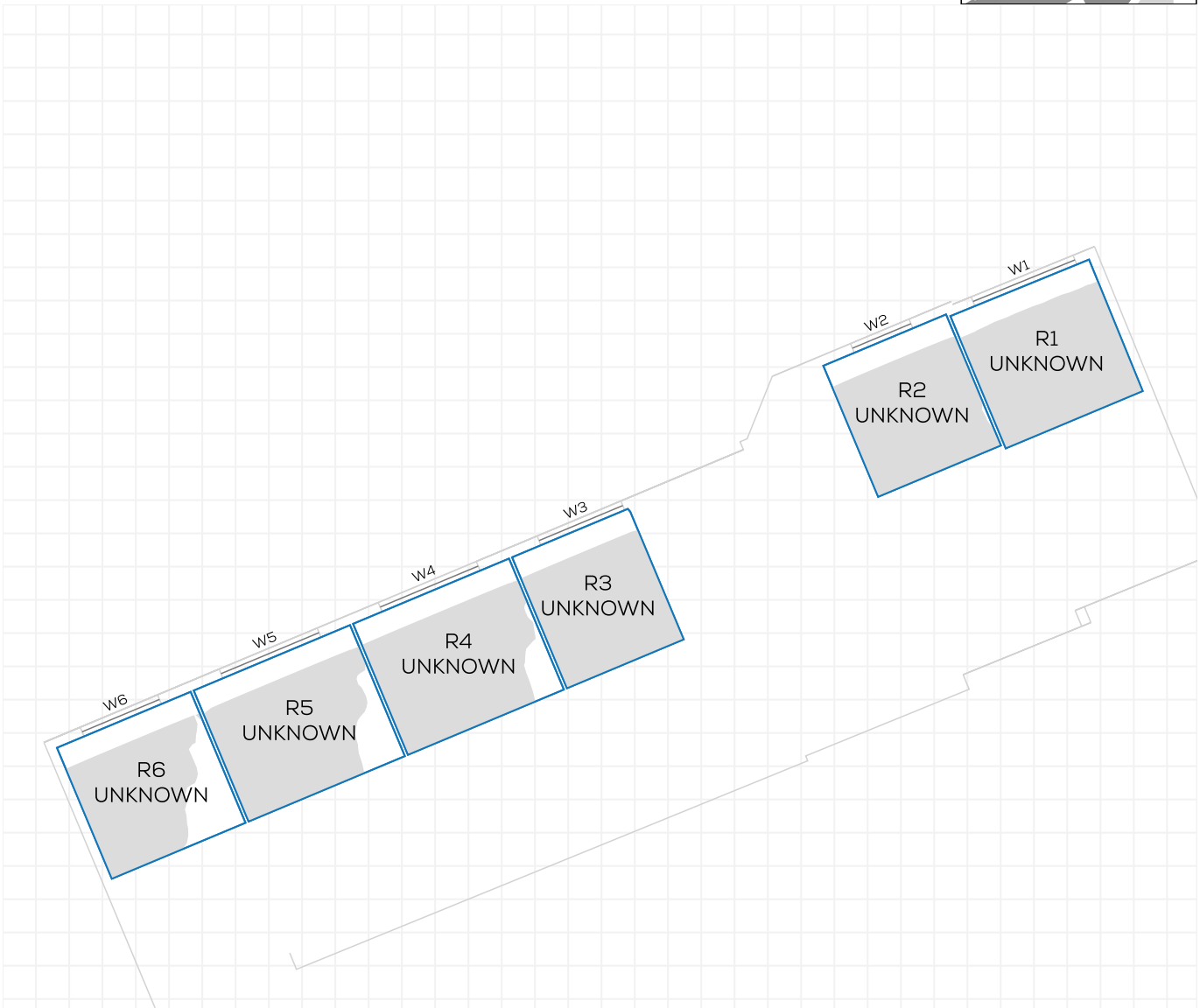
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	THE RHINE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL14
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





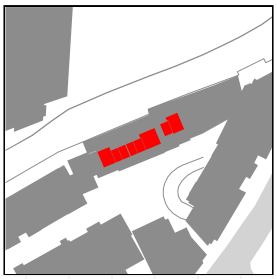
B01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE RHINE								
B01	R1	RESIDENTIAL	UNKNOWN	19.2	84	84	0.0	0
B01	R2	RESIDENTIAL	UNKNOWN	17.1	83.7	83.7	0.0	0
B01	R3	RESIDENTIAL	UNKNOWN	16.2	84.2	84.2	0.0	0
B01	R4	RESIDENTIAL	UNKNOWN	21.7	77.2	77.2	0.0	0
B01	R5	RESIDENTIAL	UNKNOWN	21.7	72.9	72.9	0.0	0
B01	R6	RESIDENTIAL	UNKNOWN	18.6	64.5	64.5	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: THE RHINE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL15
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





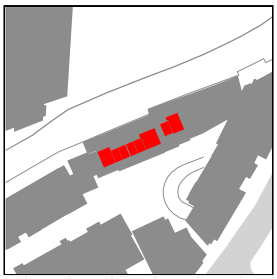
F00

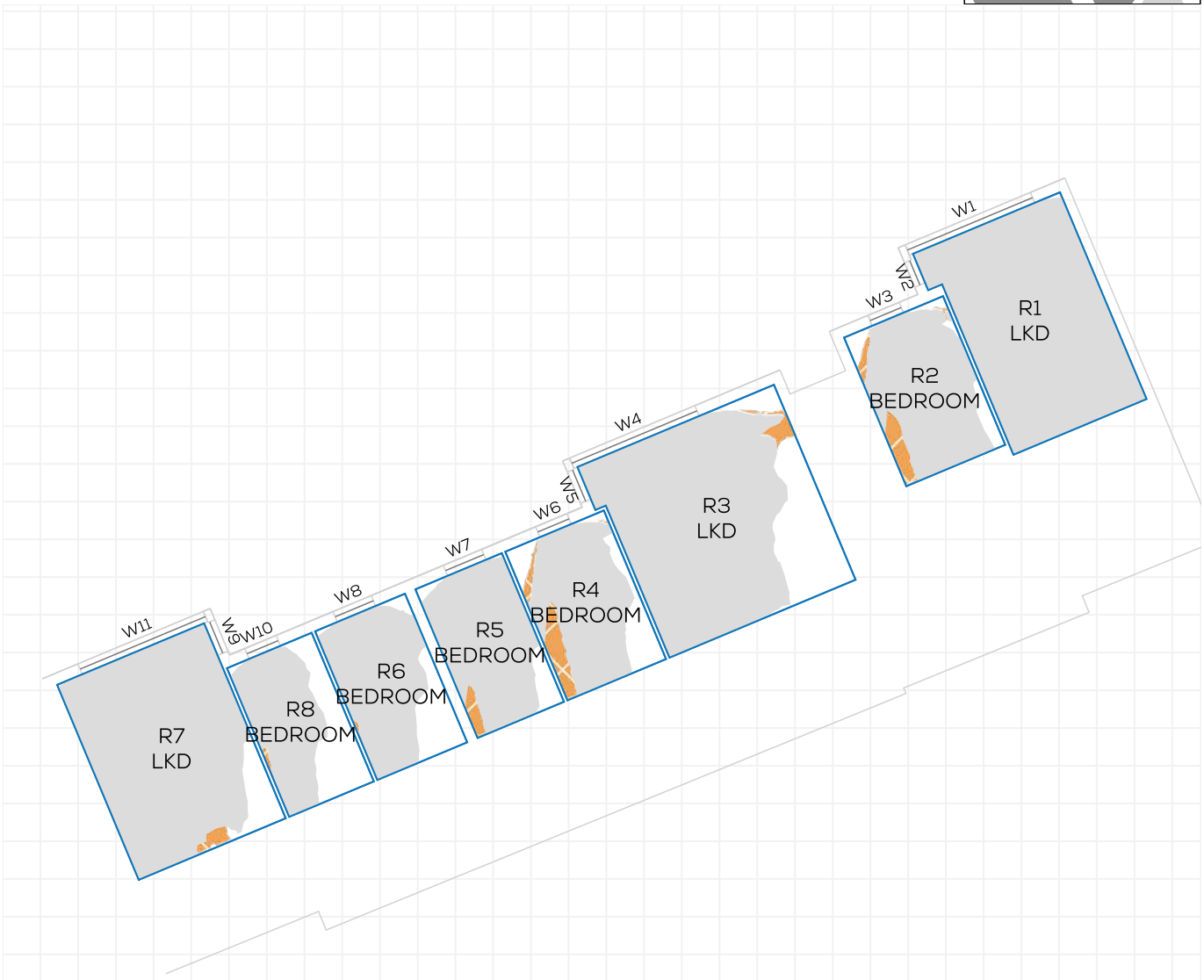
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE RHINE								
F00	R1	RESIDENTIAL	LKD	23.1	95.3	95.2	0.0	0
F00	R2	RESIDENTIAL	BEDROOM	12.1	81.6	73.6	1.0	9.7
F00	R3	RESIDENTIAL	LKD	30.3	73.3	69.8	1.0	4.7
F00	R4	RESIDENTIAL	BEDROOM	12.1	73.3	63.4	1.2	13.5
F00	R5	RESIDENTIAL	BEDROOM	10.6	89.2	85.6	0.4	4.1
F00	R6	RESIDENTIAL	BEDROOM	11.0	74.8	74.5	0.0	0.4
F00	R7	RESIDENTIAL	BEDROOM	10.4	57.6	56.7	0.1	1.5
F00	R8	RESIDENTIAL	LKD	23.7	87.5	83.9	0.8	4

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: THE RHINE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL16
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F01

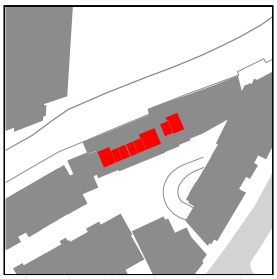
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE RHINE								
F01	R1	RESIDENTIAL	LKD	23.1	99.9	99.8	0.0	0
F01	R2	RESIDENTIAL	BEDROOM	12.1	90.1	82.3	0.9	8.7
F01	R3	RESIDENTIAL	LKD	30.3	79.9	78.5	0.4	1.7
F01	R4	RESIDENTIAL	BEDROOM	12.1	79.9	70.1	1.2	12.3
F01	R5	RESIDENTIAL	BEDROOM	10.6	90.9	87.4	0.4	3.9
F01	R6	RESIDENTIAL	BEDROOM	11.0	78.2	77.8	0.0	0.5
F01	R7	RESIDENTIAL	LKD	23.7	92.8	91.4	0.3	1.5
F01	R8	RESIDENTIAL	BEDROOM	10.4	64.5	63.7	0.1	1.2

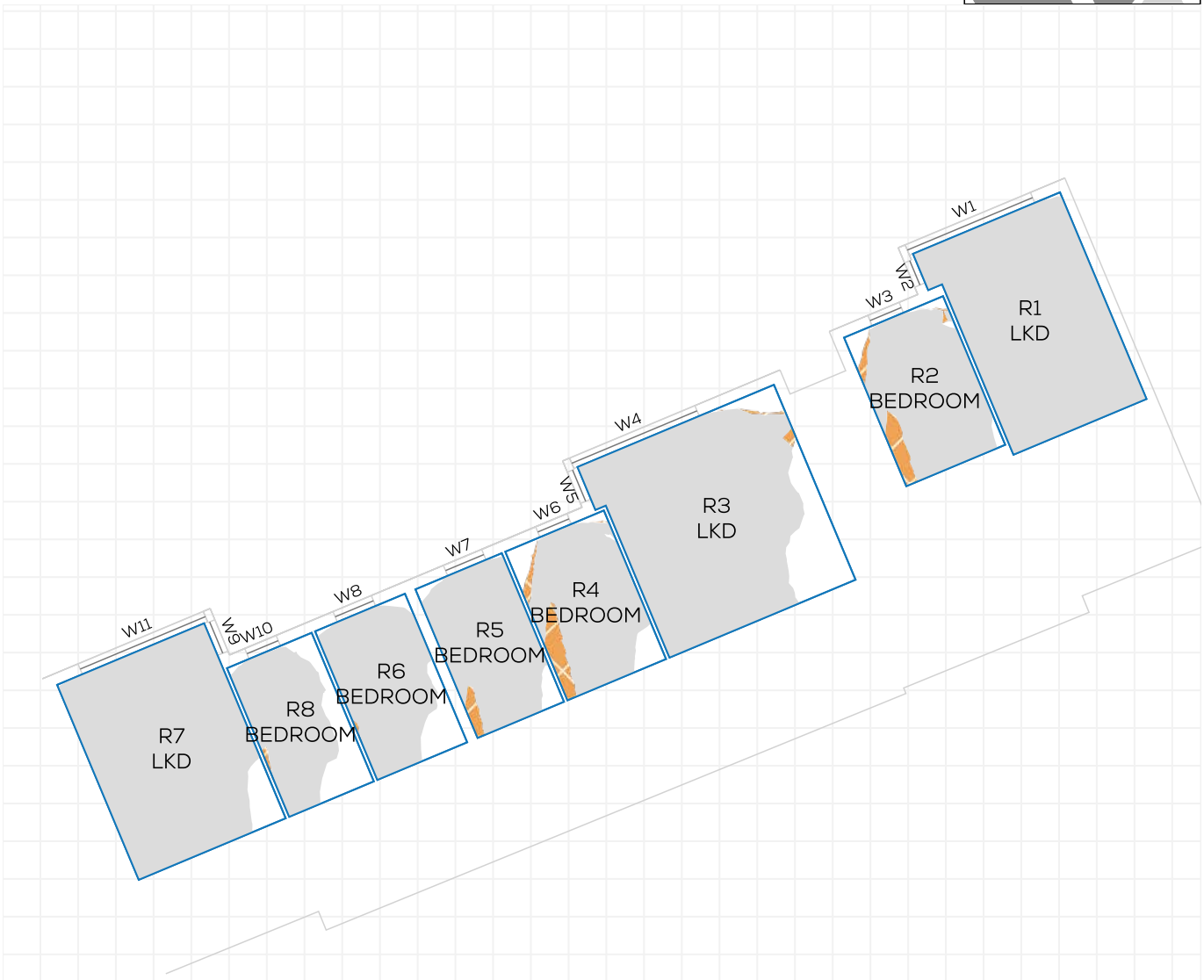
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	THE RHINE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL17
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





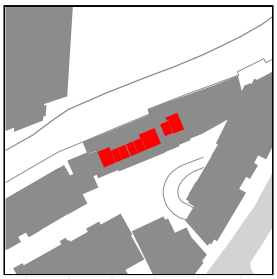
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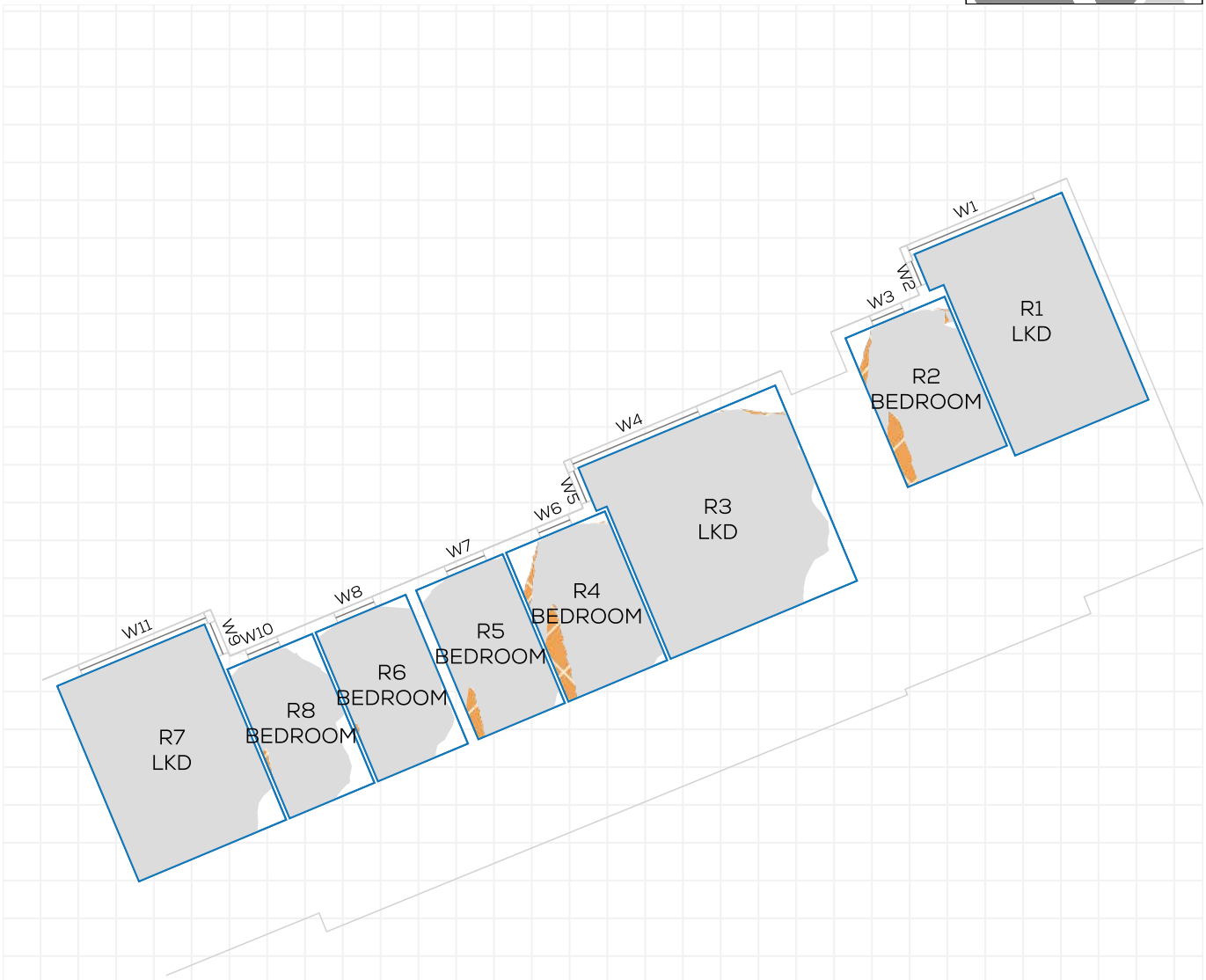
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE RHINE								
F02	R1	RESIDENTIAL	LKD	23.1	99.9	99.8	0.0	0
F02	R2	RESIDENTIAL	BEDROOM	12.1	93.9	86	1.0	8.4
F02	R3	RESIDENTIAL	LKD	30.3	85.2	84.6	0.2	0.6
F02	R4	RESIDENTIAL	BEDROOM	12.1	88	78.4	1.2	10.9
F02	R5	RESIDENTIAL	BEDROOM	10.6	94.3	90.8	0.4	3.6
F02	R6	RESIDENTIAL	BEDROOM	11.0	84.5	84.2	0.0	0.4
F02	R7	RESIDENTIAL	LKD	23.7	95.1	95.1	0.0	0
F02	R8	RESIDENTIAL	BEDROOM	10.4	73	72.2	0.1	1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: THE RHINE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL18
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





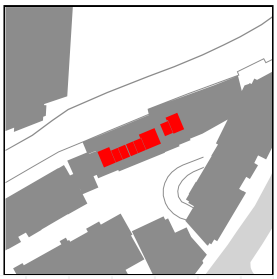
F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE RHINE								
F03	R1	RESIDENTIAL	LKD	23.1	99.9	99.8	0.0	0
F03	R2	RESIDENTIAL	BEDROOM	12.1	95	87.2	1.0	8.2
F03	R3	RESIDENTIAL	LKD	30.3	92.4	92.1	0.1	0.3
F03	R4	RESIDENTIAL	BEDROOM	12.1	93.3	83.8	1.1	10.1
F03	R5	RESIDENTIAL	BEDROOM	10.6	97.8	94.4	0.4	3.5
F03	R6	RESIDENTIAL	BEDROOM	11.0	93.9	93.6	0.0	0.3
F03	R7	RESIDENTIAL	LKD	23.7	97.7	97.7	0.0	0
F03	R8	RESIDENTIAL	BEDROOM	10.4	85.8	85.1	0.1	0.9

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: THE RHINE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL19
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





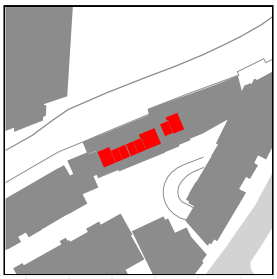
F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE RHINE								
F04	R1	RESIDENTIAL	LKD	23.1	99.9	99.9	0.0	0
F04	R2	RESIDENTIAL	BEDROOM	12.1	95.2	87.7	0.9	7.8
F04	R3	RESIDENTIAL	LKD	30.3	97.8	97.5	0.1	0.3
F04	R4	RESIDENTIAL	BEDROOM	12.1	93.8	84.7	1.1	9.6
F04	R5	RESIDENTIAL	BEDROOM	10.6	98.3	94.9	0.4	3.4
F04	R6	RESIDENTIAL	BEDROOM	11.0	98.1	97.8	0.0	0.3
F04	R7	RESIDENTIAL	LKD	23.7	100	100	0.0	0
F04	R8	RESIDENTIAL	BEDROOM	10.4	92.5	91.8	0.1	0.8

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: THE RHINE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL20
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





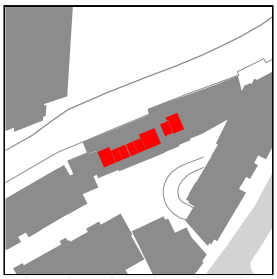
F05

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE RHINE								
F05	R1	RESIDENTIAL	LKD	23.1	99.9	99.9	0.0	0.1
F05	R2	RESIDENTIAL	BEDROOM	12.1	95.2	87.9	0.9	7.7
F05	R3	RESIDENTIAL	LKD	30.3	97.9	97.6	0.1	0.3
F05	R4	RESIDENTIAL	BEDROOM	12.1	93.3	83.6	1.2	10.3
F05	R5	RESIDENTIAL	BEDROOM	10.6	97.8	94.5	0.4	3.4
F05	R6	RESIDENTIAL	BEDROOM	11.0	97.7	97.4	0.0	0.4
F05	R7	RESIDENTIAL	LKD	23.7	100	100	0.0	0
F05	R8	RESIDENTIAL	BEDROOM	10.4	94.5	93.7	0.1	0.8

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: THE RHINE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL21
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





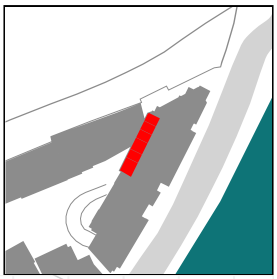
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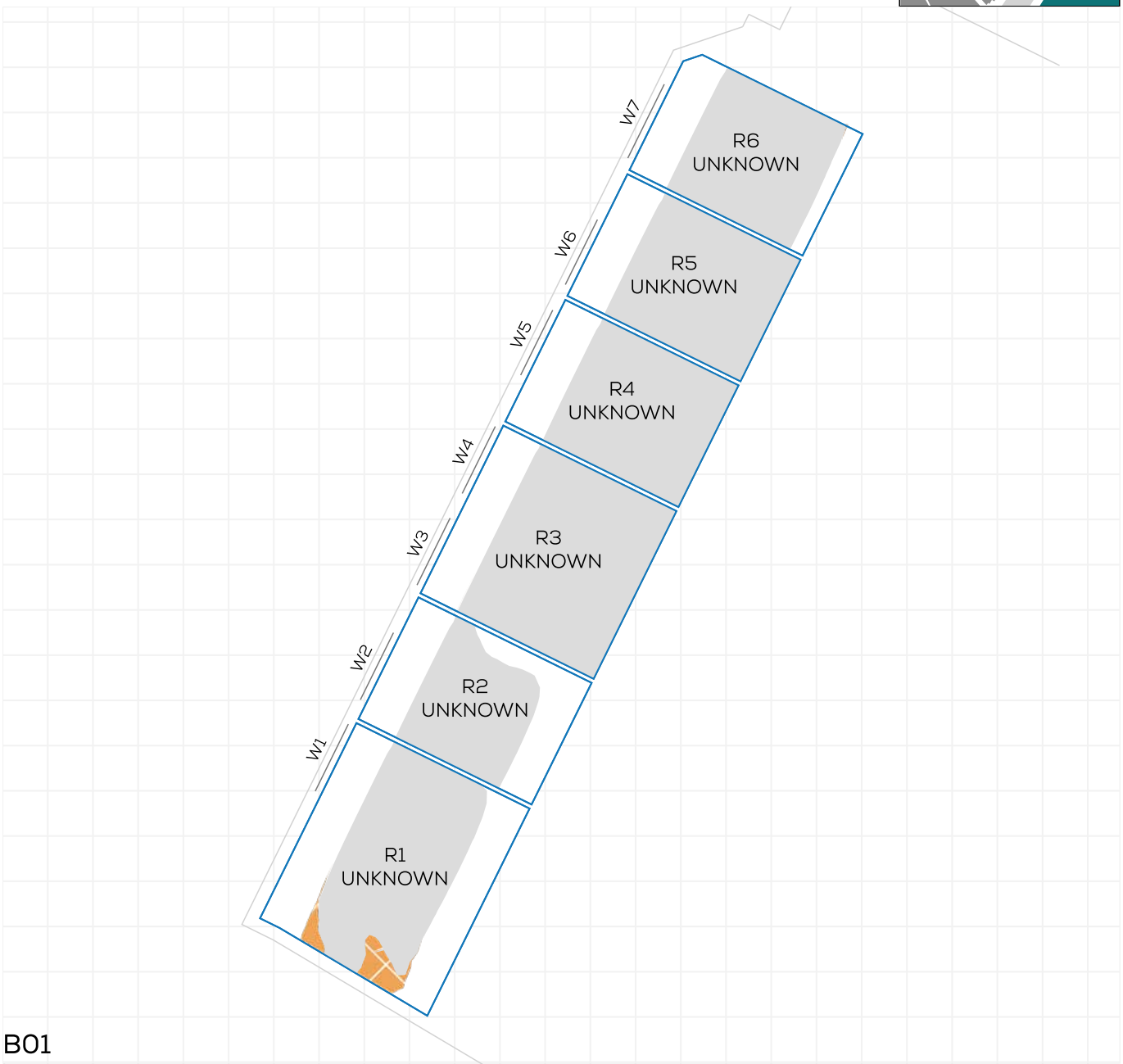
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE RHINE								
F06	R1	RESIDENTIAL	LKD	23.1	99.9	99.9	0.0	0.1
F06	R2	RESIDENTIAL	BEDROOM	12.1	96.8	90.7	0.7	6.2
F06	R3	RESIDENTIAL	LKD	30.3	98	97.7	0.1	0.3
F06	R4	RESIDENTIAL	BEDROOM	12.1	95.1	87.4	0.9	8.1
F06	R5	RESIDENTIAL	BEDROOM	10.6	98.4	95.1	0.3	3.3
F06	R6	RESIDENTIAL	BEDROOM	11.0	98.4	97.8	0.1	0.6
F06	R7	RESIDENTIAL	LKD	23.7	100	100	0.0	0
F06	R8	RESIDENTIAL	BEDROOM	10.4	96.1	95.7	0.0	0.4

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: THE NILE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL22
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





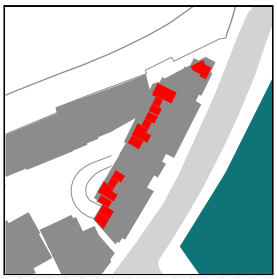
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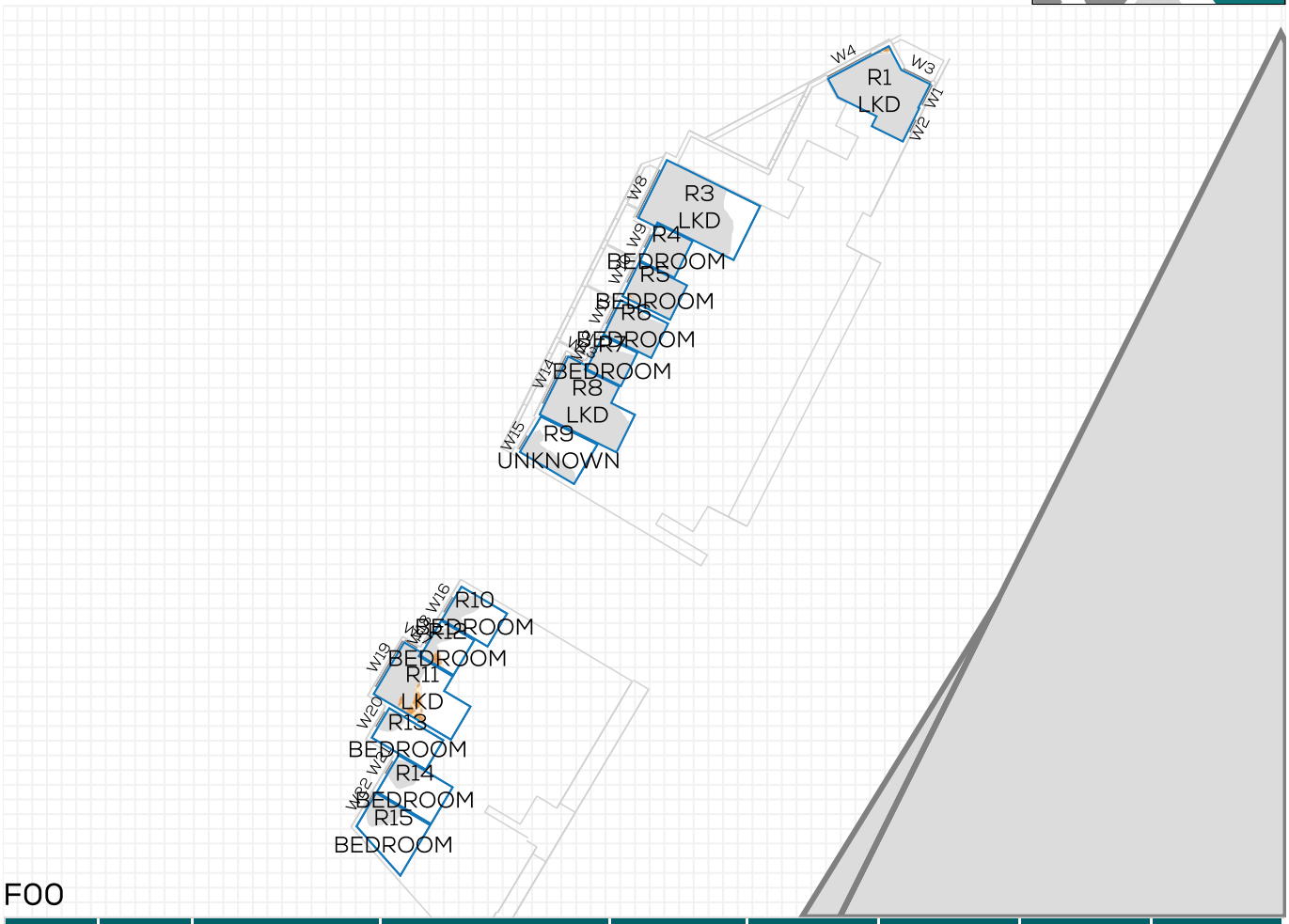
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE NILE								
B01	R1	RESIDENTIAL	UNKNOWN	21.1	58.8	53.9	1.0	8.4
B01	R2	RESIDENTIAL	UNKNOWN	12.8	52.8	52.8	0.0	0
B01	R3	RESIDENTIAL	UNKNOWN	17.7	78.8	78.8	0.0	0
B01	R4	RESIDENTIAL	UNKNOWN	12.8	78.7	78.7	0.0	0
B01	R5	RESIDENTIAL	UNKNOWN	12.8	78.7	78.7	0.0	0
B01	R6	RESIDENTIAL	UNKNOWN	12.8	71.4	71.3	0.0	0.1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: THE NILE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL23
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





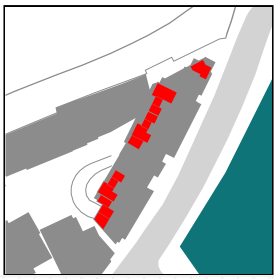
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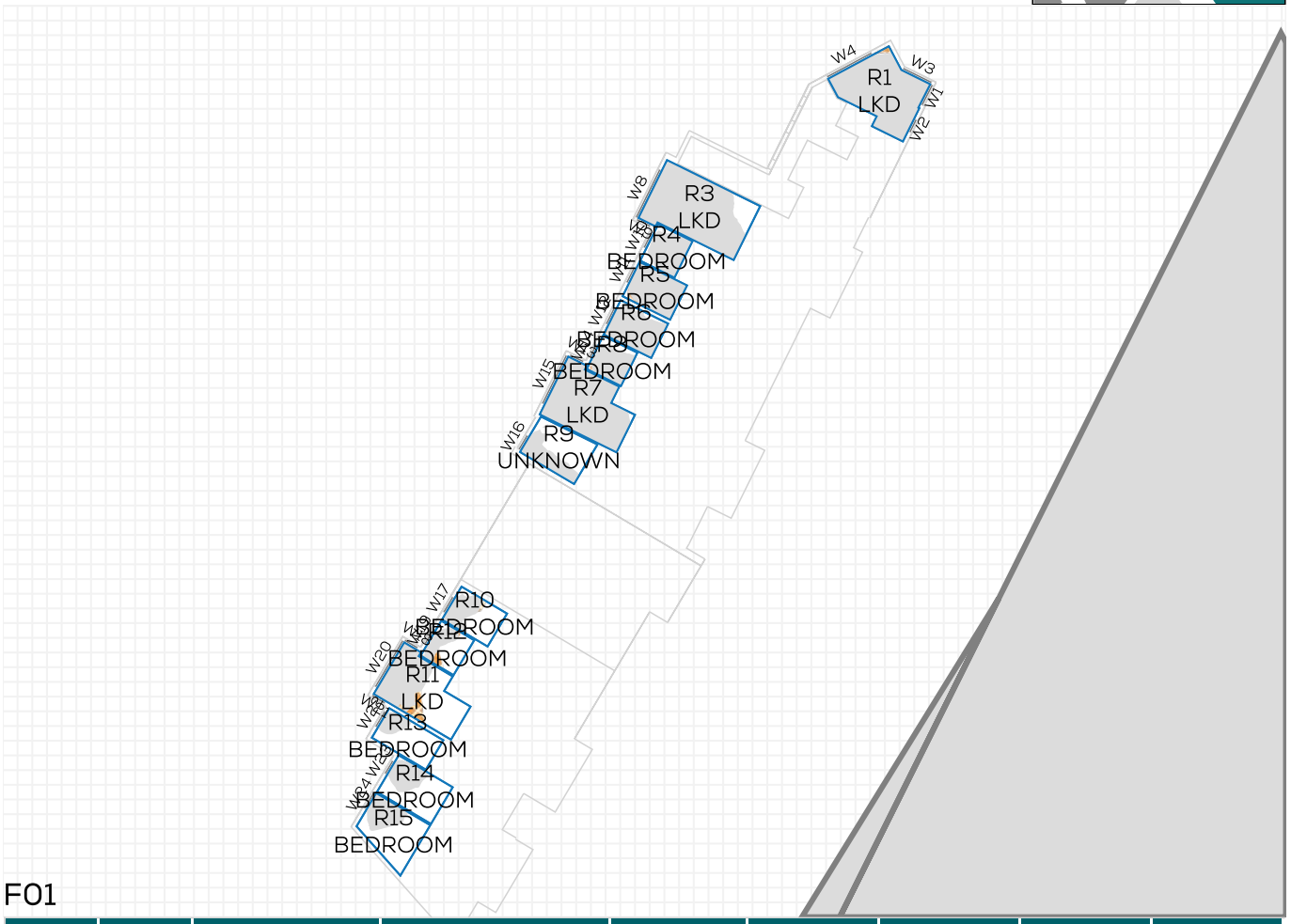
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE NILE								
F00	R1	RESIDENTIAL	LKD	22.6	100	98.6	0.3	1.4
F00	R3	RESIDENTIAL	LKD	29.3	80.5	80.5	0.0	0
F00	R4	RESIDENTIAL	BEDROOM	7.2	85.7	85.2	0.0	0.6
F00	R5	RESIDENTIAL	BEDROOM	9.4	97.4	95.5	0.2	2
F00	R6	RESIDENTIAL	BEDROOM	9.4	91.9	91.4	0.0	0.5
F00	R7	RESIDENTIAL	BEDROOM	6.6	78.3	77.2	0.1	1.4
F00	R8	RESIDENTIAL	LKD	21.9	97.9	97.9	0.0	0
F00	R9	RESIDENTIAL	UNKNOWN	12.6	38.3	38.3	0.0	0
F00	R10	RESIDENTIAL	BEDROOM	9.4	38.7	38.1	0.1	1.4
F00	R11	RESIDENTIAL	LKD	21.0	52.4	42.2	2.1	19.4
F00	R12	RESIDENTIAL	BEDROOM	7.2	36.4	27	0.7	25.7
F00	R13	RESIDENTIAL	BEDROOM	9.9	17.4	17.2	0.0	1.4
F00	R14	RESIDENTIAL	BEDROOM	12.4	25.8	25.8	0.0	0.2
F00	R15	RESIDENTIAL	BEDROOM	14.1	25.4	25.4	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: THE NILE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL24
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE NILE								
F01	R1	RESIDENTIAL	LKD	22.6	100	98.6	0.3	1.4
F01	R3	RESIDENTIAL	LKD	29.3	90.2	90.2	0.0	0
F01	R4	RESIDENTIAL	BEDROOM	7.2	86.1	85.7	0.0	0.5
F01	R5	RESIDENTIAL	BEDROOM	9.4	97.4	95.6	0.2	1.9
F01	R6	RESIDENTIAL	BEDROOM	9.4	93.2	92.7	0.0	0.5
F01	R7	RESIDENTIAL	LKD	21.9	99.2	99.2	0.0	0
F01	R8	RESIDENTIAL	BEDROOM	6.6	78.5	77.5	0.1	1.4
F01	R9	RESIDENTIAL	UNKNOWN	12.6	41	41	0.0	0
F01	R10	RESIDENTIAL	BEDROOM	9.4	43.4	41.1	0.2	5.5
F01	R11	RESIDENTIAL	LKD	21.0	55.6	48.2	1.5	13.3
F01	R12	RESIDENTIAL	BEDROOM	7.2	42.8	34.8	0.6	18.5
F01	R13	RESIDENTIAL	BEDROOM	9.9	23.1	23	0.0	0.7
F01	R14	RESIDENTIAL	BEDROOM	12.4	32.1	32.1	0.0	0
F01	R15	RESIDENTIAL	BEDROOM	14.1	31.6	31.6	0.0	0

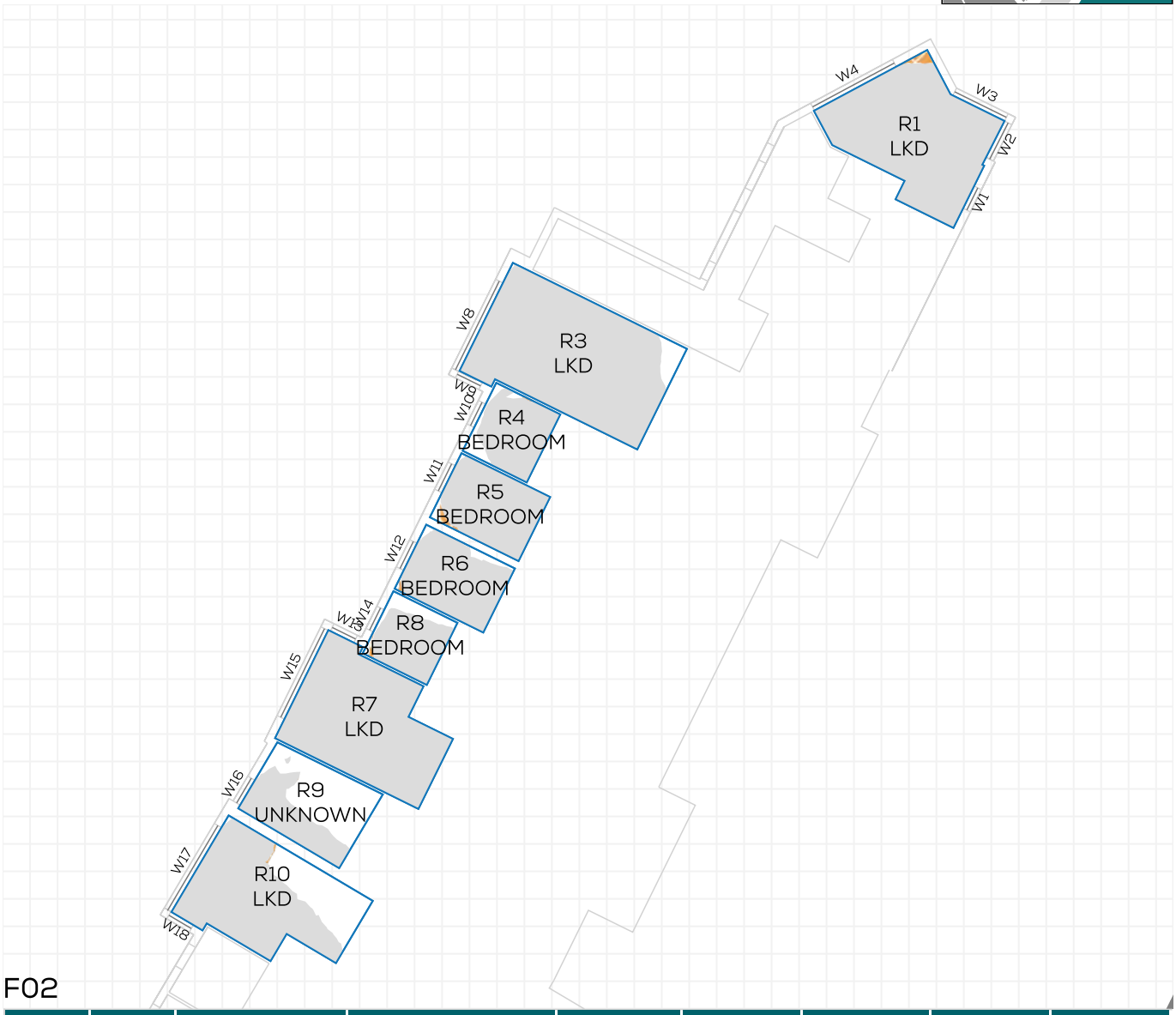
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	THE NILE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL25
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE NILE								
F02	R1	RESIDENTIAL	LKD	22.6	100	98.7	0.3	1.3
F02	R3	RESIDENTIAL	LKD	29.3	96.3	96.3	0.0	0
F02	R4	RESIDENTIAL	BEDROOM	7.2	87.3	86.9	0.0	0.4
F02	R5	RESIDENTIAL	BEDROOM	9.4	97.4	95.7	0.2	1.8
F02	R6	RESIDENTIAL	BEDROOM	9.4	94.3	94	0.0	0.4
F02	R7	RESIDENTIAL	LKD	21.9	99.9	99.9	0.0	0
F02	R8	RESIDENTIAL	BEDROOM	6.6	79.5	78.5	0.1	1.4
F02	R9	RESIDENTIAL	UNKNOWN	12.6	43.5	43.4	0.0	0.2
F02	R10	RESIDENTIAL	LKD	21.1	73.6	73.3	0.1	0.4

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: THE NILE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL26
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE NILE								
F02	R11	RESIDENTIAL	BEDROOM	7.2	48	47.4	0.0	1.3
F02	R12	RESIDENTIAL	BEDROOM	9.4	55.1	53.8	0.1	2.3
F02	R13	RESIDENTIAL	BEDROOM	9.4	48.2	47.9	0.0	0.6
F02	R14	RESIDENTIAL	LKD	21.0	61.3	55	1.3	10.3
F02	R15	RESIDENTIAL	BEDROOM	7.2	50.6	44.2	0.5	12.8
F02	R16	RESIDENTIAL	BEDROOM	9.9	32.5	32.5	0.0	0
F02	R17	RESIDENTIAL	BEDROOM	12.4	41.4	41.4	0.0	0
F02	R18	RESIDENTIAL	BEDROOM	14.1	43	41.5	0.2	3.5

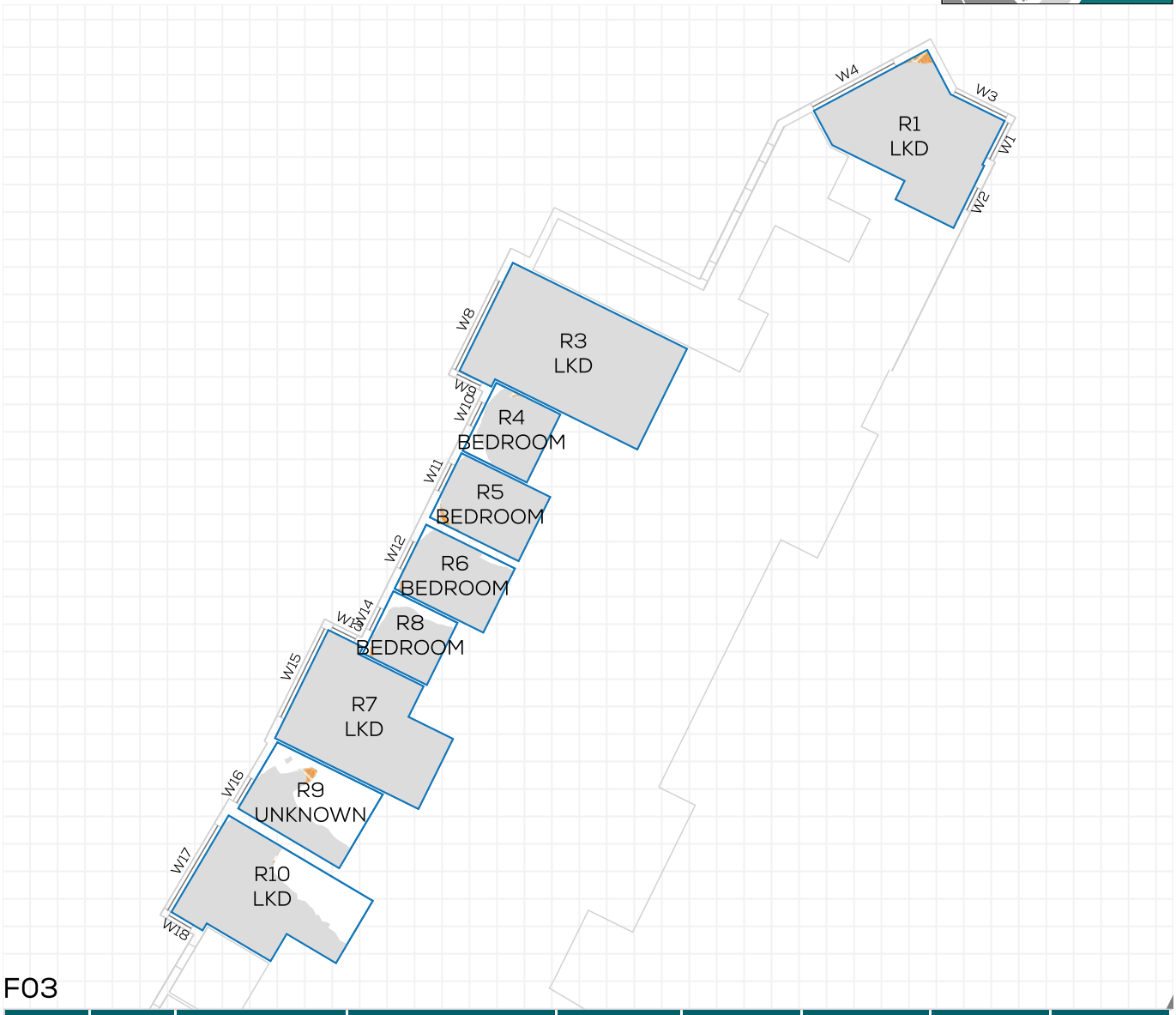
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	THE NILE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL27
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE NILE								
F03	R1	RESIDENTIAL	LKD	22.6	100	98.7	0.3	1.3
F03	R3	RESIDENTIAL	LKD	29.3	99.9	99.9	0.0	0
F03	R4	RESIDENTIAL	BEDROOM	7.2	88.1	87.6	0.0	0.6
F03	R5	RESIDENTIAL	BEDROOM	9.4	97.4	95.9	0.1	1.6
F03	R6	RESIDENTIAL	BEDROOM	9.4	95.8	95.5	0.0	0.4
F03	R7	RESIDENTIAL	LKD	21.9	99.9	99.9	0.0	0
F03	R8	RESIDENTIAL	BEDROOM	6.6	81.9	80.8	0.1	1.3
F03	R9	RESIDENTIAL	UNKNOWN	12.6	48	46.4	0.2	3.2
F03	R10	RESIDENTIAL	LKD	21.1	75.1	74.9	0.0	0.3

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	THE NILE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL28
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE NILE								
F03	R11	RESIDENTIAL	BEDROOM	7.2	55.1	52.3	0.2	5.2
F03	R12	RESIDENTIAL	BEDROOM	9.4	60.5	59.9	0.1	0.9
F03	R13	RESIDENTIAL	BEDROOM	9.4	58.1	58.1	0.0	0
F03	R14	RESIDENTIAL	LKD	21.0	68.8	64.6	0.9	6
F03	R15	RESIDENTIAL	BEDROOM	7.2	65.1	59.2	0.4	9.1
F03	R16	RESIDENTIAL	BEDROOM	9.9	51.3	51.3	0.0	0
F03	R17	RESIDENTIAL	BEDROOM	12.4	56.6	56.6	0.0	0
F03	R18	RESIDENTIAL	BEDROOM	14.1	62	58.9	0.4	5

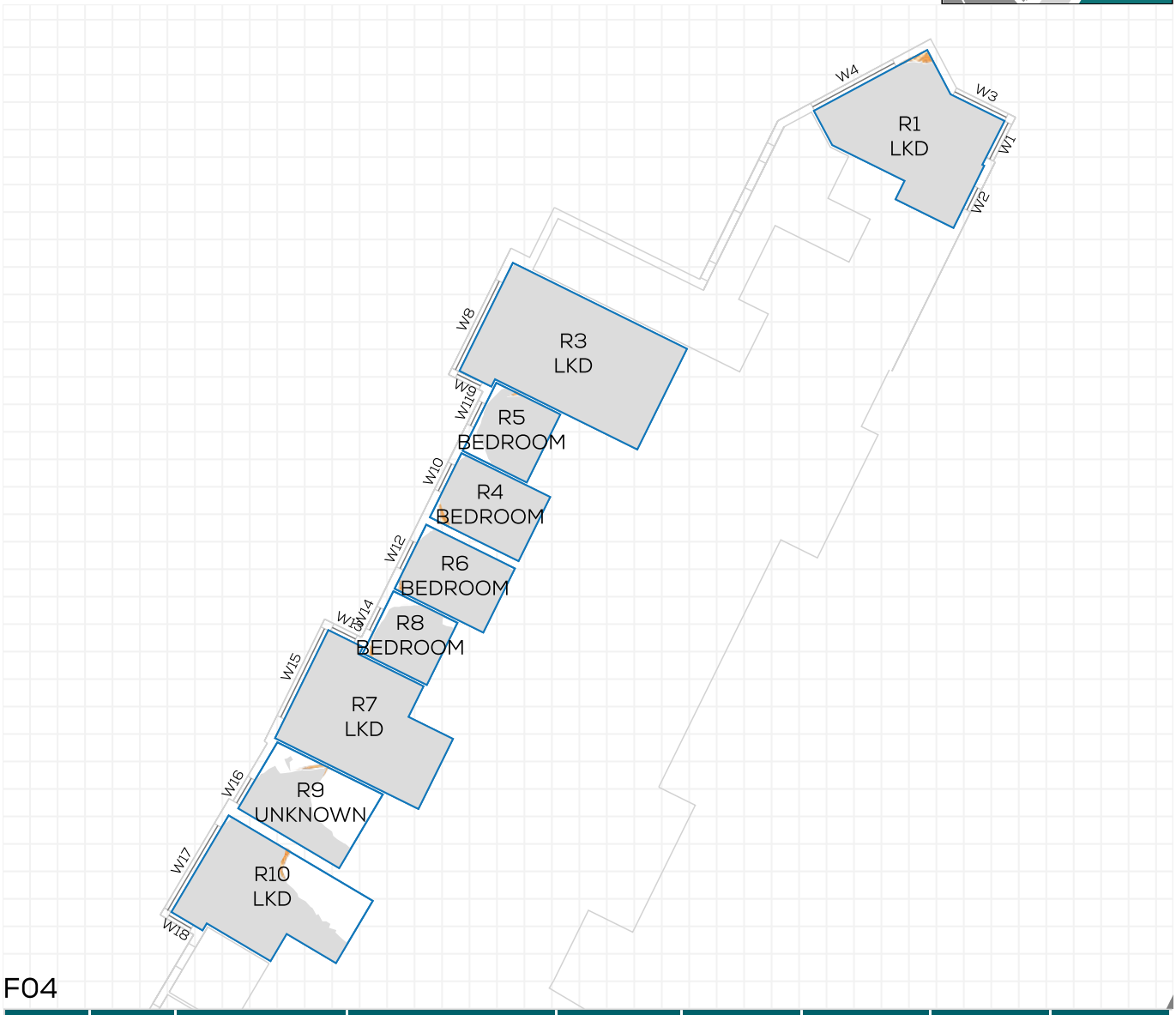
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	THE NILE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL29
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE NILE								
F04	R1	RESIDENTIAL	LKD	22.6	100	98.8	0.3	1.2
F04	R3	RESIDENTIAL	LKD	29.3	99.9	99.9	0.0	0
F04	R4	RESIDENTIAL	BEDROOM	9.4	97.6	96.1	0.1	1.5
F04	R5	RESIDENTIAL	BEDROOM	7.2	88.3	87.8	0.0	0.5
F04	R6	RESIDENTIAL	BEDROOM	9.4	98	97.6	0.0	0.4
F04	R7	RESIDENTIAL	LKD	21.9	99.9	99.9	0.0	0
F04	R8	RESIDENTIAL	BEDROOM	6.6	88.3	87.3	0.1	1.2
F04	R9	RESIDENTIAL	UNKNOWN	12.6	55.7	54.6	0.1	1.8
F04	R10	RESIDENTIAL	LKD	21.1	77.6	76.8	0.2	1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: THE NILE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL30
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE NILE								
F04	R11	RESIDENTIAL	BEDROOM	7.2	70.8	70.6	0.0	0.3
F04	R12	RESIDENTIAL	BEDROOM	9.4	70.9	70.3	0.1	0.8
F04	R13	RESIDENTIAL	BEDROOM	9.4	77.9	77.8	0.0	0
F04	R14	RESIDENTIAL	LKD	21.0	76.7	76	0.2	1
F04	R15	RESIDENTIAL	BEDROOM	7.2	86.3	85.3	0.1	1.2
F04	R16	RESIDENTIAL	BEDROOM	9.9	85.9	85.9	0.0	0
F04	R17	RESIDENTIAL	BEDROOM	12.4	78.5	78.5	0.0	0
F04	R18	RESIDENTIAL	BEDROOM	14.1	85.1	82	0.4	3.6

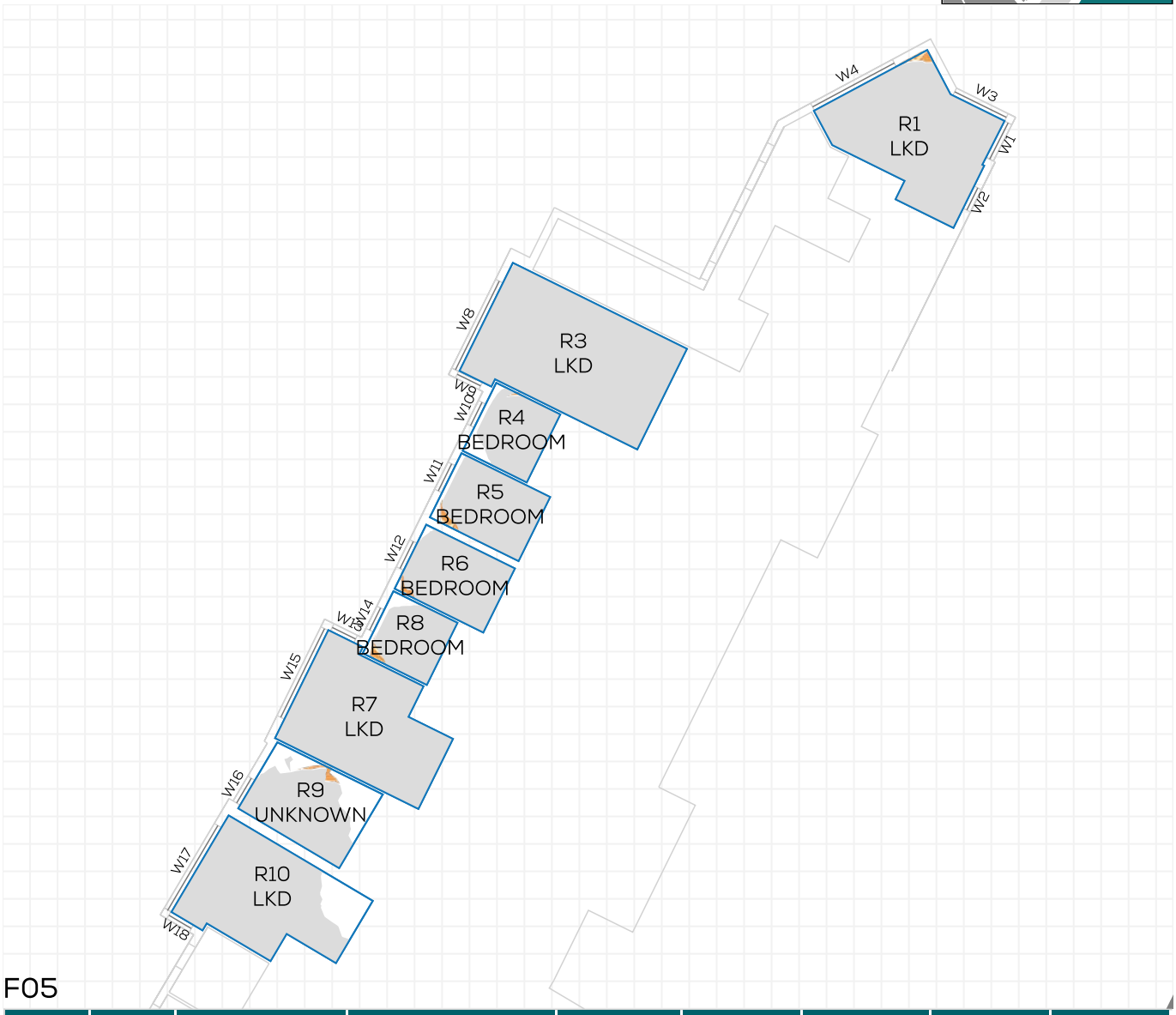
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	THE NILE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL31
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F05

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE NILE								
F05	R1	RESIDENTIAL	LKD	22.6	100	98.9	0.3	1.1
F05	R3	RESIDENTIAL	LKD	29.3	99.9	99.9	0.0	0
F05	R4	RESIDENTIAL	BEDROOM	7.2	87.2	86.8	0.0	0.4
F05	R5	RESIDENTIAL	BEDROOM	9.4	94.8	92.2	0.2	2.7
F05	R6	RESIDENTIAL	BEDROOM	9.4	97.9	96.4	0.1	1.6
F05	R7	RESIDENTIAL	LKD	21.9	99.9	99.9	0.0	0
F05	R8	RESIDENTIAL	BEDROOM	6.6	89.1	86.1	0.2	3.4
F05	R9	RESIDENTIAL	UNKNOWN	12.6	73.7	72	0.2	2.3
F05	R10	RESIDENTIAL	LKD	21.1	87.6	87.6	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: THE NILE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL32
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F05

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE NILE								
F05	R11	RESIDENTIAL	BEDROOM	7.2	85.3	85.1	0.0	0.2
F05	R12	RESIDENTIAL	BEDROOM	9.4	95.1	94	0.1	1.2
F05	R13	RESIDENTIAL	BEDROOM	9.4	94.4	94.3	0.0	0.1
F05	R14	RESIDENTIAL	LKD	21.0	99.8	99.8	0.0	0
F05	R15	RESIDENTIAL	BEDROOM	7.2	90.4	89.5	0.1	1
F05	R16	RESIDENTIAL	BEDROOM	9.9	96.3	96.3	0.0	0
F05	R17	RESIDENTIAL	BEDROOM	12.4	83.5	83.8	0.0	-0.3
F05	R18	RESIDENTIAL	BEDROOM	14.1	94.8	92.4	0.3	2.5

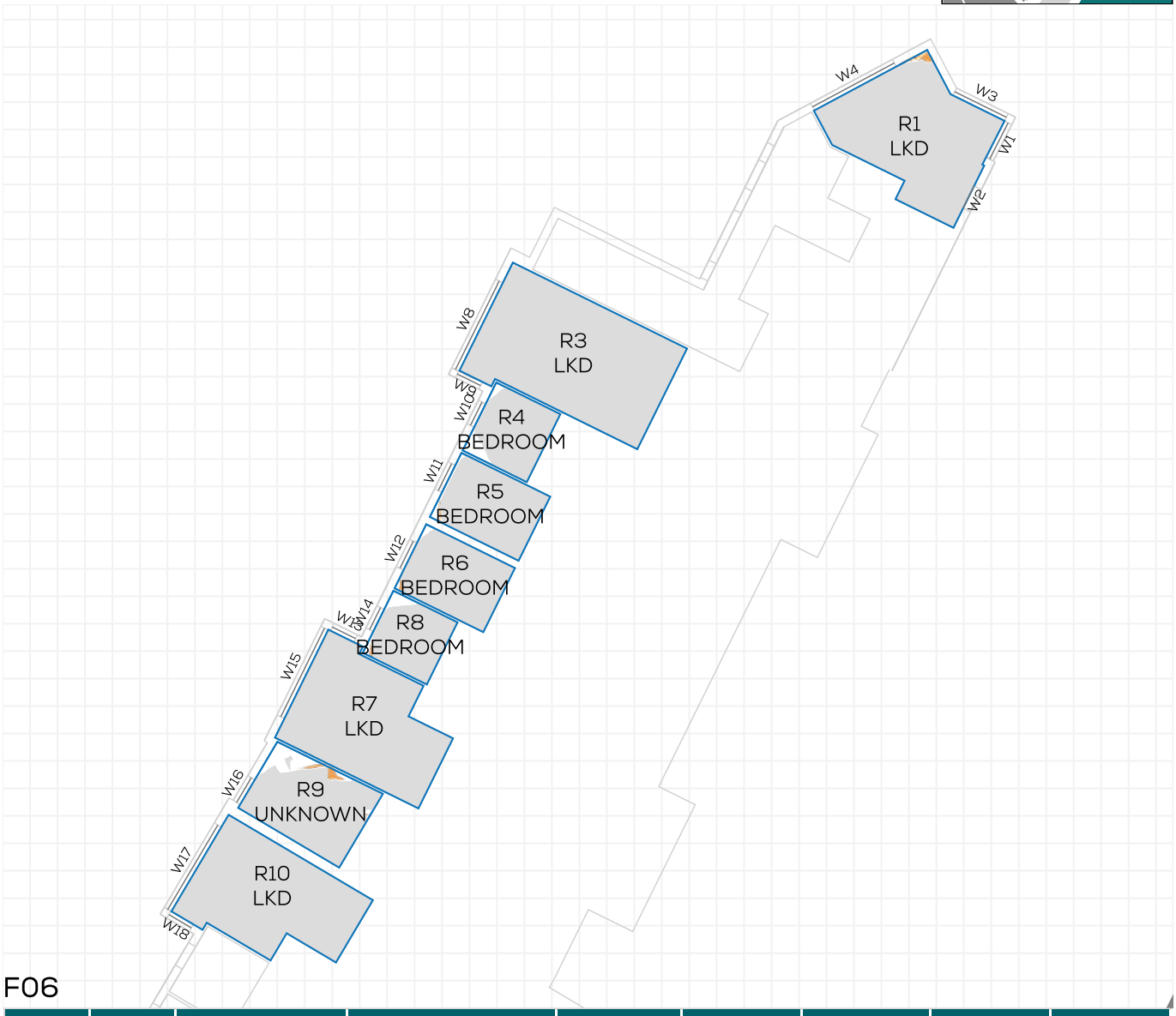
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	THE NILE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL33
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F06

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE NILE								
F06	R1	RESIDENTIAL	LKD	22.6	100	98.9	0.2	1.1
F06	R3	RESIDENTIAL	LKD	29.3	99.9	99.9	0.0	0
F06	R4	RESIDENTIAL	BEDROOM	7.2	89.9	89.9	0.0	0
F06	R5	RESIDENTIAL	BEDROOM	9.4	96.7	96.2	0.0	0.5
F06	R6	RESIDENTIAL	BEDROOM	9.4	98.2	97.8	0.0	0.4
F06	R7	RESIDENTIAL	LKD	21.9	99.9	99.9	0.0	0
F06	R8	RESIDENTIAL	BEDROOM	6.6	91.6	90.9	0.0	0.8
F06	R9	RESIDENTIAL	UNKNOWN	12.6	87.9	86.1	0.2	2.1
F06	R10	RESIDENTIAL	LKD	21.1	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: THE NILE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL34
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F06

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE NILE								
F06	R11	RESIDENTIAL	BEDROOM	7.2	89.5	89.5	0.0	0
F06	R12	RESIDENTIAL	BEDROOM	9.4	98.5	98.5	0.0	0
F06	R13	RESIDENTIAL	BEDROOM	9.4	97.8	97.8	0.0	0
F06	R14	RESIDENTIAL	LKD	21.0	100	100	0.0	0
F06	R15	RESIDENTIAL	BEDROOM	7.2	94.2	94.1	0.0	0
F06	R16	RESIDENTIAL	BEDROOM	9.9	96.8	96.8	0.0	0
F06	R17	RESIDENTIAL	BEDROOM	12.4	84.2	84.2	0.0	0
F06	R18	RESIDENTIAL	BEDROOM	14.1	94.9	92.6	0.3	2.4

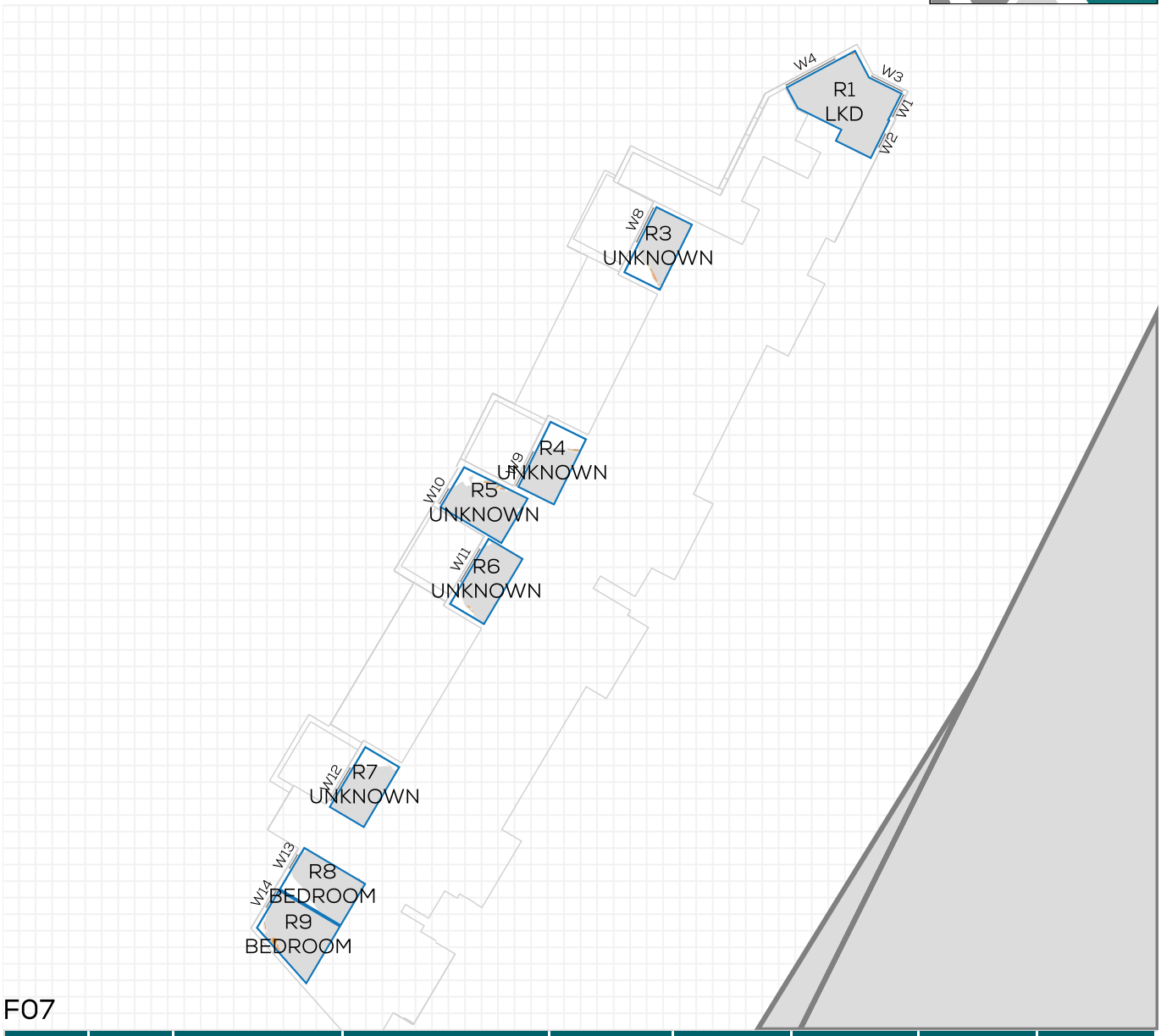
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	THE NILE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL35
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





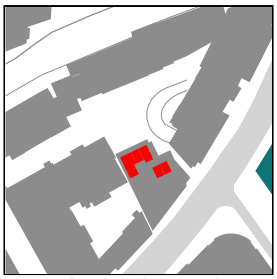
F07

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE NILE								
F07	R1	RESIDENTIAL	LKD	22.6	100	99.5	0.1	0.5
F07	R3	RESIDENTIAL	UNKNOWN	10.5	81	78.4	0.3	3.2
F07	R4	RESIDENTIAL	UNKNOWN	10.5	71.6	70.9	0.1	1
F07	R5	RESIDENTIAL	UNKNOWN	12.6	89.5	87.7	0.2	1.9
F07	R6	RESIDENTIAL	UNKNOWN	10.9	91.2	90.1	0.1	1.2
F07	R7	RESIDENTIAL	UNKNOWN	10.0	83.7	83.4	0.0	0.3
F07	R8	RESIDENTIAL	BEDROOM	12.4	85	85.2	0.0	-0.1
F07	R9	RESIDENTIAL	BEDROOM	14.1	97	94.4	0.4	2.7

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: 30 CITY ROAD EAST
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL36
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





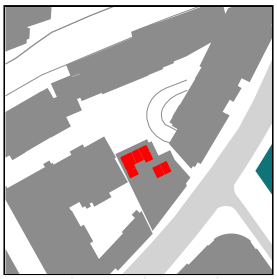
F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
30 CITY ROAD EAST								
F01	R1	RESIDENTIAL	LKD	27.9	27.1	27.1	0.0	0
F01	R2	RESIDENTIAL	BEDROOM	10.9	32.5	32.4	0.0	0.3
F01	R3	RESIDENTIAL	BEDROOM	15.4	23.7	23.7	0.0	0
F01	R4	RESIDENTIAL	BEDROOM	10.5	38	27.3	1.1	28.1
F01	R5	RESIDENTIAL	BEDROOM	9.6	35.4	34.8	0.1	1.7

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: 30 CITY ROAD EAST
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL37
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





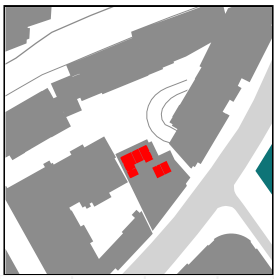
F02

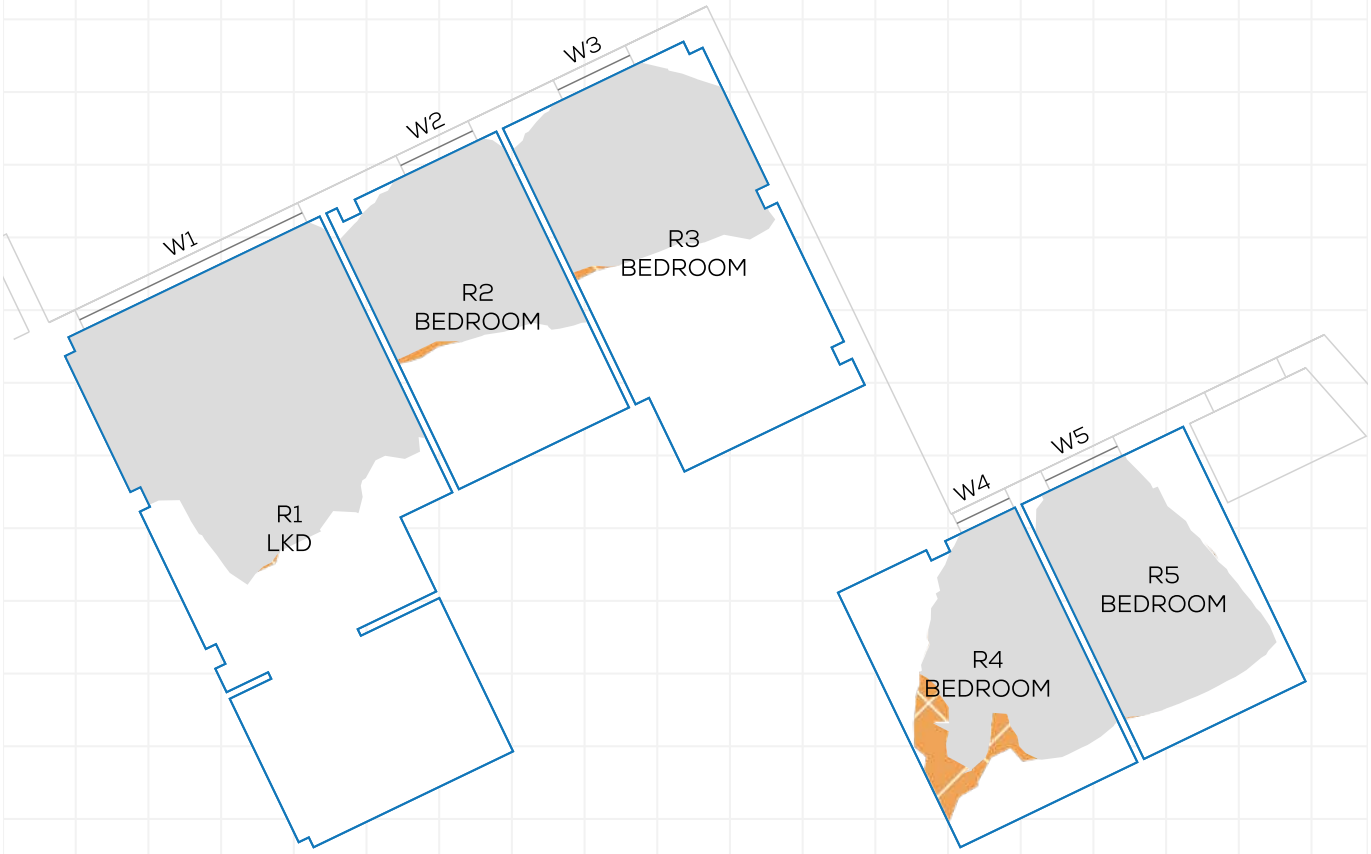
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
30 CITY ROAD EAST								
F02	R1	RESIDENTIAL	LKD	27.9	36.2	36.2	0.0	0
F02	R2	RESIDENTIAL	BEDROOM	10.9	41.4	41	0.0	0.9
F02	R3	RESIDENTIAL	BEDROOM	15.4	32.1	31.9	0.0	0.7
F02	R4	RESIDENTIAL	BEDROOM	10.5	47.4	37.6	1.0	20.7
F02	R5	RESIDENTIAL	BEDROOM	9.6	47.4	47.2	0.0	0.3

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: 30 CITY ROAD EAST
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL38
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





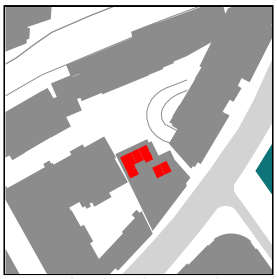
F03

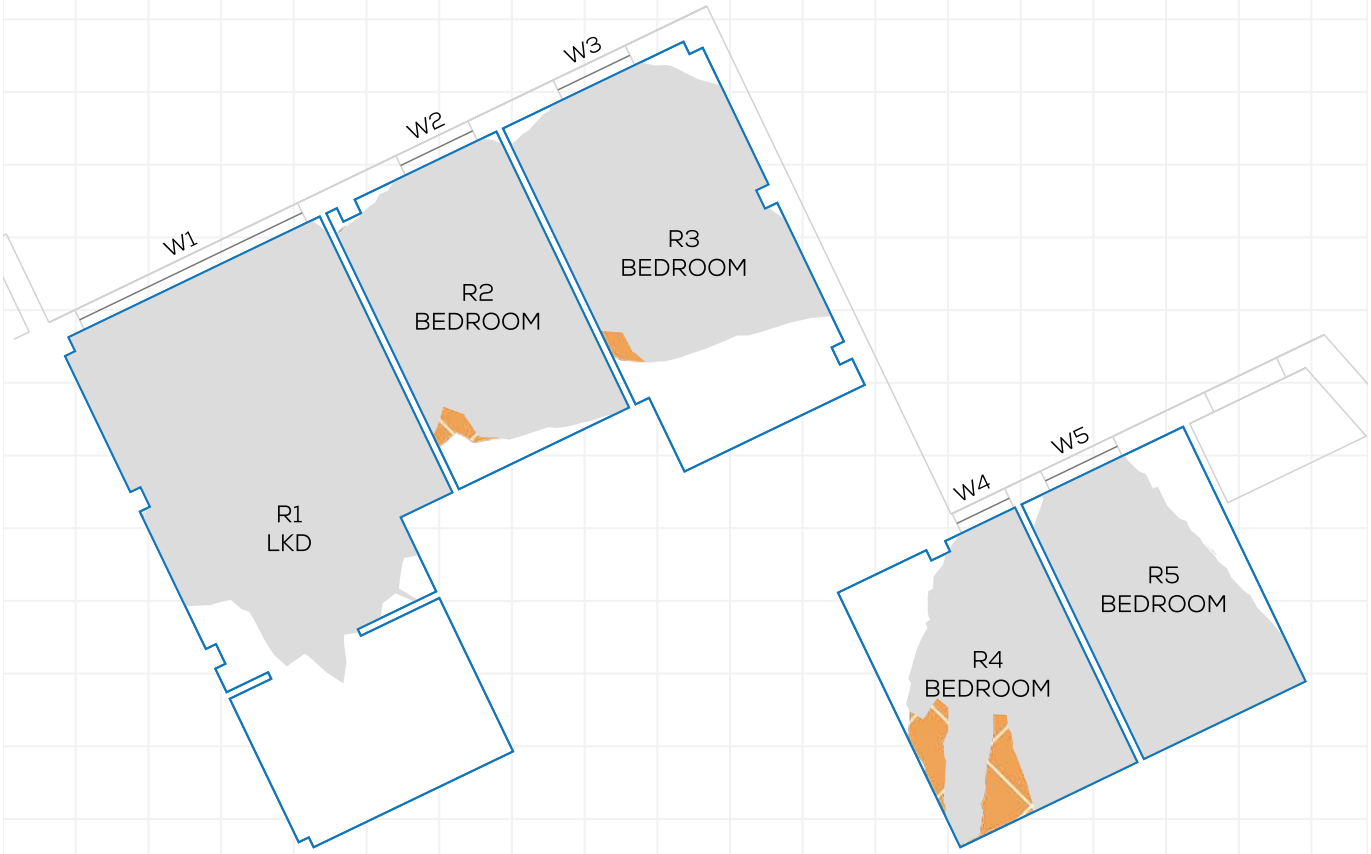
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
30 CITY ROAD EAST								
F03	R1	RESIDENTIAL	LKD	27.9	50.8	50.7	0.0	0.1
F03	R2	RESIDENTIAL	BEDROOM	10.9	58.2	57.4	0.1	1.3
F03	R3	RESIDENTIAL	BEDROOM	15.4	45.5	45.2	0.0	0.7
F03	R4	RESIDENTIAL	BEDROOM	10.5	65.6	55.6	1.1	15.3
F03	R5	RESIDENTIAL	BEDROOM	9.6	70.9	70.8	0.0	0.2

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: 30 CITY ROAD EAST
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL39
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F04

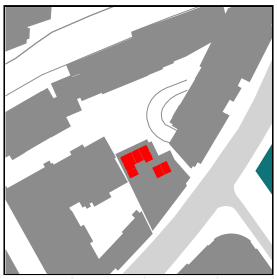
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
30 CITY ROAD EAST								
F04	R1	RESIDENTIAL	LKD	27.9	69.3	69.3	0.0	0
F04	R2	RESIDENTIAL	BEDROOM	10.9	92	90	0.2	2.2
F04	R3	RESIDENTIAL	BEDROOM	15.4	73	72.1	0.1	1.2
F04	R4	RESIDENTIAL	BEDROOM	10.5	84.4	72.8	1.2	13.8
F04	R5	RESIDENTIAL	BEDROOM	9.6	84.6	84.6	0.0	0

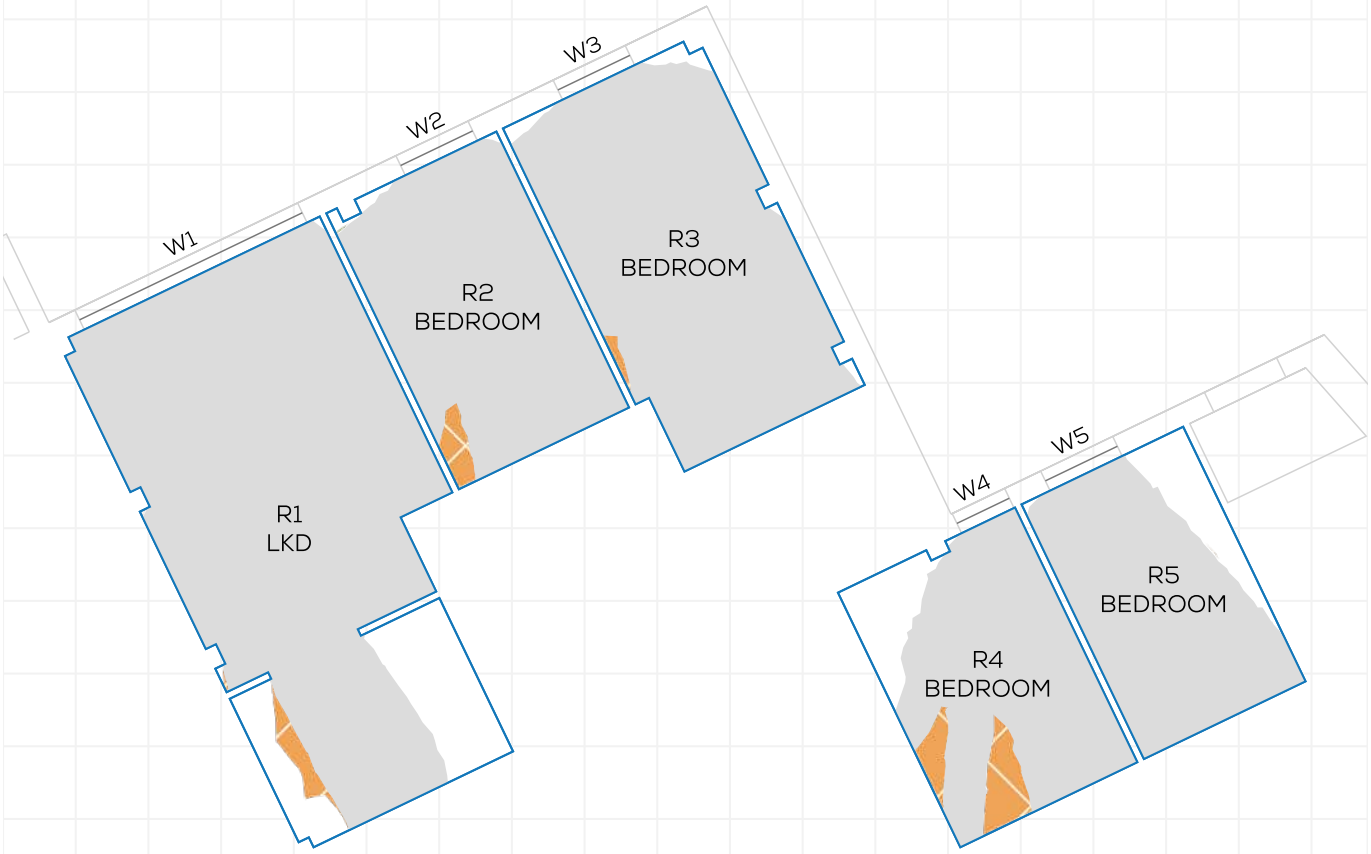
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	30 CITY ROAD EAST
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL40
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





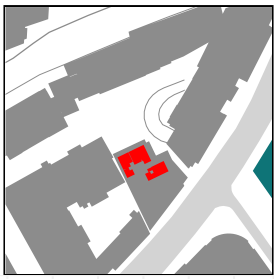
F05

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
30 CITY ROAD EAST								
F05	R1	RESIDENTIAL	LKD	27.9	87.5	86.1	0.4	1.5
F05	R2	RESIDENTIAL	BEDROOM	10.9	98.6	95.4	0.3	3.2
F05	R3	RESIDENTIAL	BEDROOM	15.4	97.8	97.2	0.1	0.6
F05	R4	RESIDENTIAL	BEDROOM	10.5	87.4	78	1.0	10.8
F05	R5	RESIDENTIAL	BEDROOM	9.6	85.2	85.2	0.0	0

NSL CONTOURS

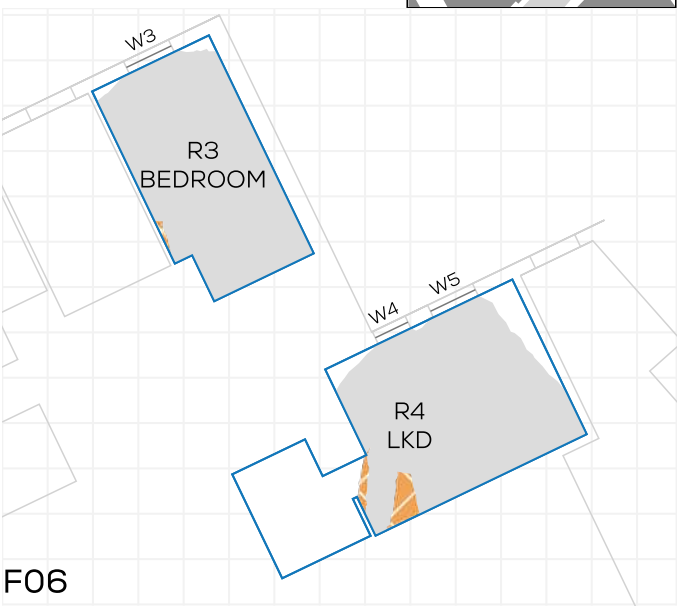
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: 30 CITY ROAD EAST
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL41
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





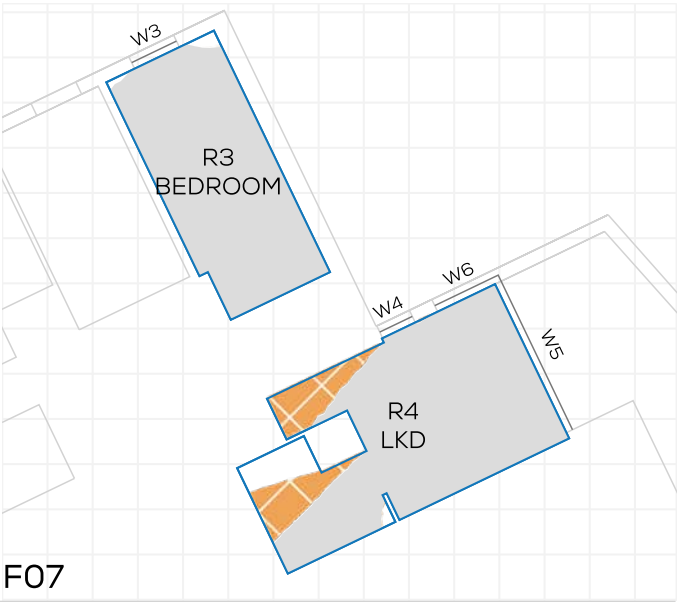
F06



F06



F07



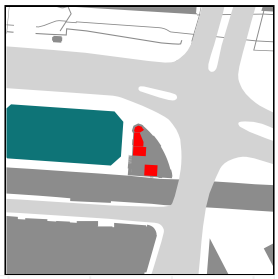
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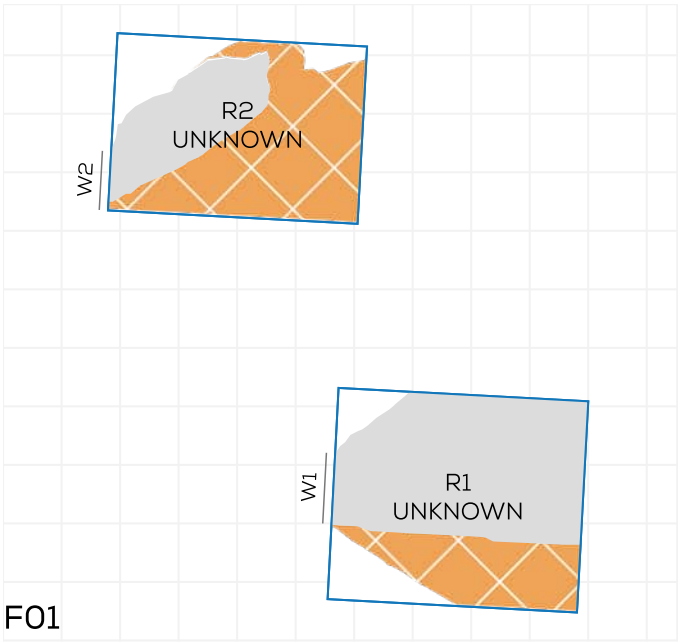
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
30 CITY ROAD EAST								
F06	R1	RESIDENTIAL	LKD	24.2	91.8	89.2	0.6	2.9
F06	R2	RESIDENTIAL	BEDROOM	10.9	98.1	95.1	0.3	3.1
F06	R3	RESIDENTIAL	BEDROOM	14.8	98.3	97.8	0.1	0.5
F06	R4	RESIDENTIAL	LKD	23.6	71	68	0.7	4.3
F07	R1	RESIDENTIAL	LKD	23.4	91.7	88.8	0.7	3.2
F07	R2	RESIDENTIAL	BEDROOM	12.7	98.1	95.1	0.4	3.1
F07	R3	RESIDENTIAL	BEDROOM	15.4	98.6	98.6	0.0	0
F07	R4	RESIDENTIAL	LKD	23.1	94.3	80.3	3.2	14.9

NSL CONTOURS

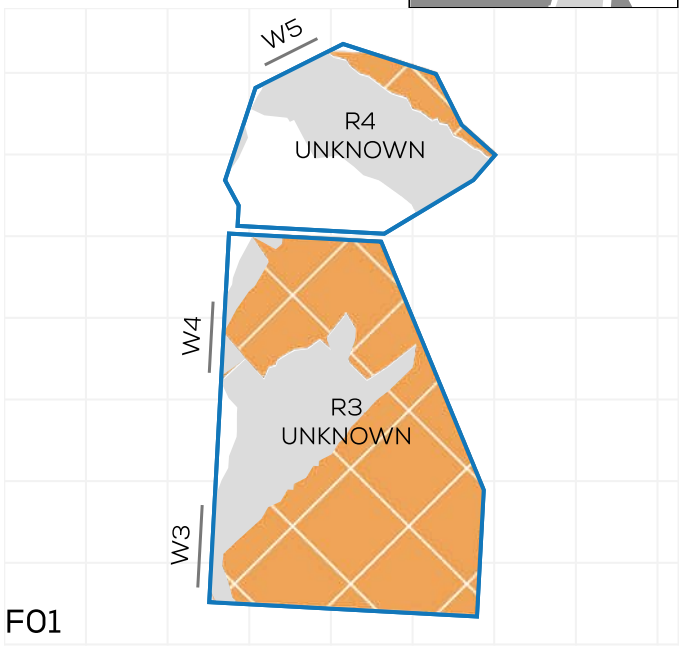
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: 14 ALBION STREET
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL42
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

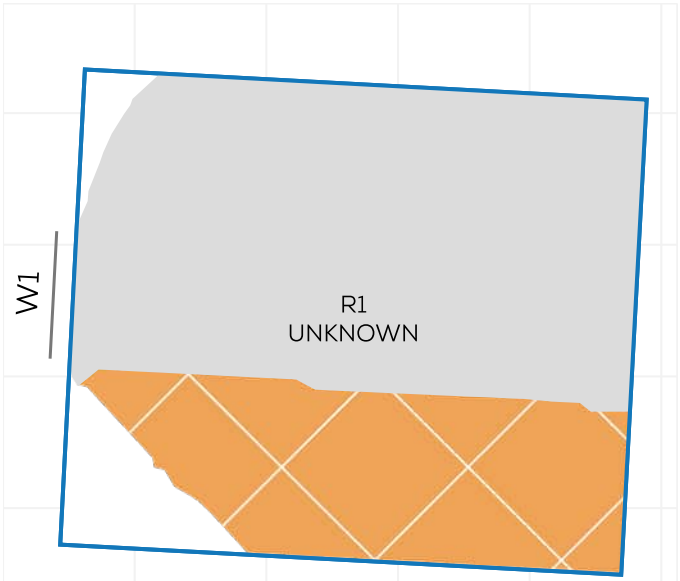




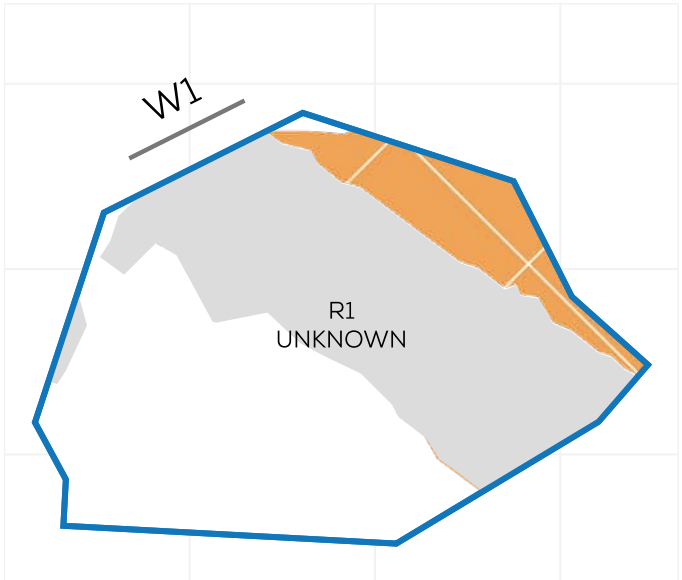
F01



F01



F02



F03

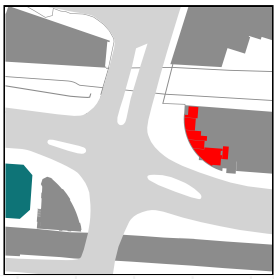
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
14 ALBION STREET								
F01	R1	RESIDENTIAL	UNKNOWN	15.4	87.4	62.9	3.8	28
F01	R2	RESIDENTIAL	UNKNOWN	13.0	83.2	27.8	7.2	66.6
F01	R3	RESIDENTIAL	UNKNOWN	12.7	97.6	26.7	9.0	72.7
F01	R4	RESIDENTIAL	UNKNOWN	5.3	60.9	49	0.6	19.5
F02	R1	RESIDENTIAL	UNKNOWN	15.4	92.3	62.3	4.6	32.5
F03	R1	RESIDENTIAL	UNKNOWN	5.3	55.7	43.4	0.7	22

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	THE HACIENDA
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL43
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F01

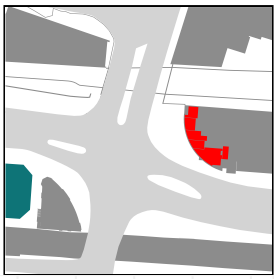
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE HACIENDA								
F01	R1	RESIDENTIAL	UNKNOWN	8.2	67.8	63.6	0.3	6.2
F01	R2	RESIDENTIAL	UNKNOWN	13.0	100	98	0.3	2
F01	R3	RESIDENTIAL	UNKNOWN	13.9	92.2	82.7	1.3	10.3
F01	R4	RESIDENTIAL	BEDROOM	17.4	95.1	86.3	1.5	9.3
F01	R5	RESIDENTIAL	BEDROOM	12.2	92.5	85.5	0.9	7.6
F01	R6	RESIDENTIAL	LKD	38.2	100	99.6	0.1	0.4

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	THE HACIENDA
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL44
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F02

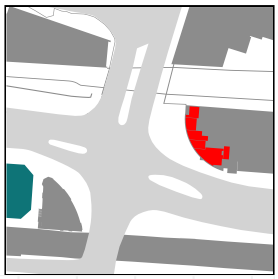
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE HACIENDA								
F02	R1	RESIDENTIAL	UNKNOWN	8.2	71	67.5	0.3	4.9
F02	R2	RESIDENTIAL	UNKNOWN	13.0	100	98.1	0.2	1.9
F02	R3	RESIDENTIAL	UNKNOWN	13.9	92.2	82.6	1.3	10.4
F02	R4	RESIDENTIAL	BEDROOM	17.4	95.2	86.4	1.5	9.2
F02	R5	RESIDENTIAL	BEDROOM	12.2	92.4	85.4	0.9	7.6
F02	R6	RESIDENTIAL	LKD	38.2	100	99.7	0.1	0.3

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	THE HACIENDA
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL45
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F03

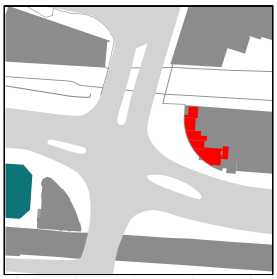
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE HACIENDA								
F03	R1	RESIDENTIAL	UNKNOWN	8.2	75.4	72.8	0.2	3.5
F03	R2	RESIDENTIAL	UNKNOWN	13.0	100	98.1	0.2	1.9
F03	R3	RESIDENTIAL	UNKNOWN	13.9	92.3	82.8	1.3	10.3
F03	R4	RESIDENTIAL	BEDROOM	17.4	95.3	86.6	1.5	9.1
F03	R5	RESIDENTIAL	BEDROOM	12.2	92.8	86	0.8	7.3
F03	R6	RESIDENTIAL	LKD	38.2	100	99.8	0.1	0.2

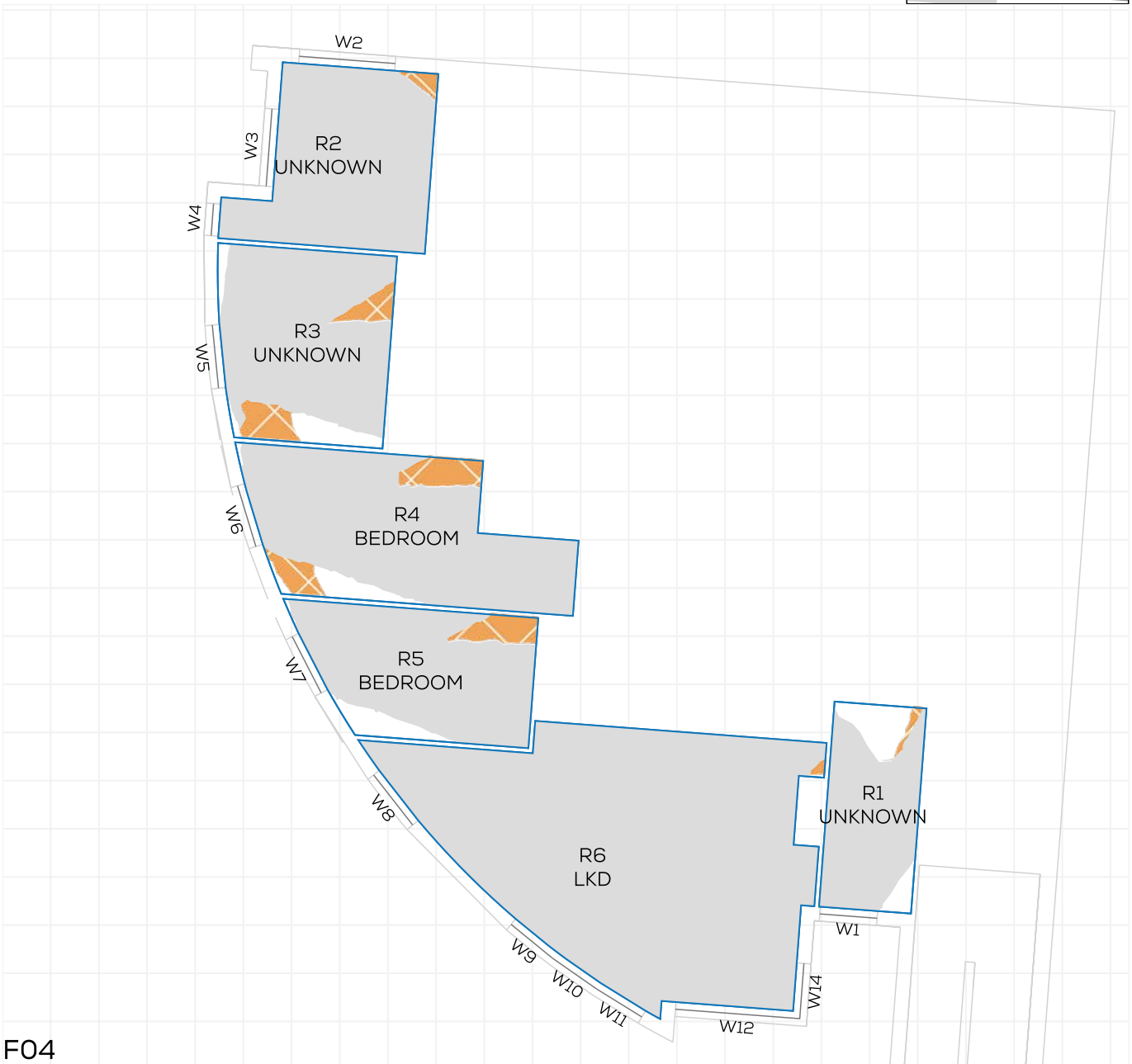
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	THE HACIENDA
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL46
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F04

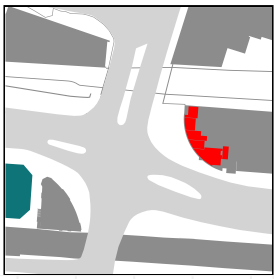
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE HACIENDA								
F04	R1	RESIDENTIAL	UNKNOWN	8.2	81.2	79.5	0.1	2.1
F04	R2	RESIDENTIAL	UNKNOWN	13.0	100	98.1	0.2	1.9
F04	R3	RESIDENTIAL	UNKNOWN	13.9	92.3	82.8	1.3	10.4
F04	R4	RESIDENTIAL	BEDROOM	17.4	95.3	86.6	1.5	9.2
F04	R5	RESIDENTIAL	BEDROOM	12.2	92.7	85.9	0.8	7.3
F04	R6	RESIDENTIAL	LKD	38.2	100	99.8	0.1	0.2

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	THE HACIENDA
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL47
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F05

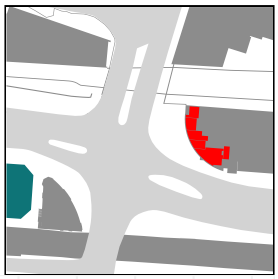
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE HACIENDA								
F05	R1	RESIDENTIAL	UNKNOWN	8.2	88.6	87.7	0.1	0.9
F05	R2	RESIDENTIAL	UNKNOWN	13.0	100	98.1	0.2	1.8
F05	R3	RESIDENTIAL	UNKNOWN	13.9	92.4	83	1.3	10.2
F05	R4	RESIDENTIAL	BEDROOM	17.4	95.6	86.7	1.6	9.3
F05	R5	RESIDENTIAL	BEDROOM	12.2	92.9	86.1	0.8	7.2
F05	R6	RESIDENTIAL	LKD	38.2	100	99.8	0.1	0.2

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	THE HACIENDA
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL48
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F06

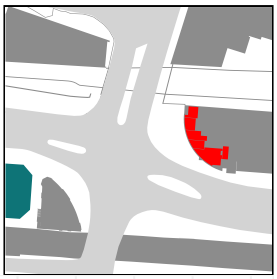
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE HACIENDA								
F06	R1	RESIDENTIAL	UNKNOWN	8.2	94.8	94.8	0.0	0
F06	R2	RESIDENTIAL	UNKNOWN	13.0	100	98.1	0.2	1.9
F06	R3	RESIDENTIAL	UNKNOWN	13.9	92.7	83.2	1.3	10.3
F06	R4	RESIDENTIAL	BEDROOM	17.4	95.3	86.7	1.5	9.1
F06	R5	RESIDENTIAL	BEDROOM	12.2	92.8	86	0.8	7.4
F06	R6	RESIDENTIAL	LKD	38.2	100	99.8	0.1	0.2

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	THE HACIENDA
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL49
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F07

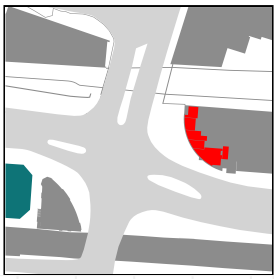
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE HACIENDA								
F07	R1	RESIDENTIAL	UNKNOWN	8.2	95.4	95.4	0.0	0
F07	R2	RESIDENTIAL	UNKNOWN	13.0	100	98.1	0.2	1.9
F07	R3	RESIDENTIAL	UNKNOWN	13.9	93	83.2	1.4	10.6
F07	R4	RESIDENTIAL	BEDROOM	17.4	95.4	86.8	1.5	9
F07	R5	RESIDENTIAL	BEDROOM	12.2	93	86.4	0.8	7.1
F07	R6	RESIDENTIAL	LKD	38.2	100	99.8	0.1	0.2

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	THE HACIENDA
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL50
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





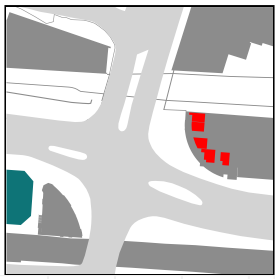
F08

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE HACIENDA								
F08	R1	RESIDENTIAL	UNKNOWN	8.2	97.7	97.7	0.0	0
F08	R2	RESIDENTIAL	UNKNOWN	13.0	100	98.1	0.2	1.8
F08	R3	RESIDENTIAL	UNKNOWN	13.9	91.1	83.4	1.1	8.5
F08	R4	RESIDENTIAL	BEDROOM	17.4	94.3	87	1.3	7.8
F08	R5	RESIDENTIAL	BEDROOM	12.2	93	86.3	0.8	7.2
F08	R6	RESIDENTIAL	LKD	38.2	100	99.8	0.1	0.2

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: THE HACIENDA
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL51
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





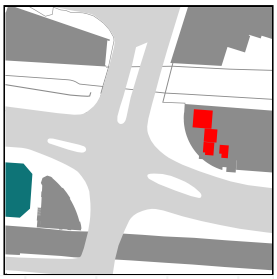
F09

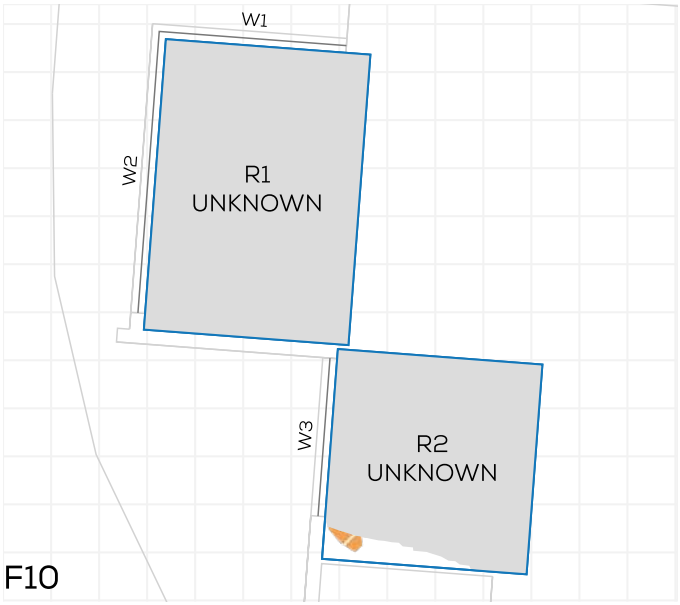
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE HACIENDA								
F09	R1	RESIDENTIAL	UNKNOWN	13.2	99.9	94.8	0.7	5.1
F09	R2	RESIDENTIAL	UNKNOWN	12.5	89.7	82.3	0.9	8.3
F09	R3	RESIDENTIAL	UNKNOWN	13.9	75.8	75.4	0.1	0.5
F09	R4	RESIDENTIAL	UNKNOWN	16.1	95.4	95.4	0.0	0
F09	R6	RESIDENTIAL	UNKNOWN	11.7	91.2	91.2	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: THE HACIENDA
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL52
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





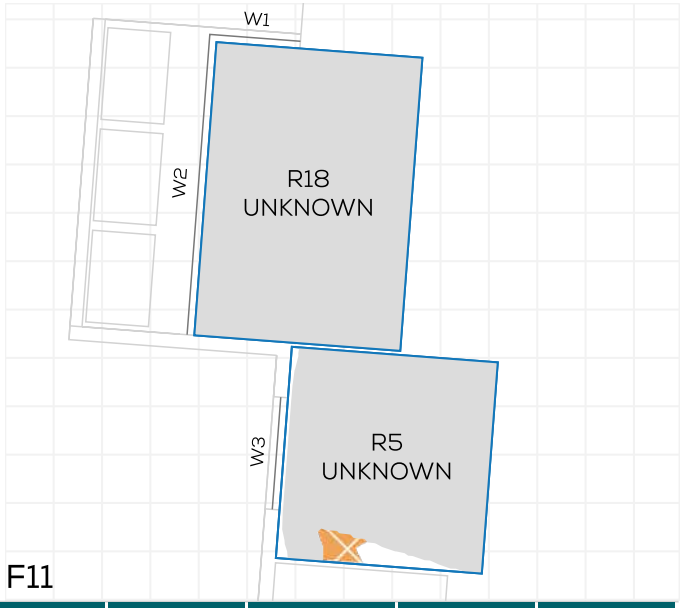
F10



F10



F11



F11

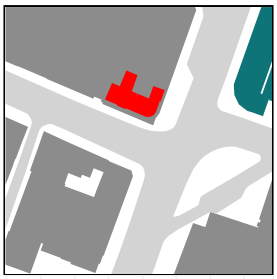
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE HACIENDA								
F10	R1	RESIDENTIAL	UNKNOWN	25.9	100	100	0.0	0
F10	R2	RESIDENTIAL	UNKNOWN	18.7	94.4	93.4	0.2	1.1
F10	R3	RESIDENTIAL	UNKNOWN	14.6	98.7	98.7	0.0	0
F10	R5	RESIDENTIAL	UNKNOWN	11.7	91.2	91.2	0.0	0
F11	R3	RESIDENTIAL	UNKNOWN	11.7	91.3	91.3	0.0	0
F11	R4	RESIDENTIAL	UNKNOWN	14.6	98.7	98.7	0.0	0
F11	R5	RESIDENTIAL	UNKNOWN	18.7	94.9	92.2	0.5	2.8
F11	R18	RESIDENTIAL	UNKNOWN	26.0	100	100	0.0	0

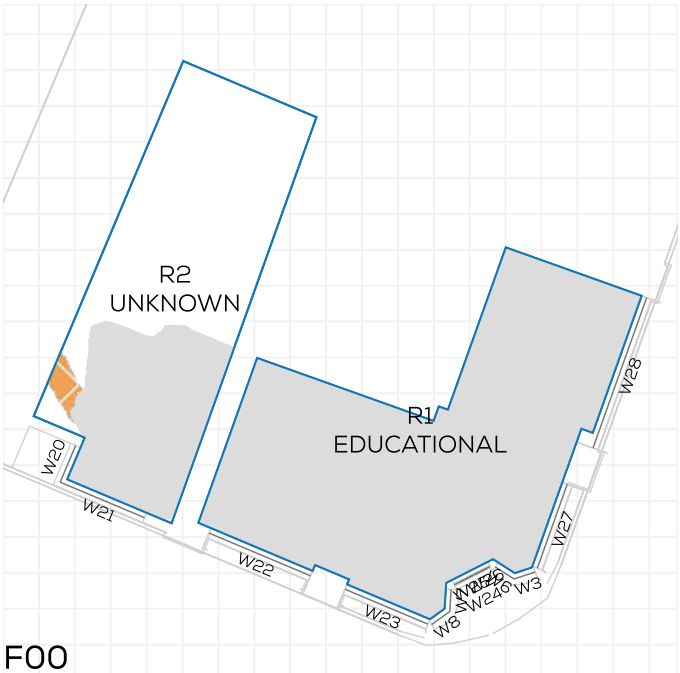
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	326-330 DEANSGATE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL53
SCHEME IR:	IR17

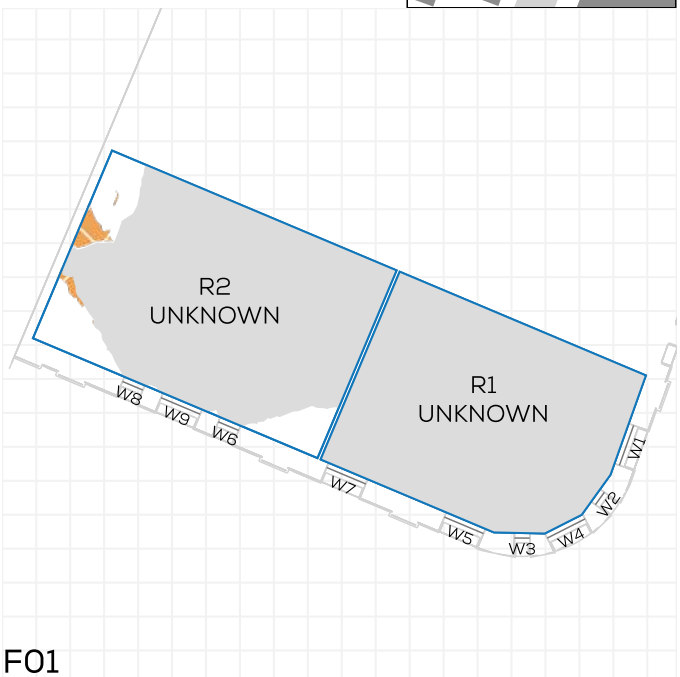
KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F00



F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
326-330 DEANSGATE								
F00	R1	RESIDENTIAL	EDUCATIONAL	63.4	100	100	0.0	0
F00	R2	RESIDENTIAL	UNKNOWN	50.4	36.2	34.5	0.9	4.7
F01	R1	RESIDENTIAL	UNKNOWN	46.1	100	100	0.0	0
F01	R2	RESIDENTIAL	UNKNOWN	54.6	85.7	83.9	1.0	2

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: THE ROPEWORKS
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL54
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

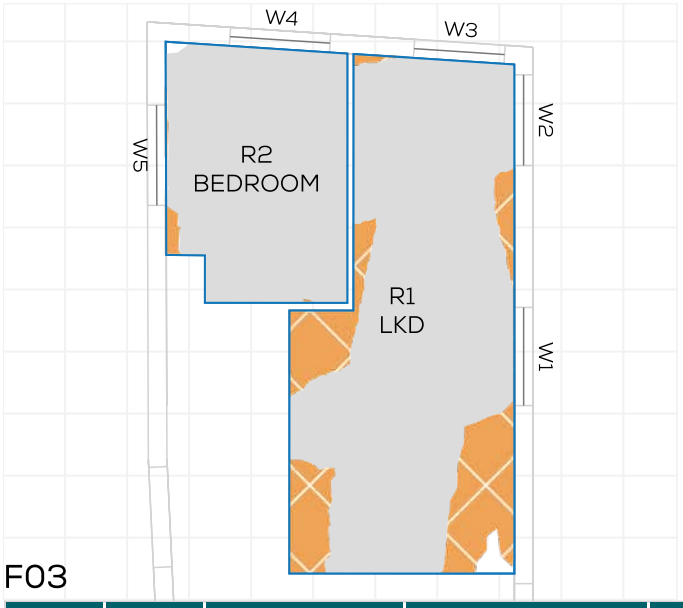




F01



F02



F03



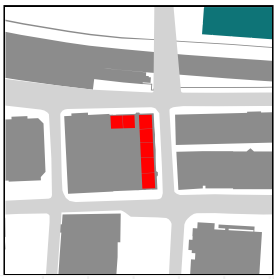
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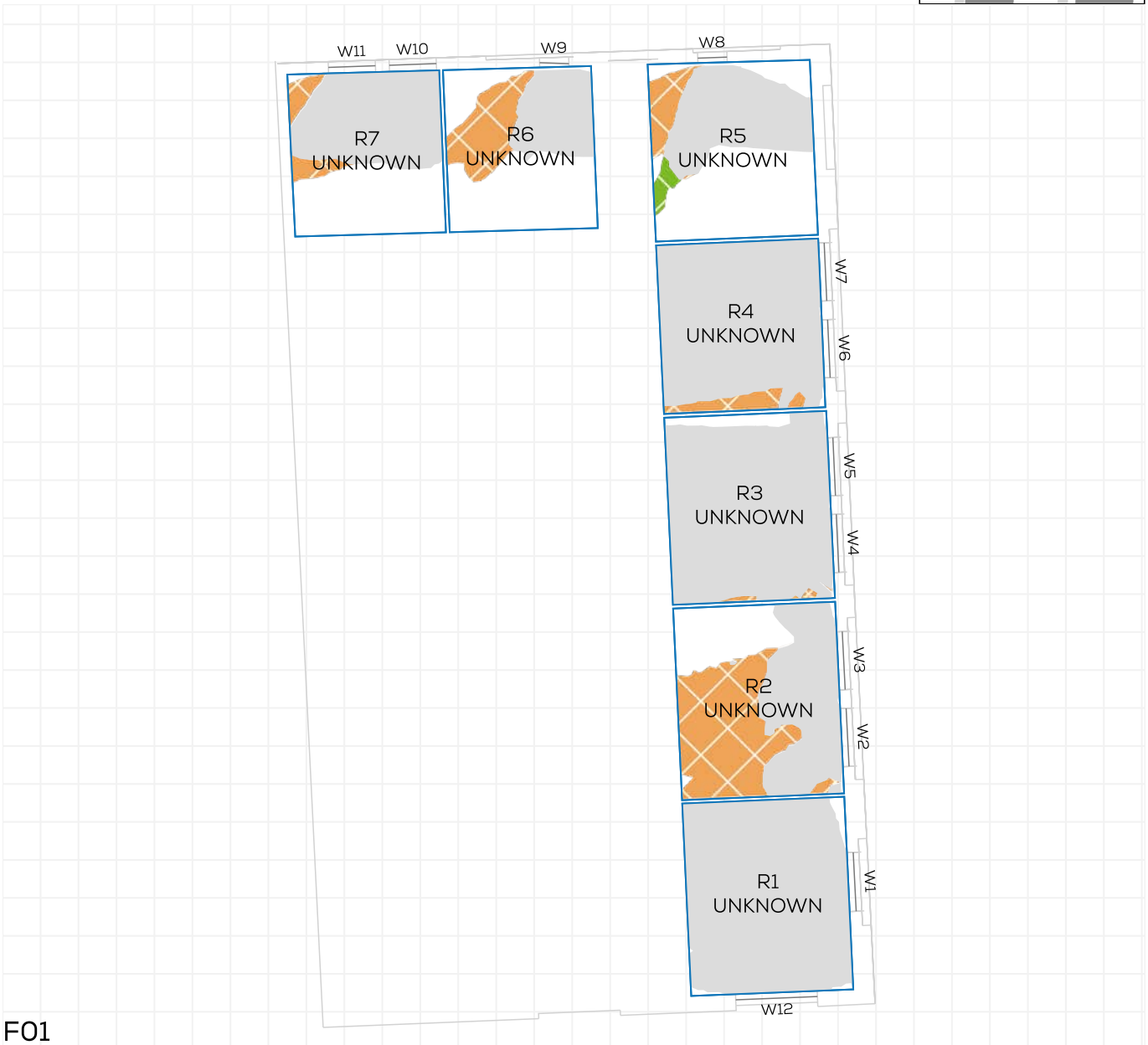
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE ROPEWORKS								
F01	R1	RESIDENTIAL	LKD	25.9	84.4	51.4	8.5	39.1
F01	R2	RESIDENTIAL	BEDROOM	11.5	80.6	54.5	3.0	32.3
F02	R1	RESIDENTIAL	LKD	25.9	97.9	73.9	6.2	24.5
F02	R2	RESIDENTIAL	BEDROOM	11.5	99.2	96.6	0.3	2.6
F03	R1	RESIDENTIAL	LKD	25.9	99.1	77.8	5.5	21.4
F03	R2	RESIDENTIAL	BEDROOM	11.5	99.6	97.7	0.2	1.9
F04	R1	RESIDENTIAL	LKD	25.9	98	77.6	5.3	20.8
F04	R2	RESIDENTIAL	BEDROOM	11.5	97.6	94.8	0.3	2.8

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: 21 LITTLE PETER STREET
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL55
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F01

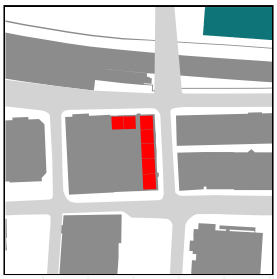
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
21 LITTLE PETER STREET								
F01	R1	RESIDENTIAL	UNKNOWN	21.7	97.9	97.9	0.0	0
F01	R2	RESIDENTIAL	UNKNOWN	21.6	79.5	39.9	8.5	49.8
F01	R3	RESIDENTIAL	UNKNOWN	21.1	95.2	94.1	0.2	1.2
F01	R4	RESIDENTIAL	UNKNOWN	18.9	99.6	93.2	1.2	6.5
F01	R5	RESIDENTIAL	UNKNOWN	19.8	45.8	40.7	1.0	11.1
F01	R6	RESIDENTIAL	UNKNOWN	16.7	46.1	26	3.3	43.6
F01	R7	RESIDENTIAL	UNKNOWN	17.0	59.4	51.9	1.3	12.6

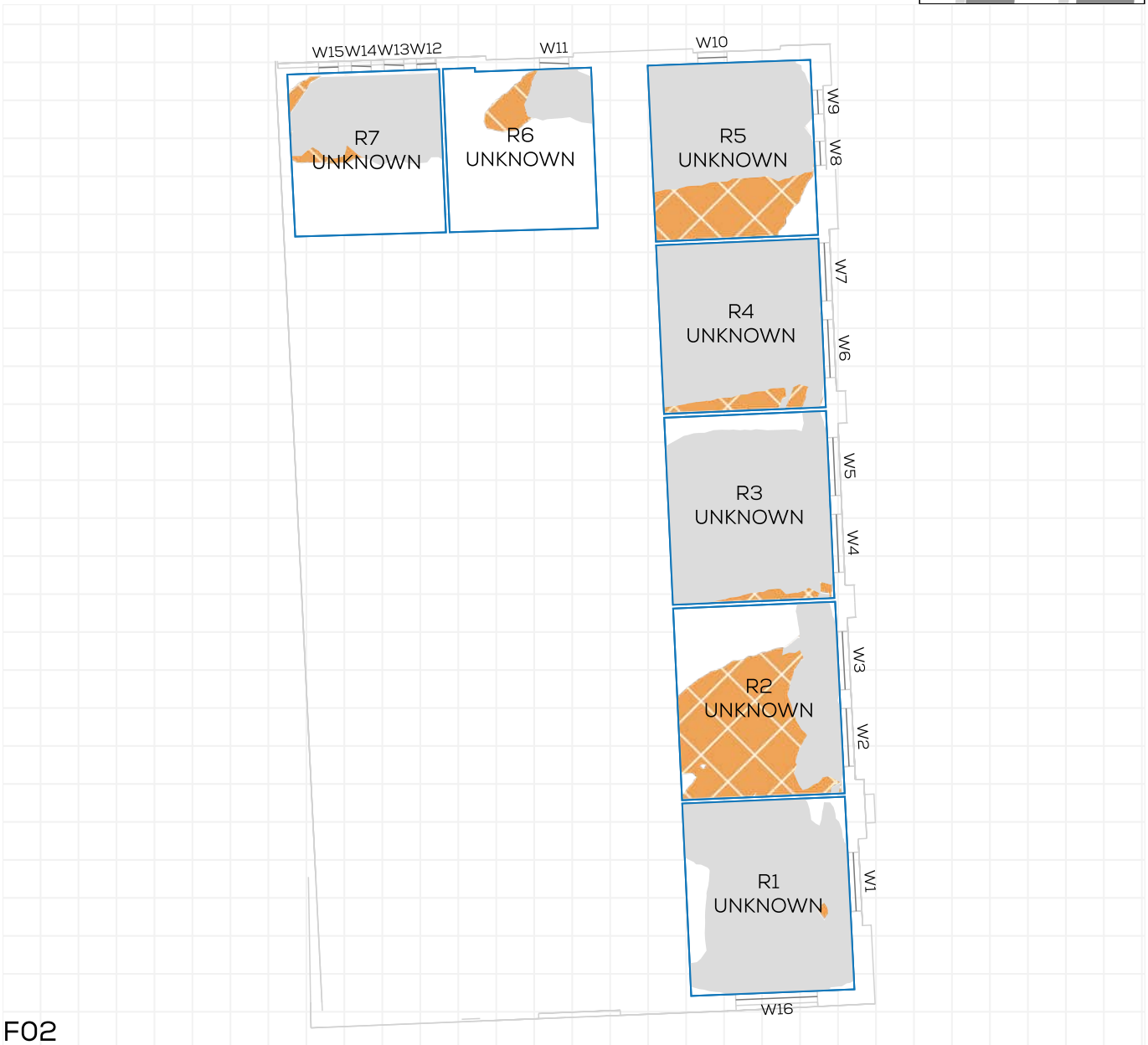
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	21 LITTLE PETER STREET
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL56
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





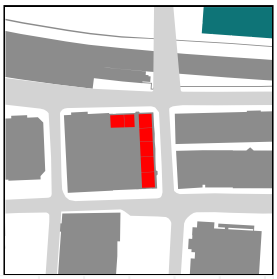
F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
21 LITTLE PETER STREET								
F02	R1	RESIDENTIAL	UNKNOWN	21.8	90.8	90.4	0.1	0.4
F02	R2	RESIDENTIAL	UNKNOWN	21.6	75.5	25	10.9	66.9
F02	R3	RESIDENTIAL	UNKNOWN	21.0	91.7	88.7	0.6	3.3
F02	R4	RESIDENTIAL	UNKNOWN	19.0	99.7	92.3	1.4	7.4
F02	R5	RESIDENTIAL	UNKNOWN	19.8	94.3	66.4	5.5	29.6
F02	R6	RESIDENTIAL	UNKNOWN	16.5	20	13	1.2	35.1
F02	R7	RESIDENTIAL	UNKNOWN	17.1	52.6	48.3	0.7	8.1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: 21 LITTLE PETER STREET
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL57
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F03

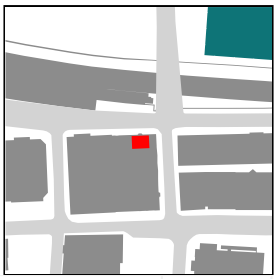
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
21 LITTLE PETER STREET								
F03	R1	RESIDENTIAL	UNKNOWN	21.9	95.8	95	0.2	0.9
F03	R2	RESIDENTIAL	UNKNOWN	21.6	98.2	90.8	1.6	7.6
F03	R3	RESIDENTIAL	UNKNOWN	21.0	98.2	87.1	2.3	11.3
F03	R4	RESIDENTIAL	UNKNOWN	19.0	98.7	80.6	3.4	18.3
F03	R5	RESIDENTIAL	UNKNOWN	19.8	78.5	61.3	3.4	22
F03	R6	RESIDENTIAL	UNKNOWN	14.2	78.3	67	1.6	14.4
F03	R7	RESIDENTIAL	UNKNOWN	18.8	96.4	92.7	0.7	3.9

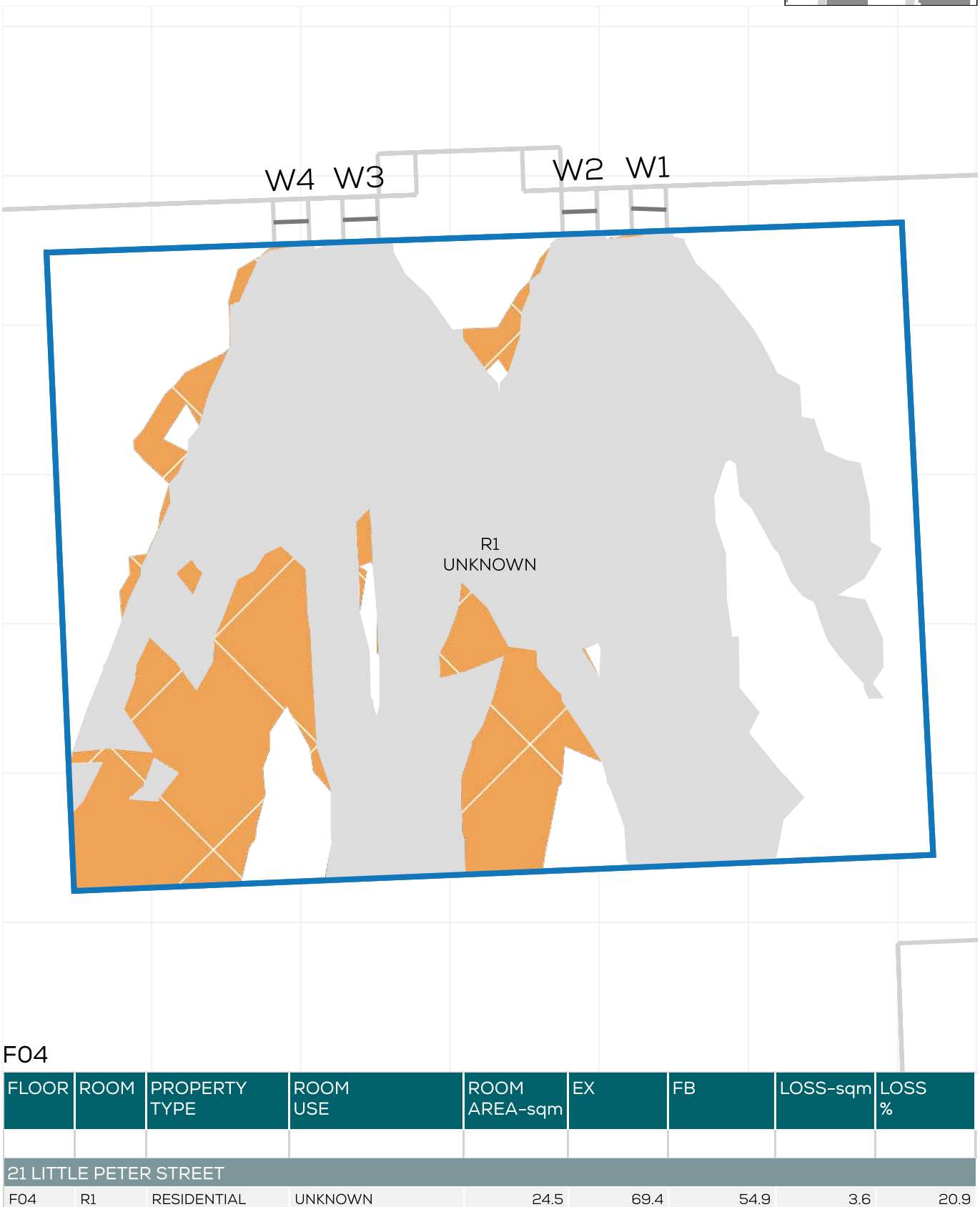
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	21 LITTLE PETER STREET
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL58
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





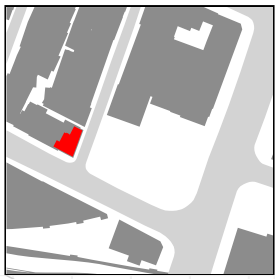
F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
21 LITTLE PETER STREET								
F04	R1	RESIDENTIAL	UNKNOWN	24.5	69.4	54.9	3.6	20.9

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: 8-16 BRIDGEWATER ST
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL59
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F00



F01



F02

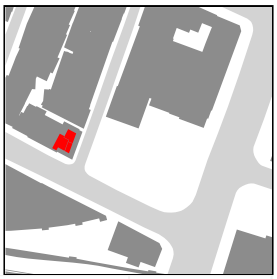
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
8-16 BRIDGEWATER ST								
F00	R1	RESIDENTIAL	LIVING ROOM	31.4	78.5	78.3	0.1	0.2
F01	R1	RESIDENTIAL	LIVING ROOM	28.3	91.9	87.9	1.1	4.4
F01	R2	RESIDENTIAL	BEDROOM	13.2	88.8	88	0.1	0.9
F02	R1	RESIDENTIAL	LIVING ROOM	27.4	96.5	93.8	0.7	2.7
F02	R2	RESIDENTIAL	BEDROOM	13.2	88.3	85.9	0.3	2.7

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	8-16 BRIDGEWATER ST
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL60
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





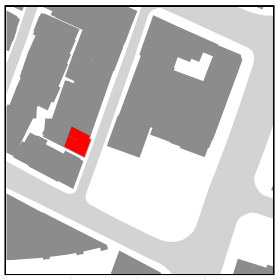
F03

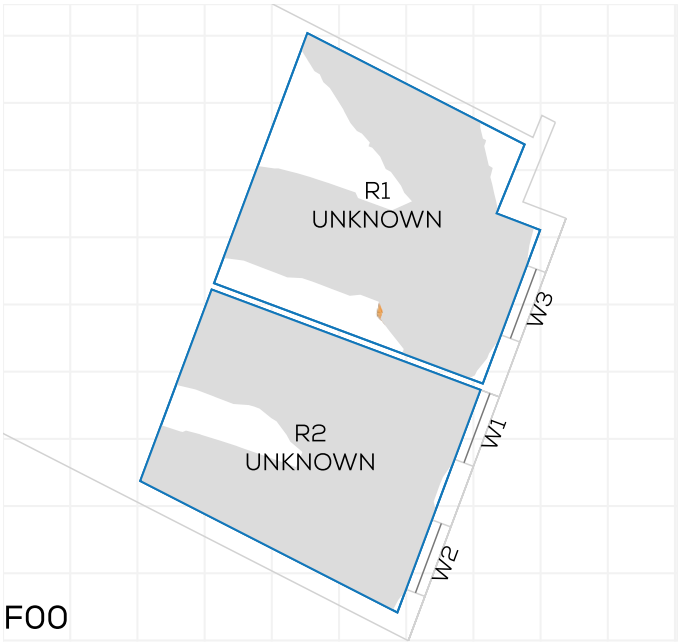
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
8-16 BRIDGEWATER ST								
F03	R1	RESIDENTIAL	LIVING ROOM	17.0	87.1	86.4	0.1	0.8
F03	R2	RESIDENTIAL	KITCHEN	5.2	88.6	84.1	0.2	5.1
F03	R3	RESIDENTIAL	BEDROOM	10.7	99.4	97.5	0.2	1.9

NSL CONTOURS

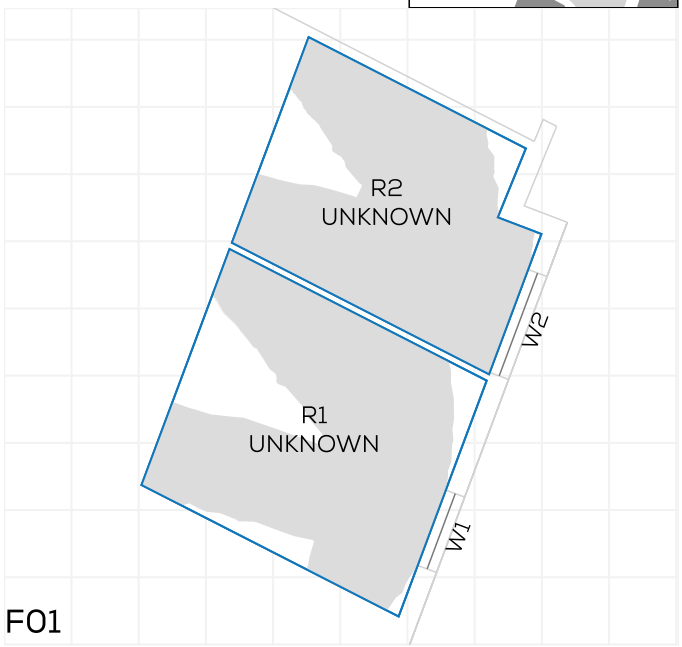
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: 20 SOUTHERN ST
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL61
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

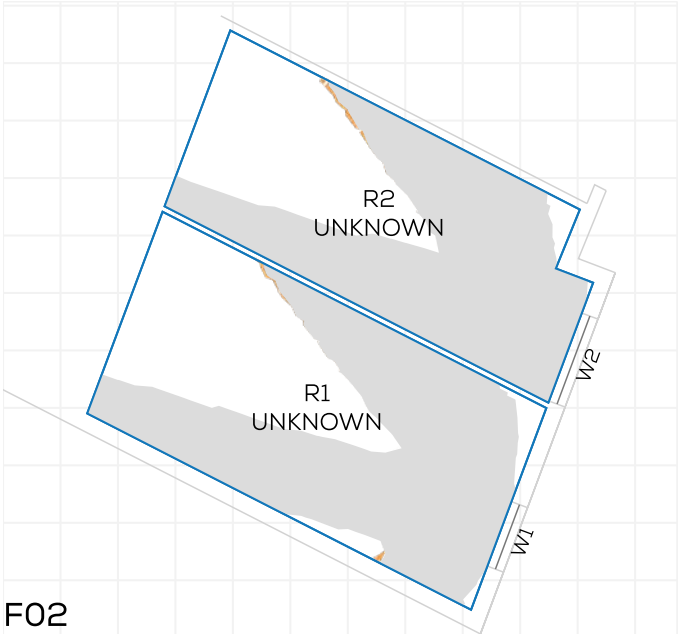




F00



F01



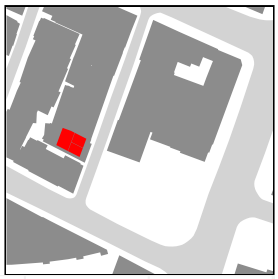
F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
20 SOUTHERN ST								
F00	R1	RESIDENTIAL	UNKNOWN	15.2	73	72.9	0.0	0.2
F00	R2	RESIDENTIAL	UNKNOWN	14.0	91.3	91.3	0.0	0
F01	R1	RESIDENTIAL	UNKNOWN	16.0	81	81	0.0	0.1
F01	R2	RESIDENTIAL	UNKNOWN	13.2	88.6	88.5	0.0	0.1
F02	R1	RESIDENTIAL	UNKNOWN	27.9	60.7	60.4	0.1	0.4
F02	R2	RESIDENTIAL	UNKNOWN	23.6	63.1	62.7	0.1	0.7

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: 20 SOUTHERN ST
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL62
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





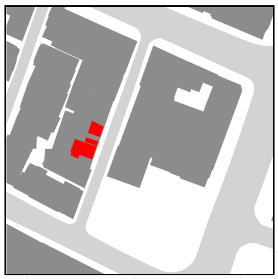
F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
20 SOUTHERN ST								
F03	R1	RESIDENTIAL	UNKNOWN	27.2	99.2	99.2	0.0	0
F03	R2	RESIDENTIAL	UNKNOWN	13.3	76.3	76.1	0.0	0.3
F03	R3	RESIDENTIAL	UNKNOWN	13.9	75.3	74.9	0.1	0.5

NSL CONTOURS

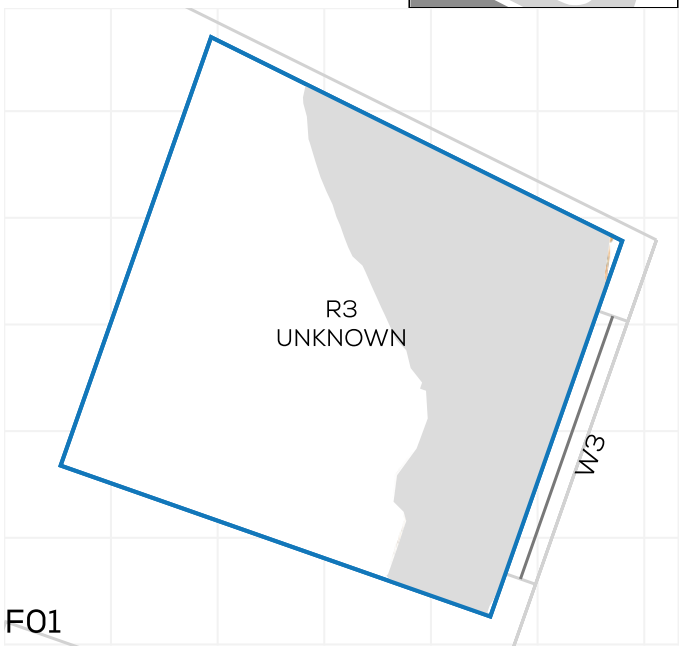
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: 18-12 SOUTHERN ST
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL63
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

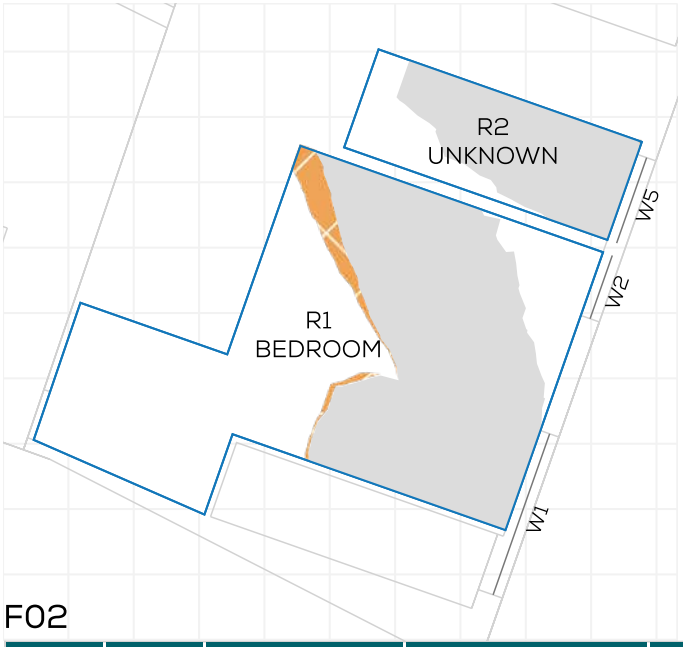




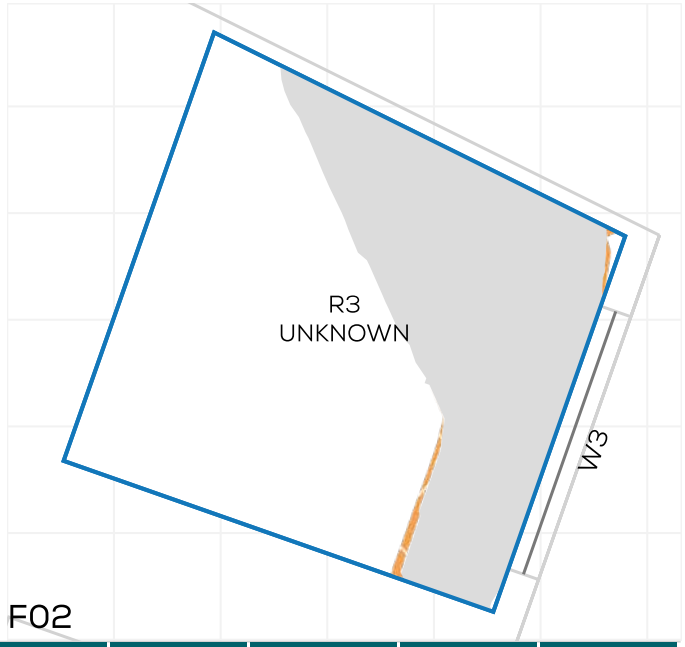
F01



F01



F02



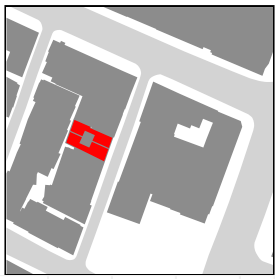
F02

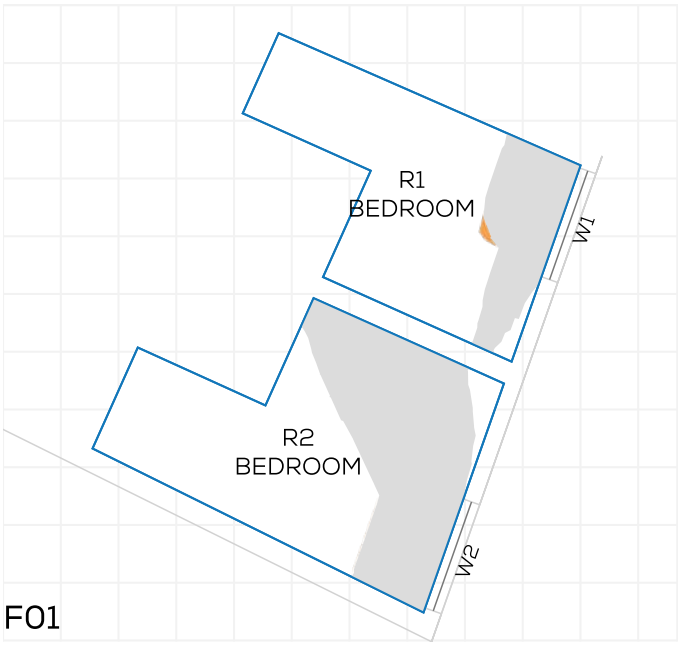
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
18-12 SOUTHERN ST								
F01	R1	RESIDENTIAL	LIVING ROOM	34.5	49.6	48.4	0.4	2.3
F01	R2	RESIDENTIAL	UNKNOWN	6.8	71.4	71.4	0.0	0
F01	R3	RESIDENTIAL	UNKNOWN	17.1	41.5	41.4	0.0	0.1
F02	R1	RESIDENTIAL	BEDROOM	28.2	49.5	46.3	0.9	6.4
F02	R2	RESIDENTIAL	UNKNOWN	6.8	71.7	71.6	0.0	0.1
F02	R3	RESIDENTIAL	UNKNOWN	17.1	40.6	40	0.1	1.6

NSL CONTOURS

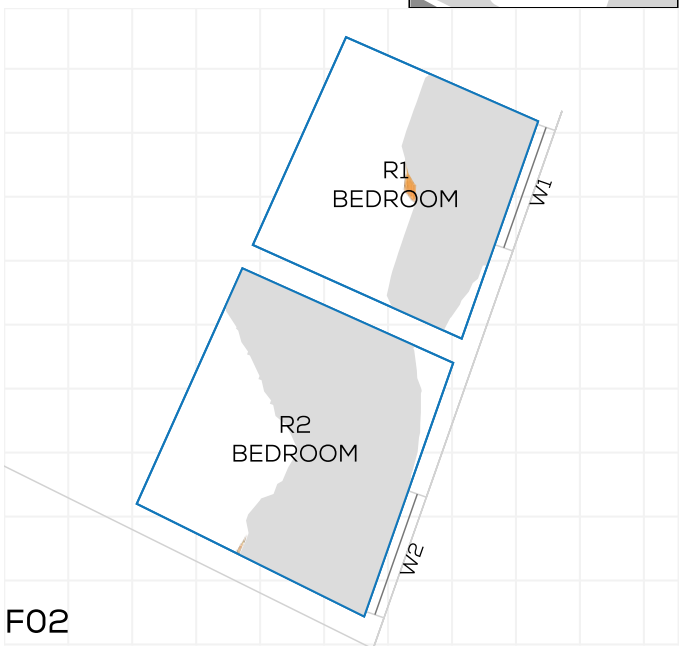
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: 8-10 SOUTHERN ST
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL64
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

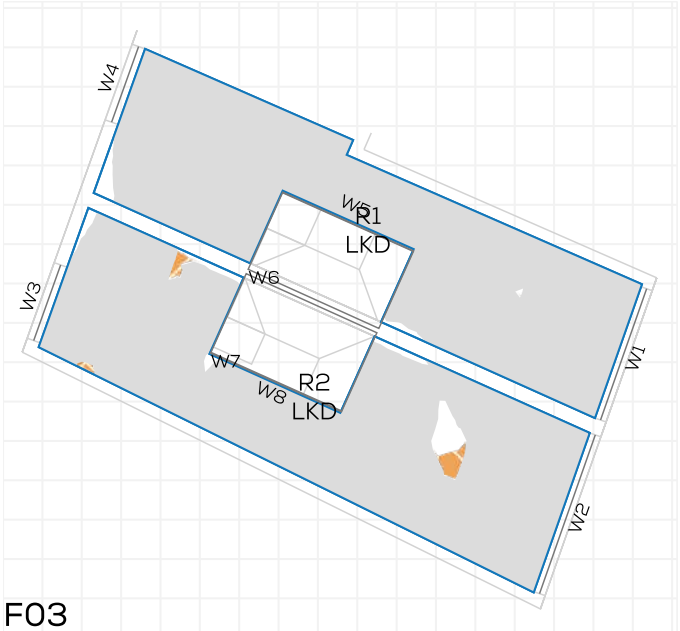




F01



F02



F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
8-10 SOUTHERN ST								
F01	R1	RESIDENTIAL	BEDROOM	16.0	23	22.7	0.1	1.6
F01	R2	RESIDENTIAL	BEDROOM	20.3	43.9	43.9	0.0	0.1
F02	R1	RESIDENTIAL	BEDROOM	12.3	45.4	44.9	0.1	1.1
F02	R2	RESIDENTIAL	BEDROOM	15.6	65.7	65.7	0.0	0.1
F03	R1	RESIDENTIAL	LKD	44.2	98.7	98.7	0.0	0
F03	R2	RESIDENTIAL	LKD	48.3	96.9	95.7	0.6	1.3

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	DEANSGATE QUAY
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL65
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



B01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
DEANSGATE QUAY								
B01	R1	RESIDENTIAL	UNKNOWN	289.2	97.5	96.3	3.6	1.3

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: DEANSGATE QUAY
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL66
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F00

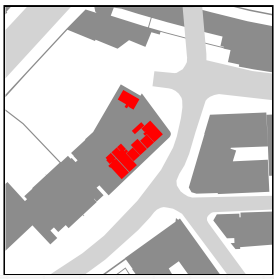
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
DEANSGATE QUAY								
F00	R1	RESIDENTIAL	LKD	22.2	47.9	41.5	1.4	13.3
F00	R2	RESIDENTIAL	LKD	27.2	87	83.6	0.9	3.8
F00	R3	RESIDENTIAL	BEDROOM	10.2	89.3	86.7	0.3	2.9
F00	R4	RESIDENTIAL	BEDROOM	14.0	88.5	87.4	0.2	1.3
F00	R5	RESIDENTIAL	LOBBY	28.7	96.4	88.9	2.1	7.8
F00	R7	RESIDENTIAL	LKD	24.4	97.7	97.7	0.0	0

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	DEANSGATE QUAY
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL67
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F01

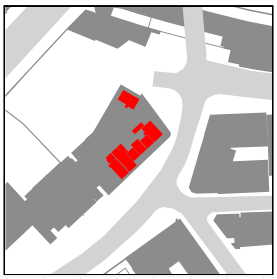
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
DEANSGATE QUAY								
F01	R1	RESIDENTIAL	LKD	27.8	84.3	80.4	1.1	4.6
F01	R2	RESIDENTIAL	LKD	32.9	90.5	90.5	0.0	0
F01	R3	RESIDENTIAL	BEDROOM	10.2	97.9	95.5	0.2	2.5
F01	R4	RESIDENTIAL	BEDROOM	14.0	95.5	94.6	0.1	1
F01	R5	RESIDENTIAL	BEDROOM	10.8	92.6	92.3	0.0	0.3
F01	R6	RESIDENTIAL	LKD	25.1	96.2	91.8	1.1	4.5
F01	R7	RESIDENTIAL	UNKNOWN	6.4	79	58.4	1.3	26.1
F01	R9	RESIDENTIAL	LKD	24.4	99.1	98.8	0.1	0.2

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	DEANSGATE QUAY
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL68
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F02

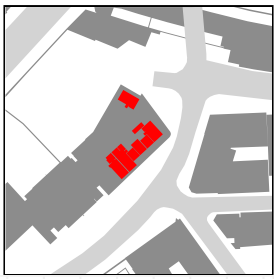
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
DEANSGATE QUAY								
F02	R1	RESIDENTIAL	LKD	27.8	84.8	82.2	0.7	3.1
F02	R2	RESIDENTIAL	LKD	32.9	90.6	90.6	0.0	0
F02	R3	RESIDENTIAL	BEDROOM	10.2	98	95.6	0.2	2.4
F02	R4	RESIDENTIAL	BEDROOM	14.0	98.4	97.5	0.1	0.9
F02	R5	RESIDENTIAL	BEDROOM	10.8	94.6	94.3	0.0	0.3
F02	R6	RESIDENTIAL	LKD	25.1	96.9	95.8	0.3	1.2
F02	R7	RESIDENTIAL	UNKNOWN	6.4	90.7	64.7	1.7	28.7
F02	R9	RESIDENTIAL	LKD	24.4	99.8	98.9	0.2	0.9

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	DEANSGATE QUAY
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL69
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





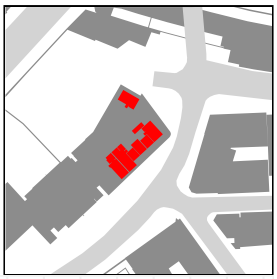
F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
DEANSGATE QUAY								
F03	R1	RESIDENTIAL	LKD	27.8	86.5	84.8	0.5	1.9
F03	R2	RESIDENTIAL	LKD	32.9	90.7	90.7	0.0	0
F03	R3	RESIDENTIAL	BEDROOM	10.2	98	95.8	0.2	2.3
F03	R4	RESIDENTIAL	BEDROOM	14.0	98.5	97.6	0.1	0.9
F03	R5	RESIDENTIAL	BEDROOM	10.8	96.7	96.5	0.0	0.2
F03	R6	RESIDENTIAL	LKD	25.1	97	96	0.3	1.1
F03	R7	RESIDENTIAL	UNKNOWN	6.4	94.2	65.2	1.9	30.8
F03	R10	RESIDENTIAL	LKD	24.4	100	98.9	0.3	1.1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: DEANSGATE QUAY
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL70
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F04

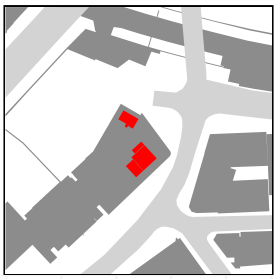
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
DEANSGATE QUAY								
F04	R1	RESIDENTIAL	LKD	27.8	85.5	77.9	2.1	9
F04	R2	RESIDENTIAL	LKD	32.9	90.4	90.4	0.0	0
F04	R3	RESIDENTIAL	BEDROOM	10.2	98	96.3	0.2	1.7
F04	R4	RESIDENTIAL	BEDROOM	14.0	98.5	97.6	0.1	0.9
F04	R5	RESIDENTIAL	BEDROOM	10.8	97	96.8	0.0	0.2
F04	R6	RESIDENTIAL	LKD	25.1	96.7	95.7	0.2	1
F04	R7	RESIDENTIAL	UNKNOWN	6.4	94.6	65.5	1.9	30.8
F04	R9	RESIDENTIAL	LKD	24.4	100	98.9	0.3	1.1

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	DEANSGATE QUAY
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL71
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F05

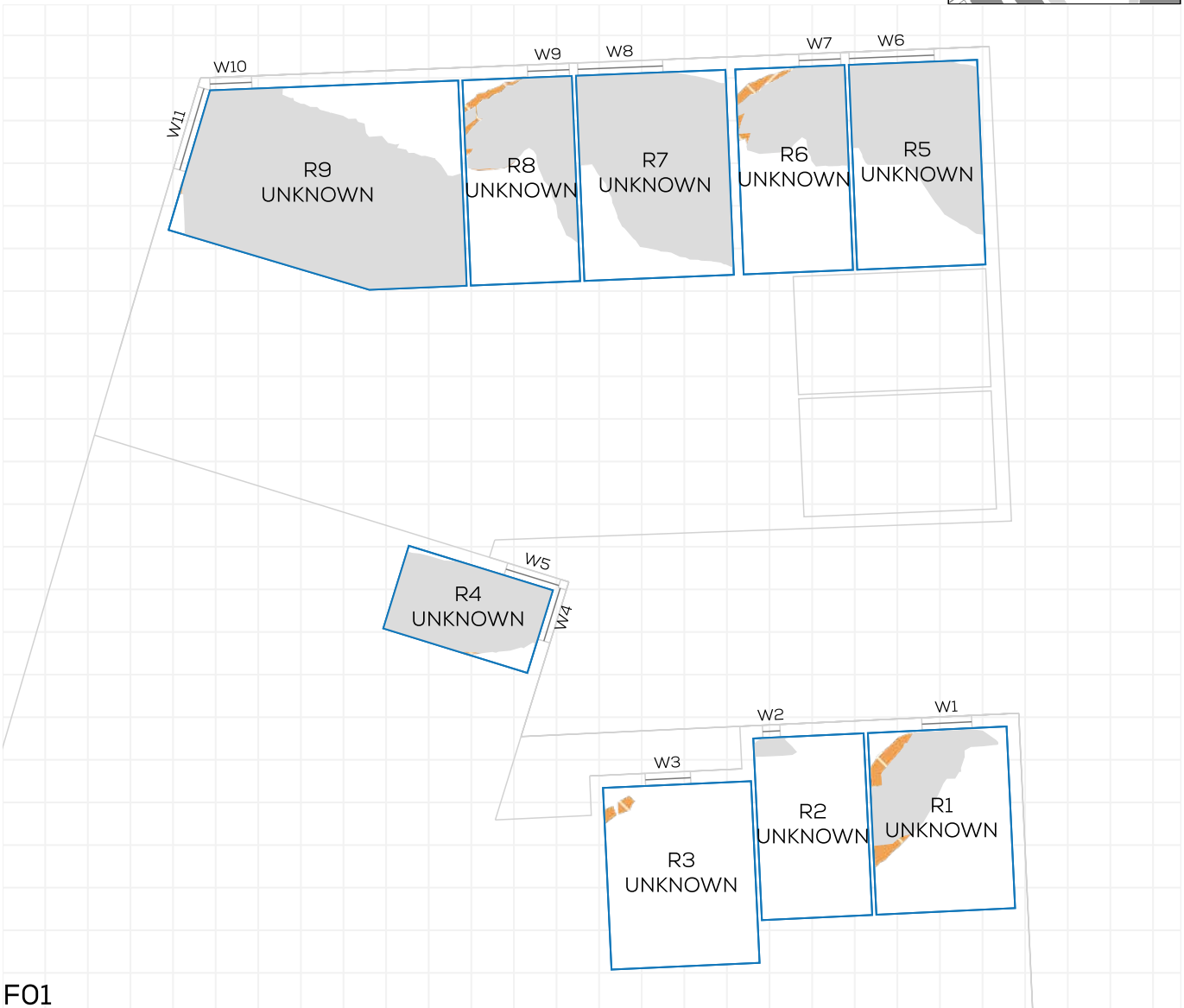
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
DEANSGATE QUAY								
F05	R1	RESIDENTIAL	UNKNOWN	16.4	99.7	99.6	0.0	0.1
F05	R2	RESIDENTIAL	UNKNOWN	35.6	99.7	99.7	0.0	0.1
F05	R3	RESIDENTIAL	UNKNOWN	6.4	92.6	82.8	0.6	10.6
F05	R5	RESIDENTIAL	LKD	21.1	100	98.8	0.3	1.2

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: 357-361 DEANSGATE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL72
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F01

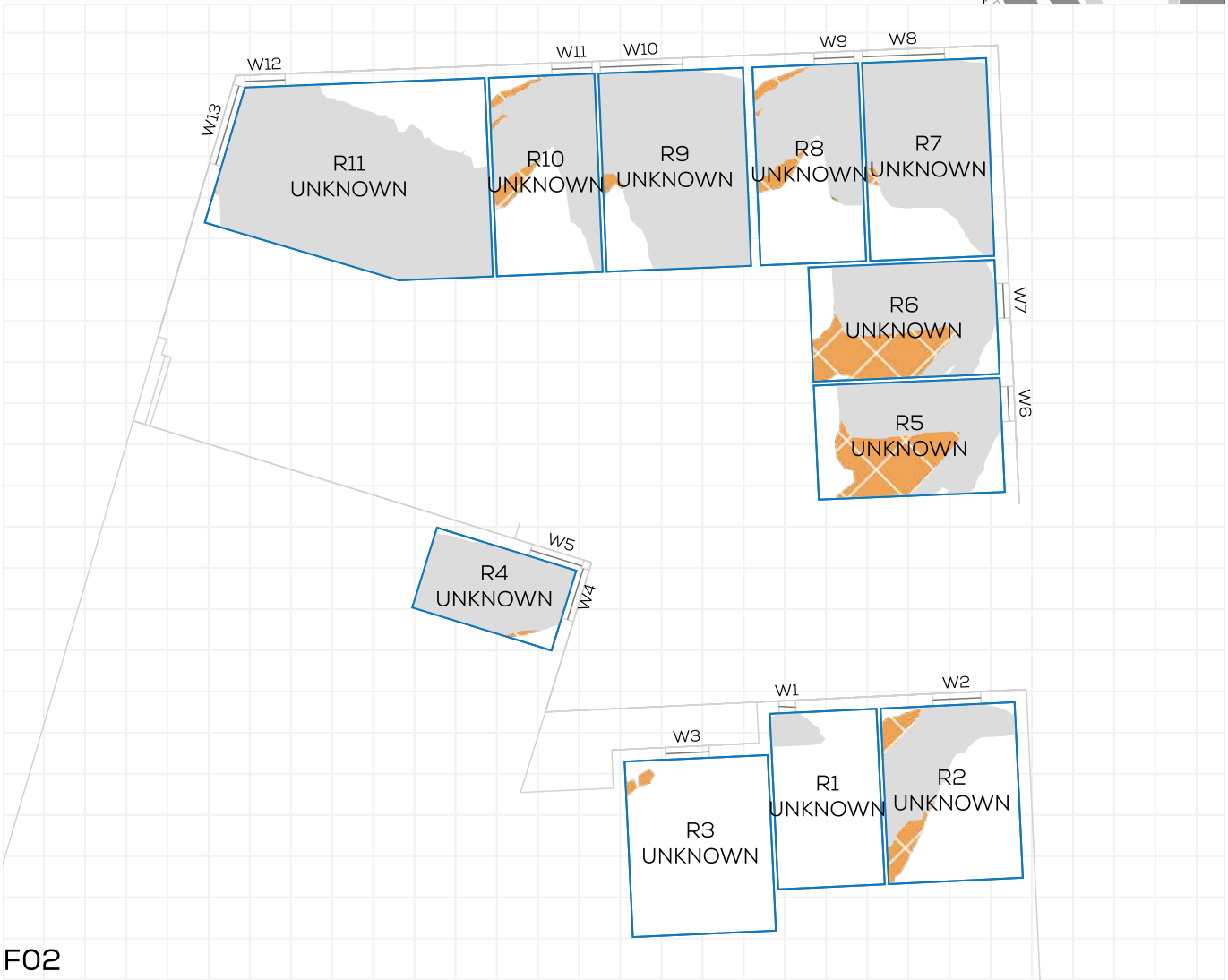
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
357-361 DEANSGATE								
F01	R1	RESIDENTIAL	UNKNOWN	13.9	32.8	28.1	0.7	14.3
F01	R2	RESIDENTIAL	UNKNOWN	11.1	3.3	3.3	0.0	0
F01	R3	RESIDENTIAL	UNKNOWN	14.8	1.2	0	0.2	100
F01	R4	RESIDENTIAL	UNKNOWN	7.2	91.9	91.6	0.0	0.3
F01	R5	RESIDENTIAL	UNKNOWN	14.5	61.3	61.3	0.0	0
F01	R6	RESIDENTIAL	UNKNOWN	12.3	39.7	36.9	0.3	7.1
F01	R7	RESIDENTIAL	UNKNOWN	16.9	77.9	77.9	0.0	0
F01	R8	RESIDENTIAL	UNKNOWN	12.4	46.7	44	0.3	5.6
F01	R9	RESIDENTIAL	UNKNOWN	28.0	82.1	82	0.0	0.1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: 357-361 DEANSGATE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL73
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
357-361 DEANSGATE								
F02	R1	RESIDENTIAL	UNKNOWN	11.1	7.8	7.8	0.0	0
F02	R2	RESIDENTIAL	UNKNOWN	13.9	44.3	35.2	1.3	20.4
F02	R3	RESIDENTIAL	UNKNOWN	14.8	1.2	0	0.2	100
F02	R4	RESIDENTIAL	UNKNOWN	7.2	94.2	93	0.1	1.2
F02	R5	RESIDENTIAL	UNKNOWN	12.5	81.1	53	3.5	34.7
F02	R6	RESIDENTIAL	UNKNOWN	12.5	88.4	60.5	3.5	31.6
F02	R7	RESIDENTIAL	UNKNOWN	14.5	78.3	77.5	0.1	1
F02	R8	RESIDENTIAL	UNKNOWN	12.3	55.4	49.5	0.7	10.6
F02	R9	RESIDENTIAL	UNKNOWN	16.9	89.5	88.5	0.2	1
F02	R10	RESIDENTIAL	UNKNOWN	12.4	59.8	53.4	0.8	10.7
F02	R11	RESIDENTIAL	UNKNOWN	28.0	82.9	82.9	0.0	0.1

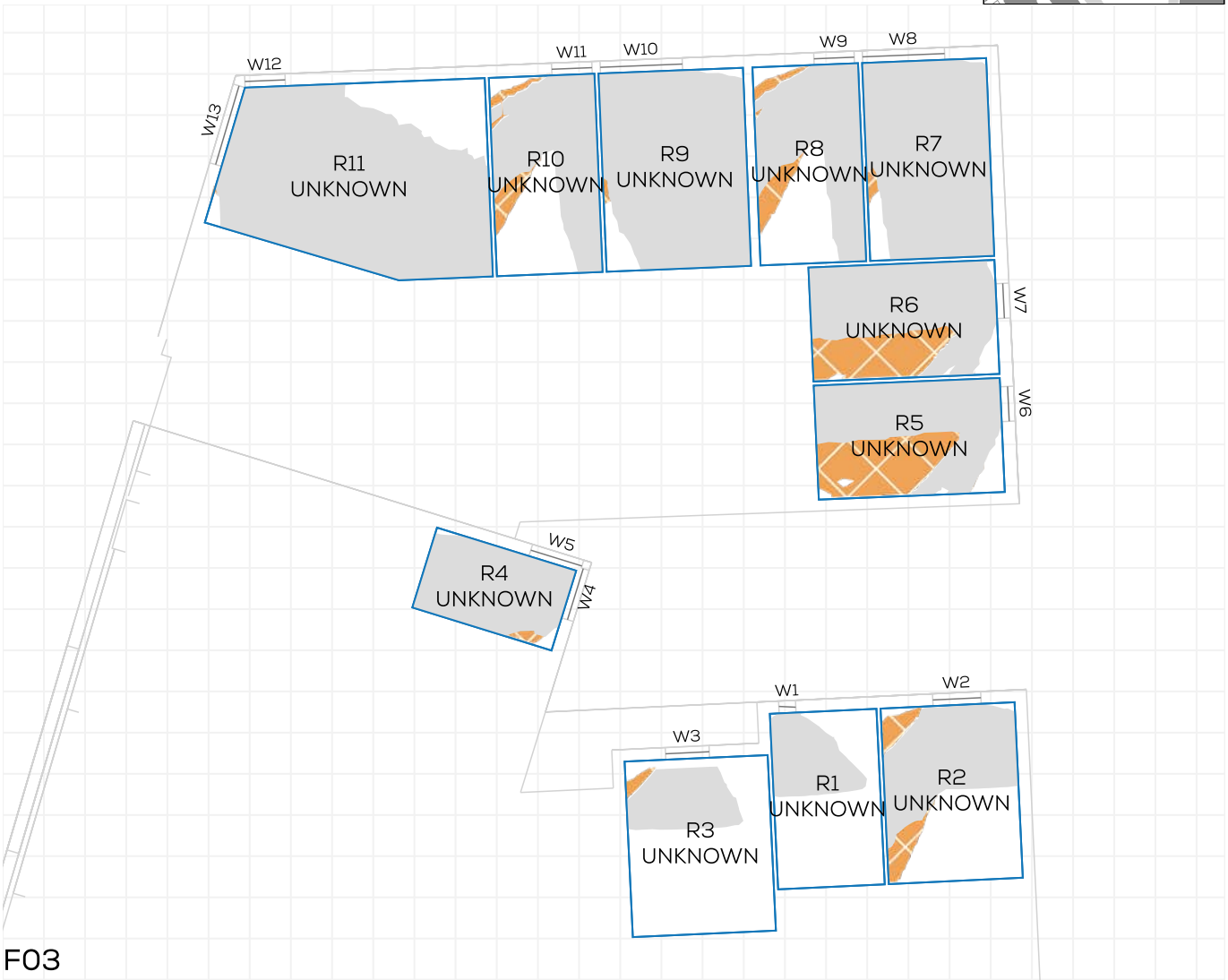
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	357-361 DEANSGATE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL74
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





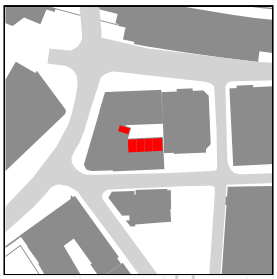
F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
357-361 DEANSGATE								
F03	R1	RESIDENTIAL	UNKNOWN	11.1	30.3	30.3	0.0	0
F03	R2	RESIDENTIAL	UNKNOWN	13.9	58.4	49.4	1.3	15.5
F03	R3	RESIDENTIAL	UNKNOWN	14.8	24.7	23.5	0.2	5.2
F03	R4	RESIDENTIAL	UNKNOWN	7.2	97.4	94.8	0.2	2.7
F03	R5	RESIDENTIAL	UNKNOWN	12.5	93.6	60.9	4.1	35
F03	R6	RESIDENTIAL	UNKNOWN	12.5	95.8	69.8	3.3	27.2
F03	R7	RESIDENTIAL	UNKNOWN	14.5	95.4	94.2	0.2	1.3
F03	R8	RESIDENTIAL	UNKNOWN	12.3	68.6	60.1	1.1	12.4
F03	R9	RESIDENTIAL	UNKNOWN	16.9	94.4	93.9	0.1	0.5
F03	R10	RESIDENTIAL	UNKNOWN	12.4	68.1	60.6	0.9	11
F03	R11	RESIDENTIAL	UNKNOWN	28.0	84.7	84.7	0.0	0.1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: 357-361 DEANSGATE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL75
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





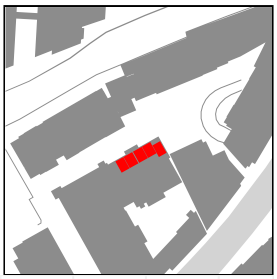
F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
357-361 DEANSGATE								
F04	R1	RESIDENTIAL	UNKNOWN	11.1	80.8	80.8	0.0	0
F04	R2	RESIDENTIAL	UNKNOWN	13.9	86.7	78.2	1.2	9.9
F04	R3	RESIDENTIAL	UNKNOWN	10.6	84.8	82.9	0.2	2.3
F04	R4	RESIDENTIAL	UNKNOWN	11.8	84.7	81.7	0.4	3.6
F04	R5	RESIDENTIAL	UNKNOWN	7.2	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: LUMIERE BUILDING
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL76
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
LUMIERE BUILDING								
F00	R1	RESIDENTIAL	UNKNOWN	12.9	6.5	6.5	0.0	0
F00	R2	RESIDENTIAL	UNKNOWN	13.6	19.5	19.5	0.0	0
F00	R3	RESIDENTIAL	UNKNOWN	14.1	12.7	12.7	0.0	0
F00	R4	RESIDENTIAL	UNKNOWN	14.1	6	6	0.0	0
F00	R5	RESIDENTIAL	UNKNOWN	12.8	10.2	10.2	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: LUMIERE BUILDING
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL77
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F01

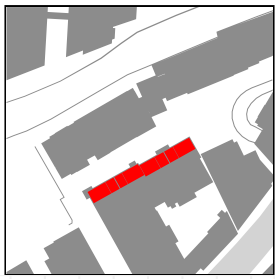
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
LUMIERE BUILDING								
F01	R1	RESIDENTIAL	LKD	26.5	28.6	28.6	0.0	0
F01	R2	RESIDENTIAL	BEDROOM	14.1	16.8	16.6	0.0	0.6
F01	R3	RESIDENTIAL	BEDROOM	14.1	6.4	6.1	0.0	4.9
F01	R4	RESIDENTIAL	LKD	24.1	20	20	0.0	0
F01	R5	RESIDENTIAL	LKD	26.6	6.1	6.1	0.0	0
F01	R6	RESIDENTIAL	BEDROOM	12.0	10.2	10.2	0.0	-0.1
F01	R7	RESIDENTIAL	BEDROOM	13.2	10.6	10.6	0.0	0
F01	R8	RESIDENTIAL	LKD	28.6	48.6	48.6	0.0	0

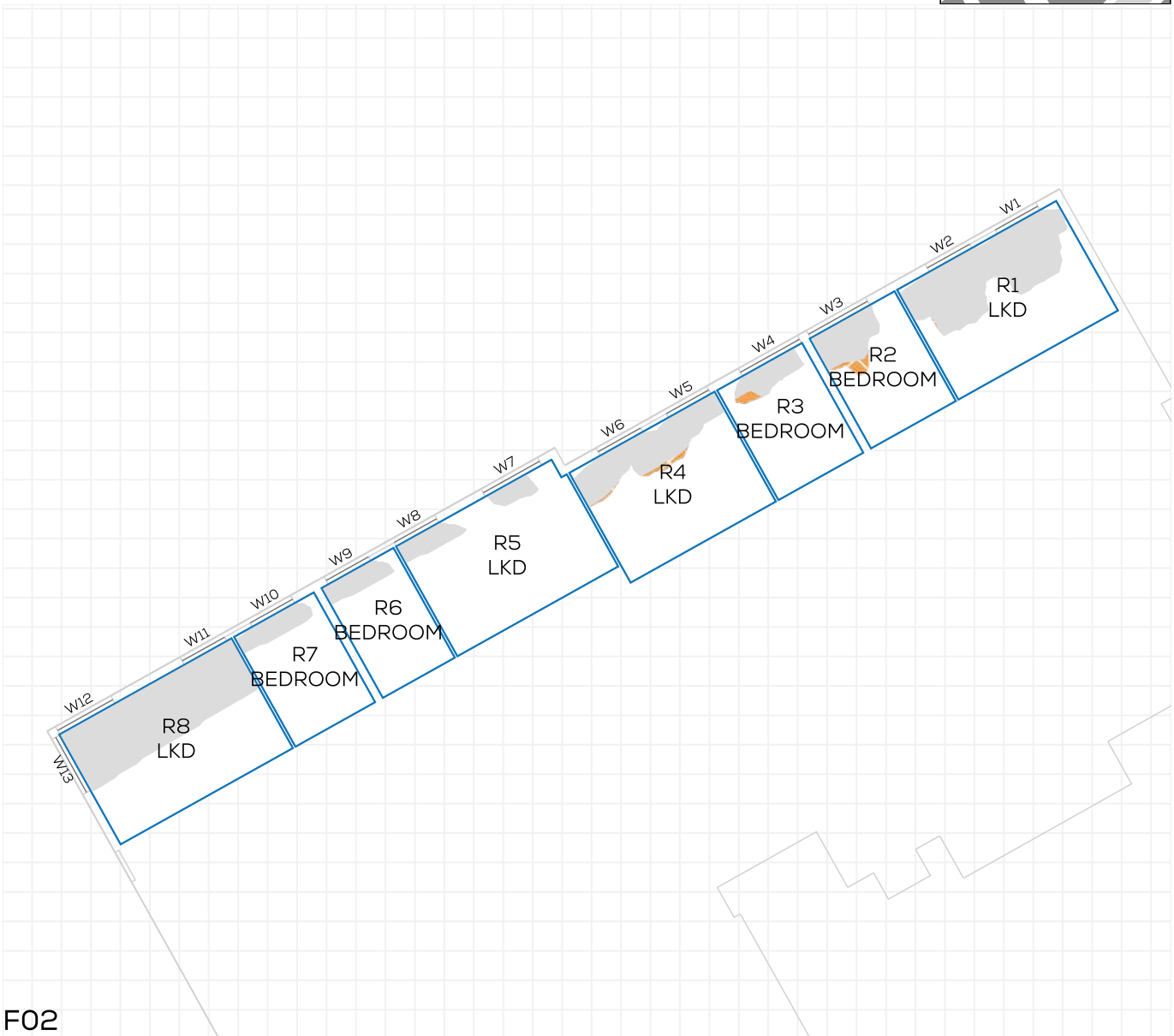
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	LUMIERE BUILDING
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL78
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





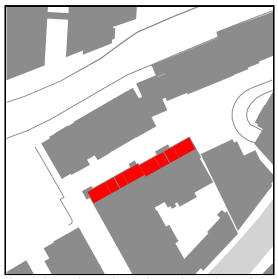
F02

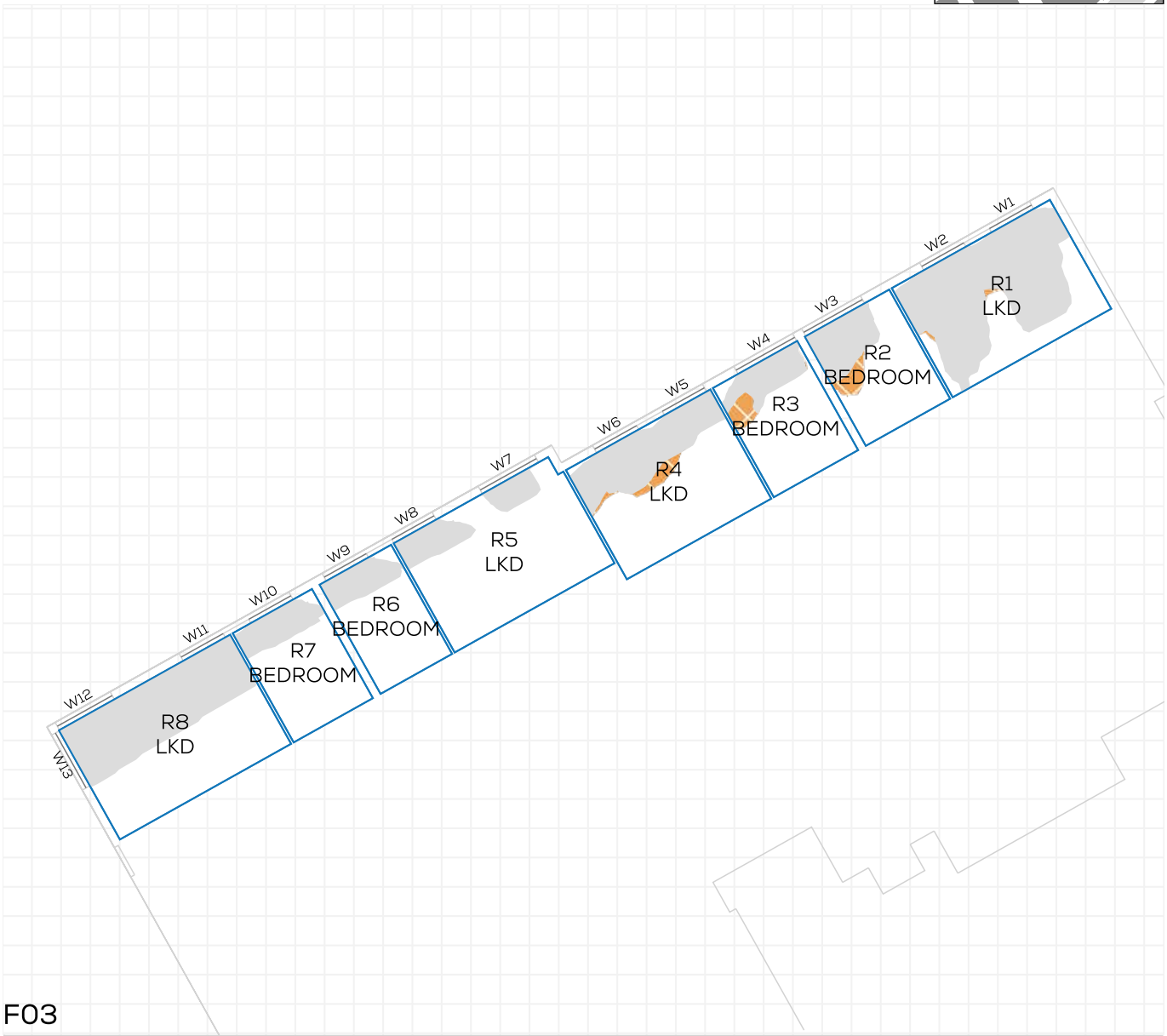
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
LUMIERE BUILDING								
F02	R1	RESIDENTIAL	LKD	26.5	42	41.8	0.0	0.3
F02	R2	RESIDENTIAL	BEDROOM	14.1	23.1	20.3	0.4	12
F02	R3	RESIDENTIAL	BEDROOM	14.1	14.4	12.8	0.2	11.4
F02	R4	RESIDENTIAL	LKD	24.1	26.6	25	0.4	6
F02	R5	RESIDENTIAL	LKD	26.6	9.4	9.4	0.0	0
F02	R6	RESIDENTIAL	BEDROOM	12.0	13.8	13.8	0.0	0
F02	R7	RESIDENTIAL	BEDROOM	13.2	14.2	14.2	0.0	0
F02	R8	RESIDENTIAL	LKD	28.6	48.6	48.6	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: LUMIERE BUILDING
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL79
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F03

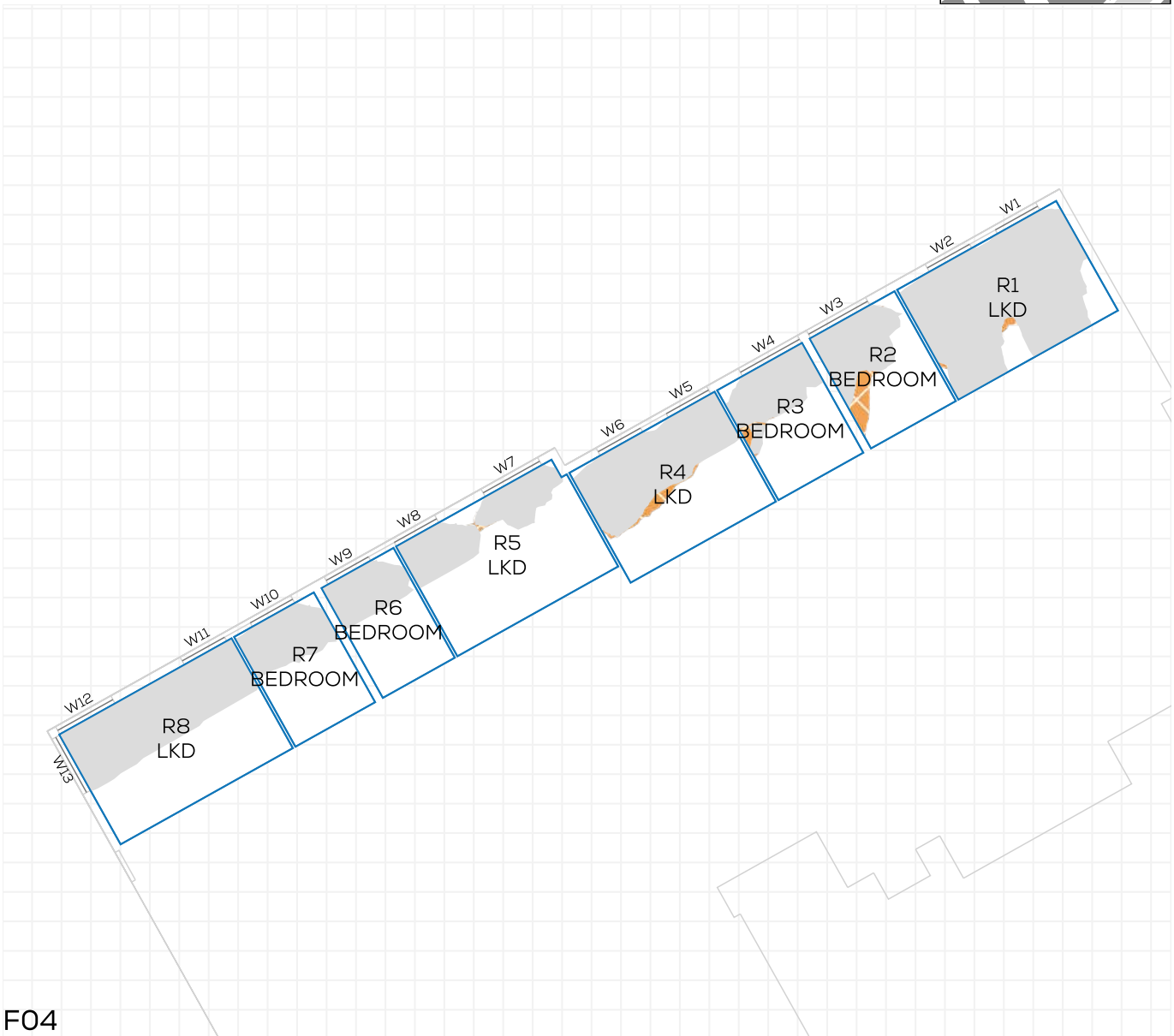
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
LUMIERE BUILDING								
F03	R1	RESIDENTIAL	LKD	26.5	70.4	69.7	0.2	1
F03	R2	RESIDENTIAL	BEDROOM	14.1	32.5	26.5	0.9	18.6
F03	R3	RESIDENTIAL	BEDROOM	14.1	27.6	21.5	0.9	22.1
F03	R4	RESIDENTIAL	LKD	24.1	36.8	33.1	0.9	10
F03	R5	RESIDENTIAL	LKD	26.6	15.5	15.5	0.0	0
F03	R6	RESIDENTIAL	BEDROOM	12.0	22.5	22.4	0.0	0.1
F03	R7	RESIDENTIAL	BEDROOM	13.2	23	23	0.0	0.1
F03	R8	RESIDENTIAL	LKD	28.6	48.7	48.7	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: LUMIERE BUILDING
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL80
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F04

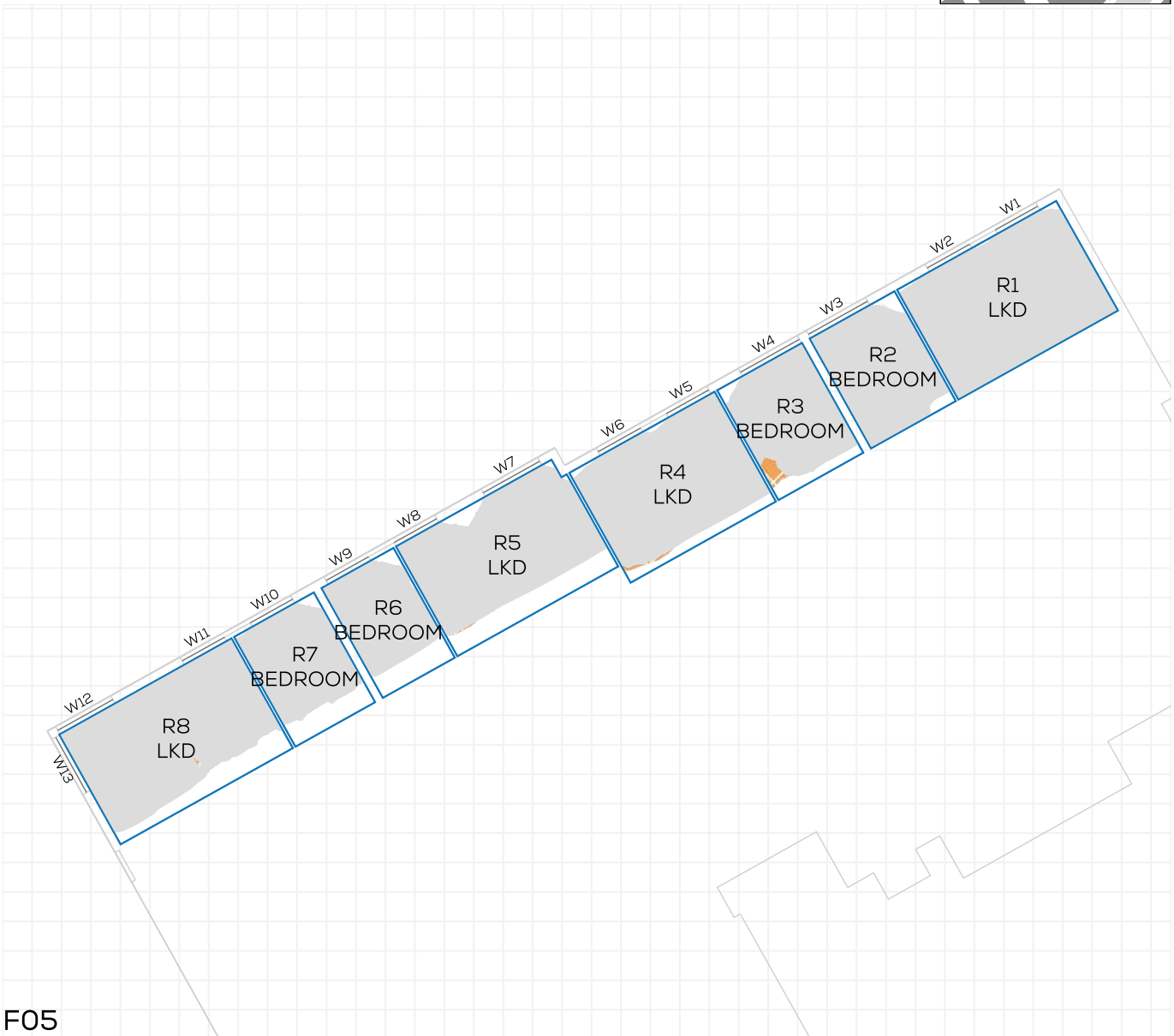
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
LUMIERE BUILDING								
F04	R1	RESIDENTIAL	LKD	26.5	89.5	88.8	0.2	0.8
F04	R2	RESIDENTIAL	BEDROOM	14.1	47	39.5	1.1	15.9
F04	R3	RESIDENTIAL	BEDROOM	14.1	41.5	39.5	0.3	4.6
F04	R4	RESIDENTIAL	LKD	24.1	51.9	49.3	0.6	5
F04	R5	RESIDENTIAL	LKD	26.6	28.5	28.2	0.1	1.1
F04	R6	RESIDENTIAL	BEDROOM	12.0	35.4	35.4	0.0	0
F04	R7	RESIDENTIAL	BEDROOM	13.2	38.6	38.6	0.0	0.1
F04	R8	RESIDENTIAL	LKD	28.6	48.6	48.6	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: LUMIERE BUILDING
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL81
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F05

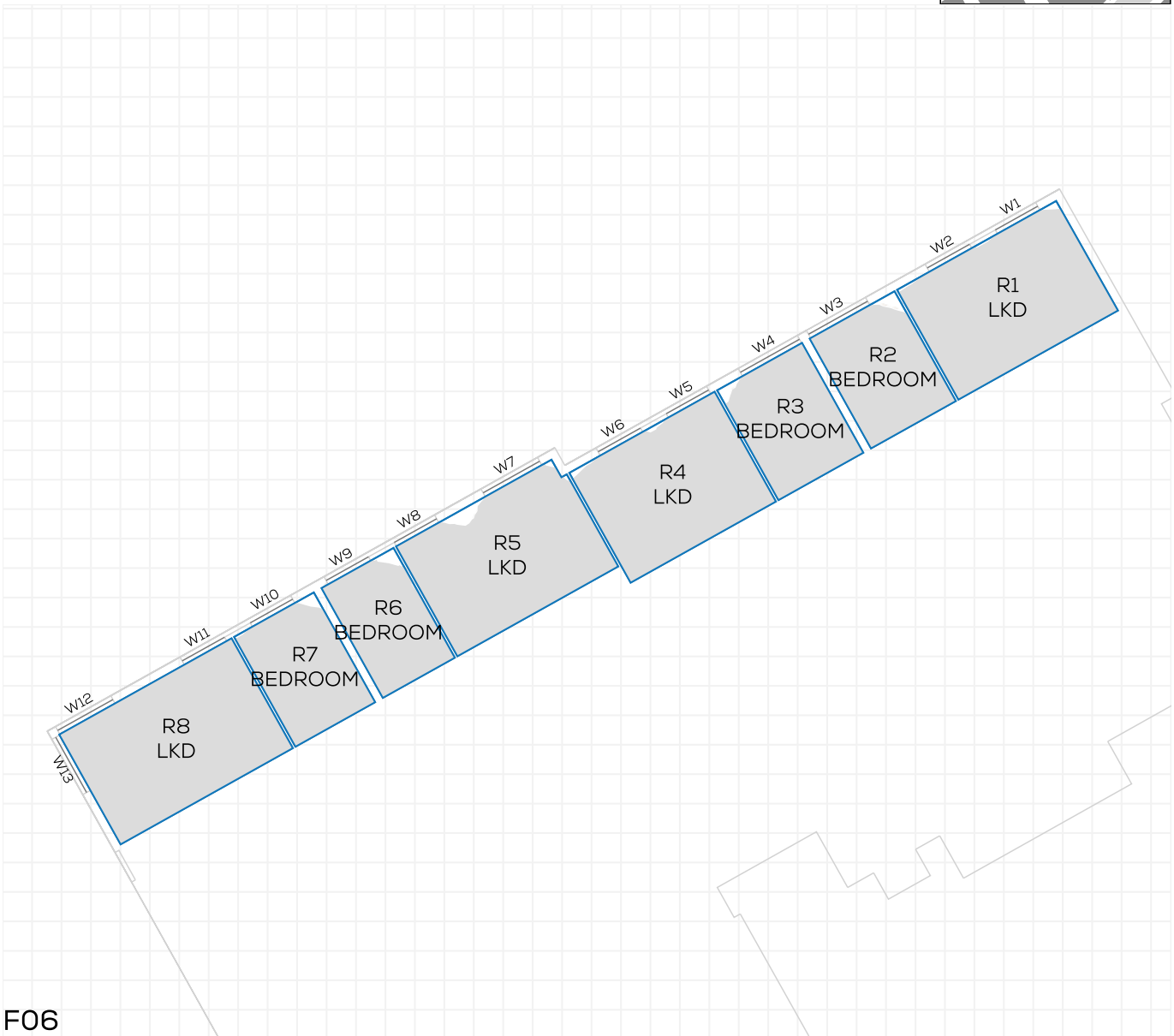
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
LUMIERE BUILDING								
F05	R1	RESIDENTIAL	LKD	26.5	99.2	99.2	0.0	0
F05	R2	RESIDENTIAL	BEDROOM	14.1	95	95	0.0	0
F05	R3	RESIDENTIAL	BEDROOM	14.1	89.4	85.8	0.5	4.1
F05	R4	RESIDENTIAL	LKD	24.1	92	91.1	0.2	0.9
F05	R5	RESIDENTIAL	LKD	26.6	81.2	80.8	0.1	0.5
F05	R6	RESIDENTIAL	BEDROOM	12.0	79.1	79.1	0.0	0
F05	R7	RESIDENTIAL	BEDROOM	13.2	80.6	80.5	0.0	0
F05	R8	RESIDENTIAL	LKD	28.6	86.9	86.7	0.1	0.2

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: LUMIERE BUILDING
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL82
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F06

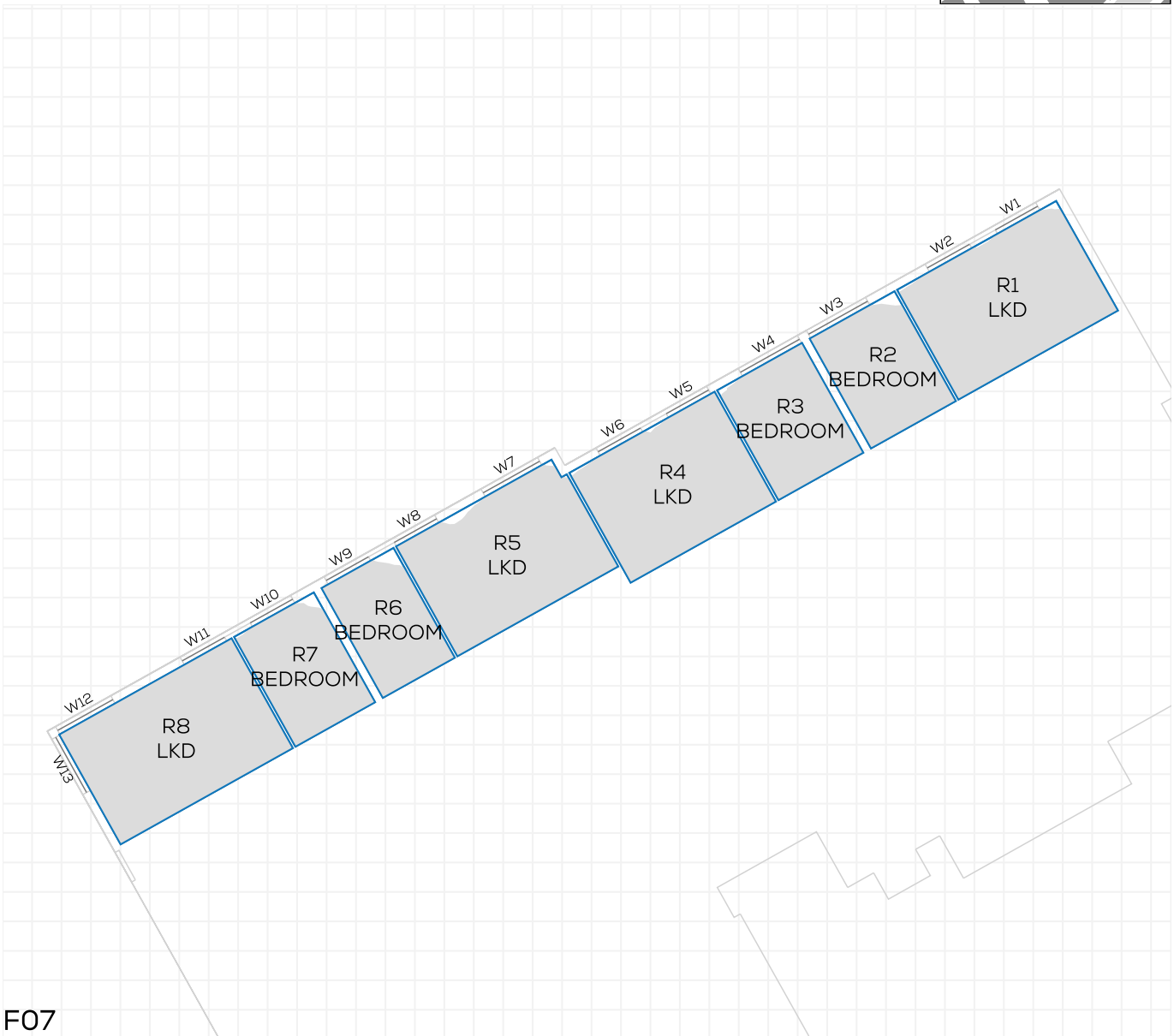
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
LUMIERE BUILDING								
F06	R1	RESIDENTIAL	LKD	26.5	99.2	99.2	0.0	0
F06	R2	RESIDENTIAL	BEDROOM	14.1	97.5	97.4	0.0	0
F06	R3	RESIDENTIAL	BEDROOM	14.1	98.1	98.1	0.0	0
F06	R4	RESIDENTIAL	LKD	24.1	99.2	99.2	0.0	0
F06	R5	RESIDENTIAL	LKD	26.6	97.8	97.7	0.0	0
F06	R6	RESIDENTIAL	BEDROOM	12.0	97.3	97.3	0.0	0
F06	R7	RESIDENTIAL	BEDROOM	13.2	98	98	0.0	0
F06	R8	RESIDENTIAL	LKD	28.6	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: LUMIERE BUILDING
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL83
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F07

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
LUMIERE BUILDING								
F07	R1	RESIDENTIAL	LKD	26.5	99.2	99.2	0.0	0
F07	R2	RESIDENTIAL	BEDROOM	14.1	98.3	98.3	0.0	0
F07	R3	RESIDENTIAL	BEDROOM	14.1	99.4	99.4	0.0	0
F07	R4	RESIDENTIAL	LKD	24.1	99.5	99.5	0.0	0
F07	R5	RESIDENTIAL	LKD	26.6	98.7	98.7	0.0	0
F07	R6	RESIDENTIAL	BEDROOM	12.0	97.4	97.4	0.0	0
F07	R7	RESIDENTIAL	BEDROOM	13.2	98.1	98.1	0.0	0
F07	R8	RESIDENTIAL	LKD	28.6	100	100	0.0	0

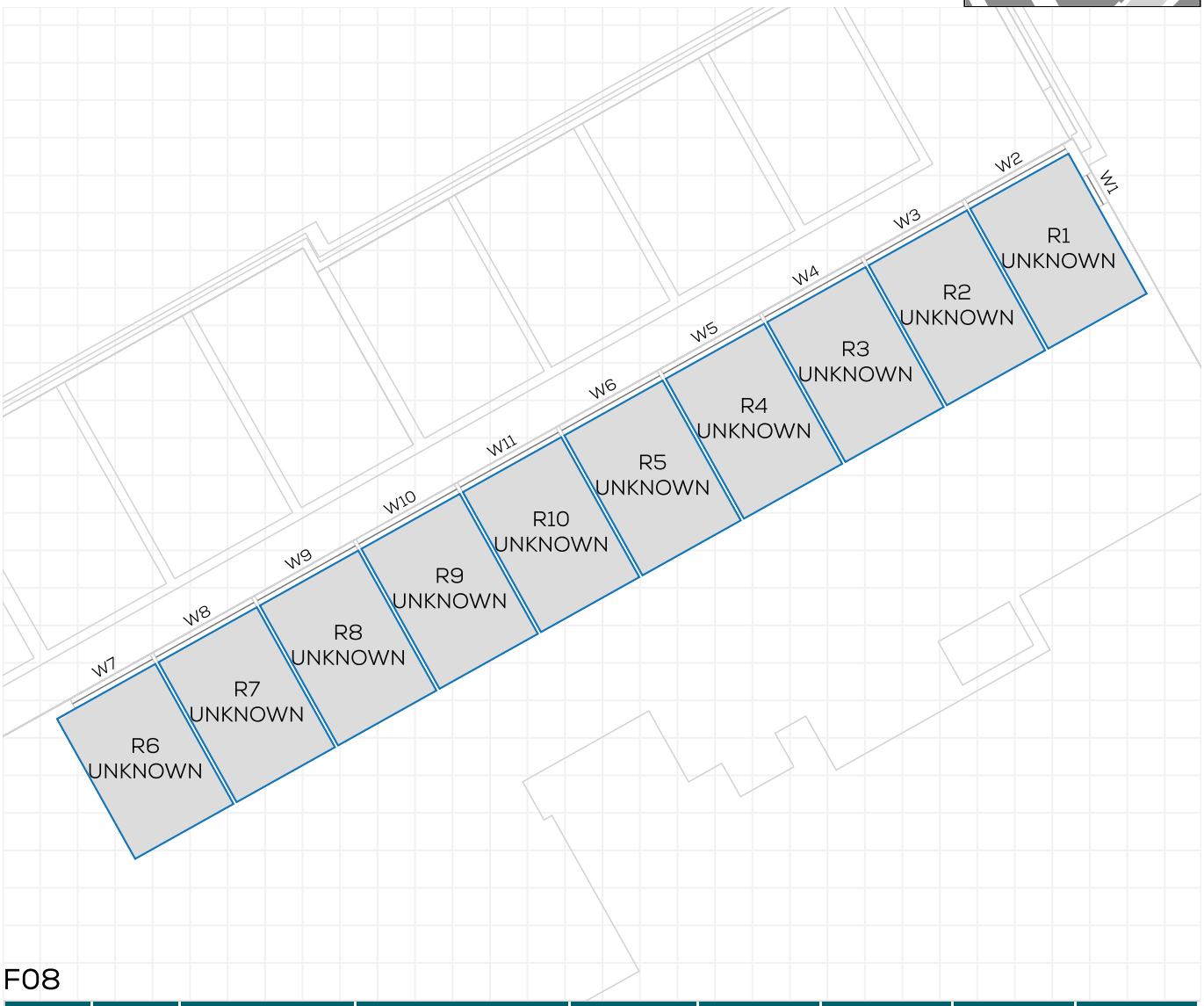
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	LUMIERE BUILDING
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL84
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F08

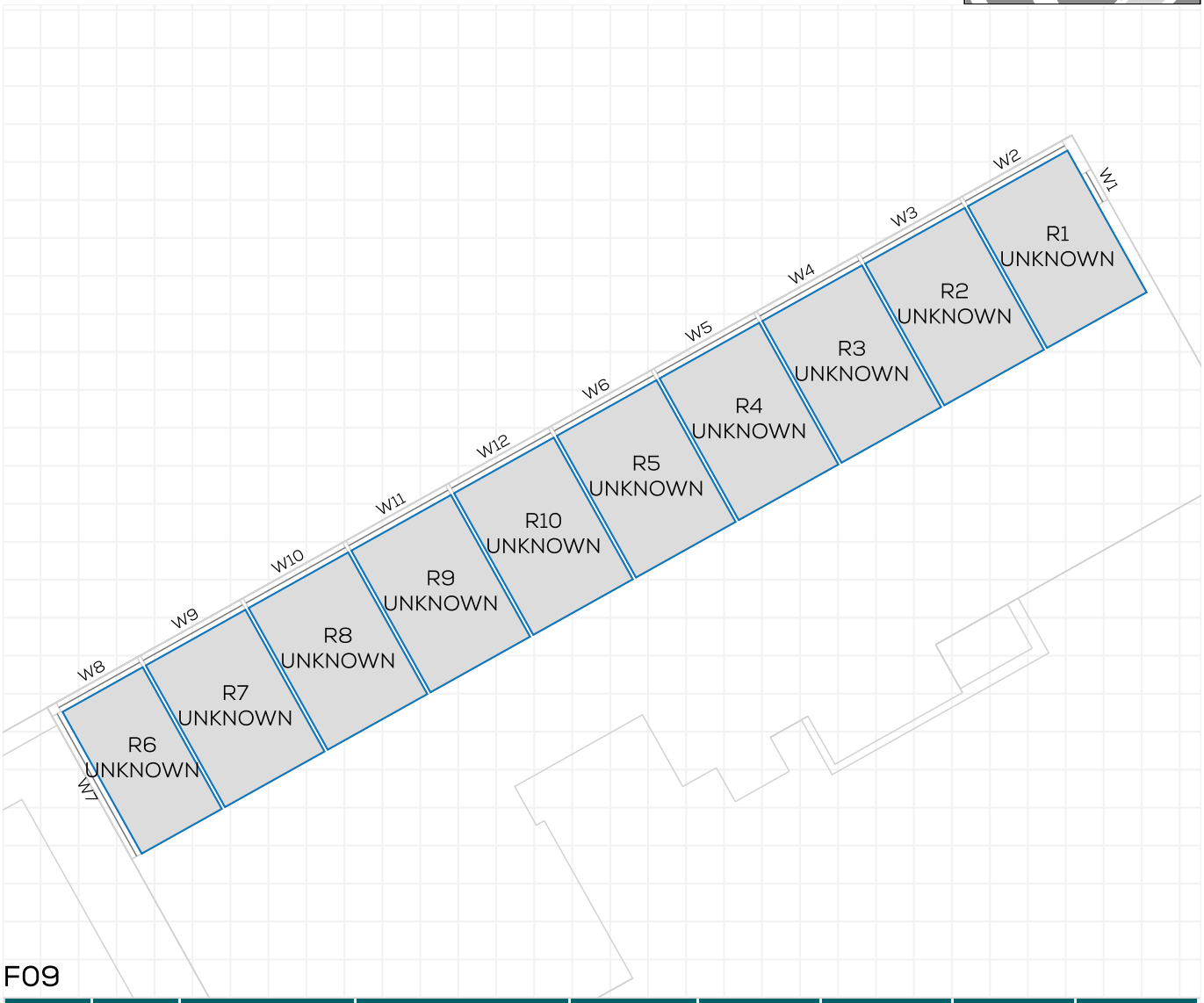
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
LUMIERE BUILDING								
F08	R1	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0
F08	R2	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0
F08	R3	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0
F08	R4	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0
F08	R5	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0
F08	R6	RESIDENTIAL	UNKNOWN	12.8	99.9	99.9	0.0	0
F08	R7	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0
F08	R8	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0
F08	R9	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0
F08	R10	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: LUMIERE BUILDING
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL85
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F09

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
LUMIERE BUILDING								
F09	R1	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0
F09	R2	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0
F09	R3	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0
F09	R4	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0
F09	R5	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0
F09	R6	RESIDENTIAL	UNKNOWN	10.3	100	100	0.0	0
F09	R7	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0
F09	R8	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0
F09	R9	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0
F09	R10	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	LUMIERE BUILDING
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL86
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F10

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
LUMIERE BUILDING								
F10	R1	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0
F10	R2	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0
F10	R3	RESIDENTIAL	UNKNOWN	9.9	100	100	0.0	0
F10	R4	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0
F10	R5	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0
F10	R6	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0
F10	R7	RESIDENTIAL	UNKNOWN	12.8	100	100	0.0	0
F10	R8	RESIDENTIAL	UNKNOWN	21.7	100	100	0.0	0

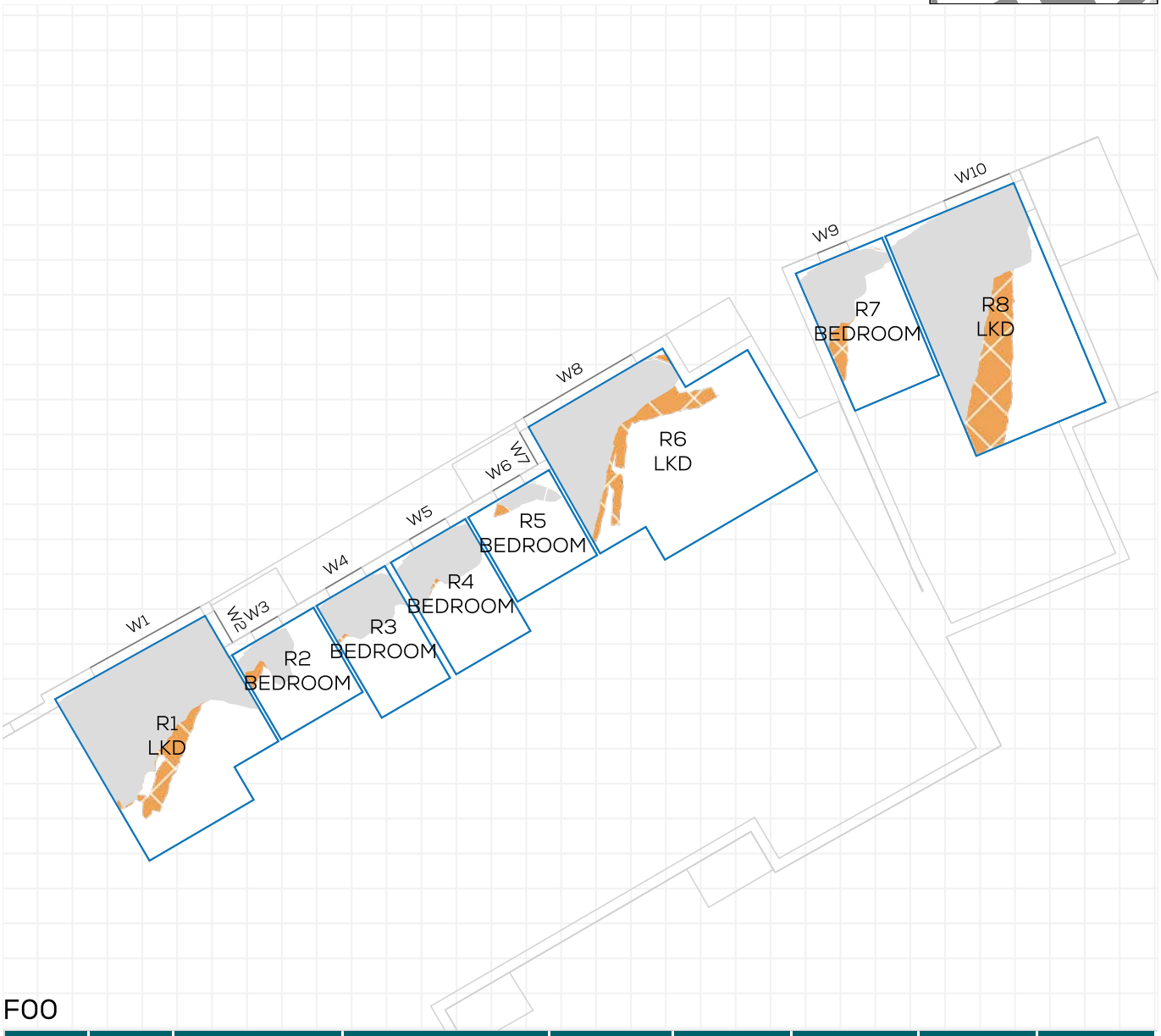
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	THE DANUBE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL87
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F00

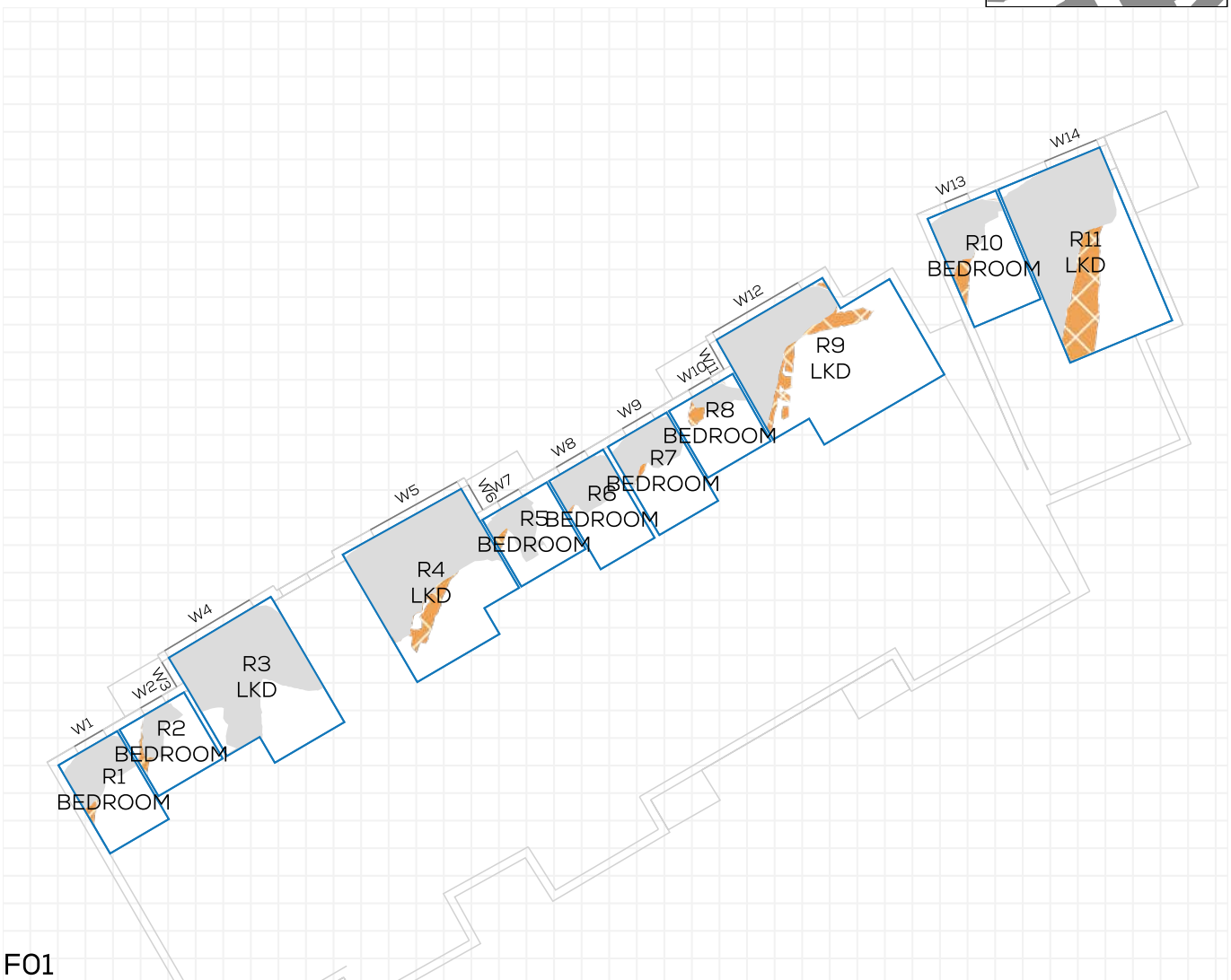
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE DANUBE								
F00	R1	RESIDENTIAL	LKD	24.5	62.4	55.4	1.7	11.2
F00	R2	RESIDENTIAL	BEDROOM	7.6	23	19.8	0.2	14
F00	R3	RESIDENTIAL	BEDROOM	8.4	35.5	35	0.0	1.6
F00	R4	RESIDENTIAL	BEDROOM	9.1	35.2	34.7	0.0	1.5
F00	R5	RESIDENTIAL	BEDROOM	7.4	11	9.3	0.1	15.2
F00	R6	RESIDENTIAL	LKD	30.1	34.7	26.4	2.5	23.8
F00	R7	RESIDENTIAL	BEDROOM	11.3	36.2	30.6	0.6	15.5
F00	R8	RESIDENTIAL	LKD	27.2	64.9	48	4.6	26.1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: THE DANUBE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL88
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F01

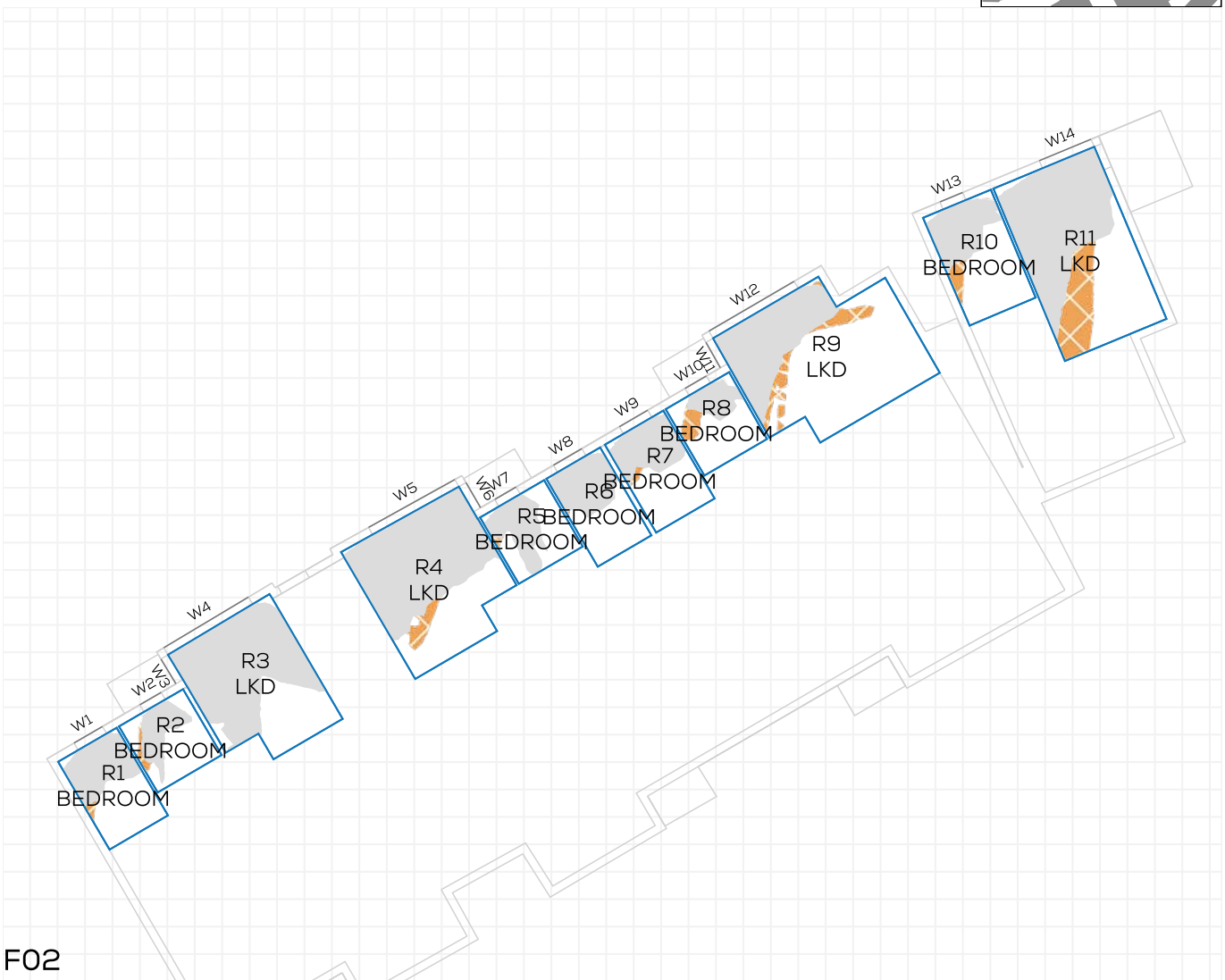
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE DANUBE								
F01	R1	RESIDENTIAL	BEDROOM	9.1	42.5	40.2	0.2	5.6
F01	R2	RESIDENTIAL	BEDROOM	7.5	25.6	21.7	0.3	15.2
F01	R3	RESIDENTIAL	LKD	21.1	67.6	67.6	0.0	0
F01	R4	RESIDENTIAL	LKD	24.5	64.1	58.5	1.4	8.7
F01	R5	RESIDENTIAL	BEDROOM	7.6	34.2	32	0.2	6.7
F01	R6	RESIDENTIAL	BEDROOM	8.4	40.2	39.7	0.0	1.2
F01	R7	RESIDENTIAL	BEDROOM	9.1	39.6	38.4	0.1	3
F01	R8	RESIDENTIAL	BEDROOM	7.4	21.6	16.7	0.4	22.7
F01	R9	RESIDENTIAL	LKD	30.1	35.3	27.9	2.2	20.8
F01	R10	RESIDENTIAL	BEDROOM	11.3	38.4	32.8	0.6	14.6
F01	R11	RESIDENTIAL	LKD	27.2	66.5	50.1	4.4	24.6

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: THE DANUBE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL89
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F02

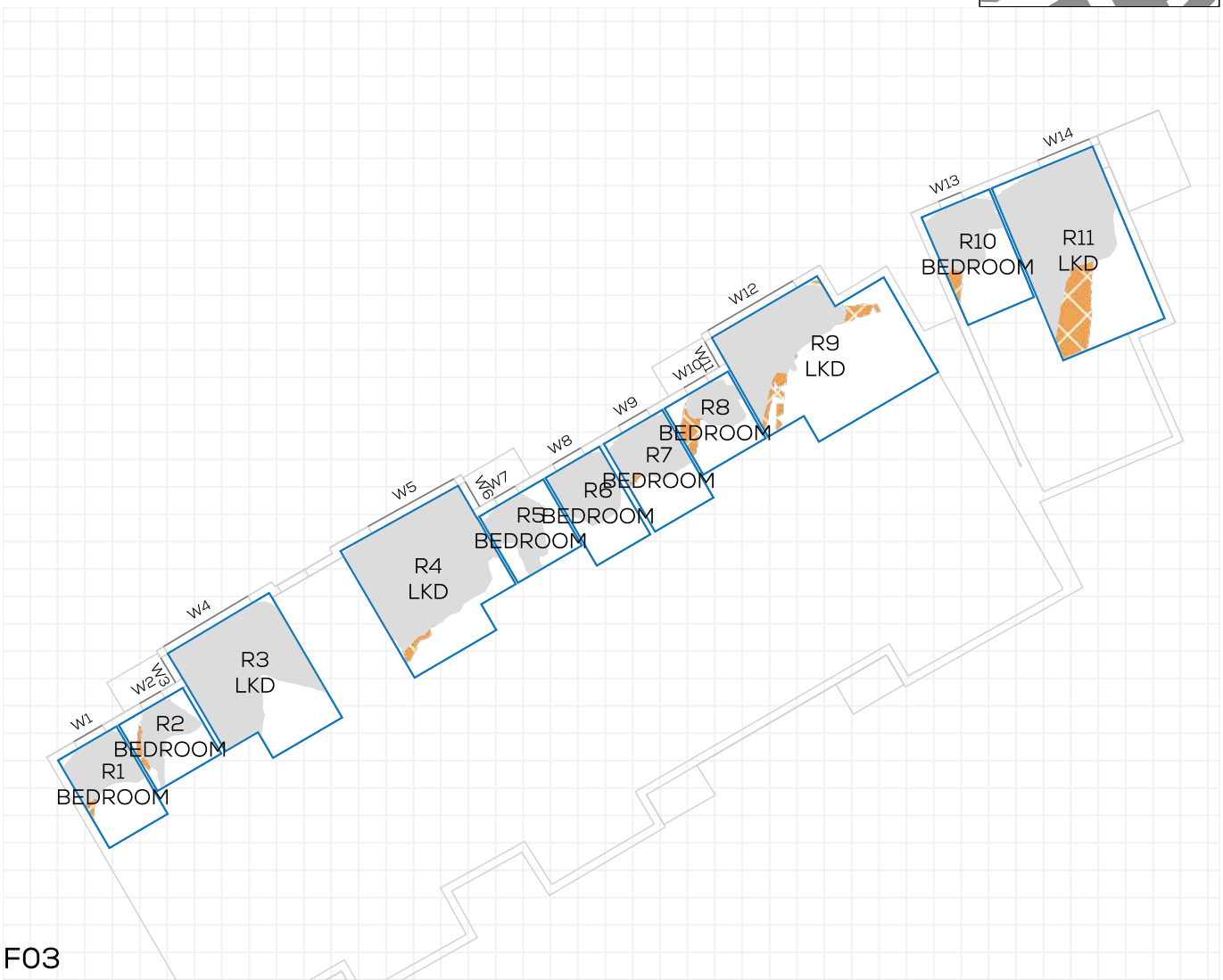
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE DANUBE								
F02	R1	RESIDENTIAL	BEDROOM	9.1	47.9	46	0.2	4
F02	R2	RESIDENTIAL	BEDROOM	7.5	36.5	32.8	0.3	10.3
F02	R3	RESIDENTIAL	LKD	21.1	70.9	70.9	0.0	0
F02	R4	RESIDENTIAL	LKD	24.5	68.7	65	0.9	5.3
F02	R5	RESIDENTIAL	BEDROOM	7.6	45.5	44.4	0.1	2.5
F02	R6	RESIDENTIAL	BEDROOM	8.4	46.8	46.6	0.0	0.3
F02	R7	RESIDENTIAL	BEDROOM	9.1	45.9	44.3	0.2	3.6
F02	R8	RESIDENTIAL	BEDROOM	7.4	34.1	24.8	0.7	27.2
F02	R9	RESIDENTIAL	LKD	30.1	36.9	30.6	1.9	17
F02	R10	RESIDENTIAL	BEDROOM	11.3	42.4	37.2	0.6	12.2
F02	R11	RESIDENTIAL	LKD	27.2	68.5	53.5	4.1	21.9

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: THE DANUBE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL90
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F03

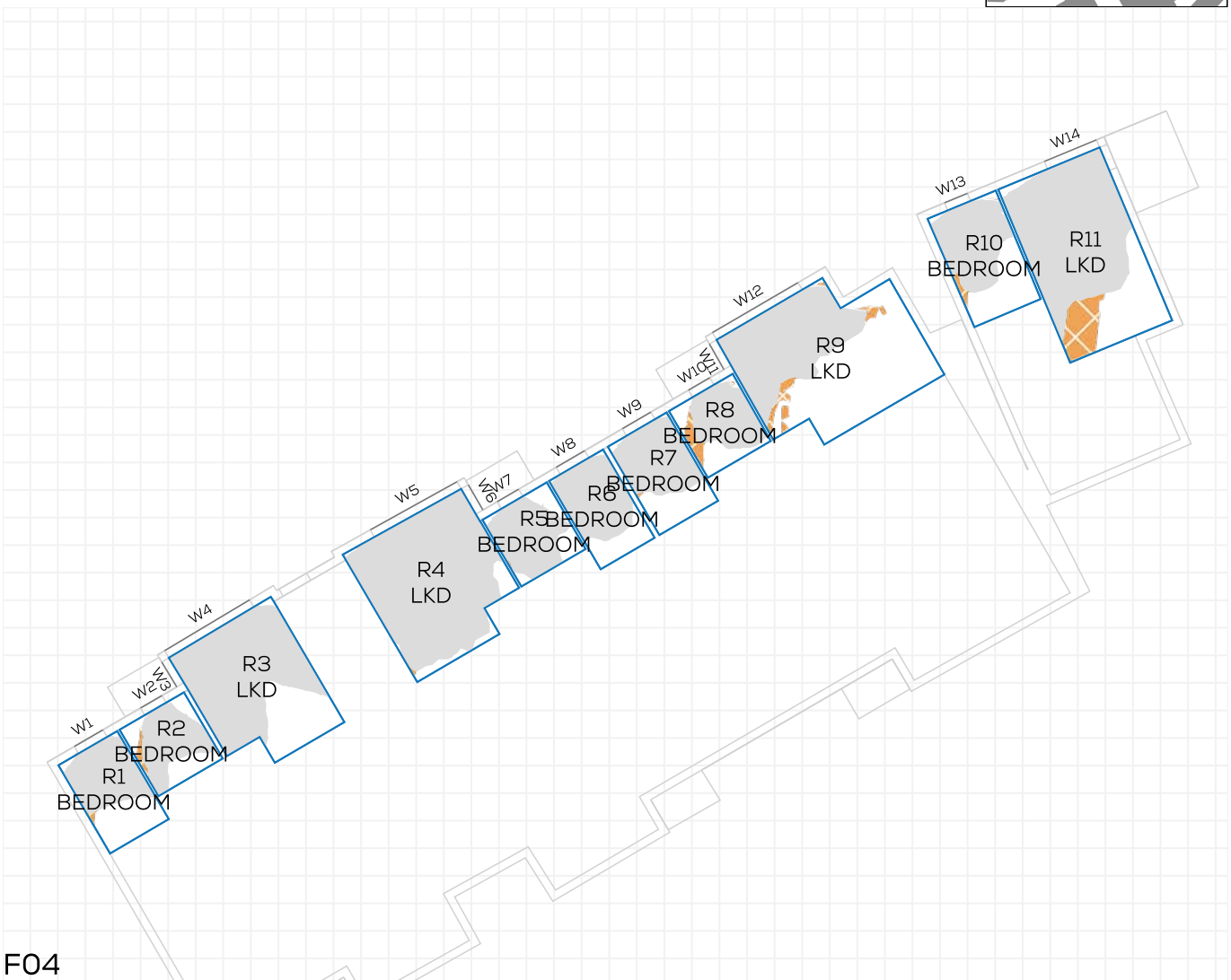
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE DANUBE								
F03	R1	RESIDENTIAL	BEDROOM	9.1	51.8	49.7	0.2	4
F03	R2	RESIDENTIAL	BEDROOM	7.5	46.9	42.5	0.3	9.4
F03	R3	RESIDENTIAL	LKD	21.1	73.5	73.5	0.0	0
F03	R4	RESIDENTIAL	LKD	24.5	79.2	77.5	0.4	2.2
F03	R5	RESIDENTIAL	BEDROOM	7.6	54.3	54.1	0.0	0.3
F03	R6	RESIDENTIAL	BEDROOM	8.4	58.1	58	0.0	0.1
F03	R7	RESIDENTIAL	BEDROOM	9.1	53.9	52.6	0.1	2.5
F03	R8	RESIDENTIAL	BEDROOM	7.4	46.9	36	0.8	23.2
F03	R9	RESIDENTIAL	LKD	30.1	39.6	35	1.4	11.7
F03	R10	RESIDENTIAL	BEDROOM	11.3	49.4	45.4	0.4	8
F03	R11	RESIDENTIAL	LKD	27.2	72	59.2	3.5	17.8

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: THE DANUBE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL91
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F04

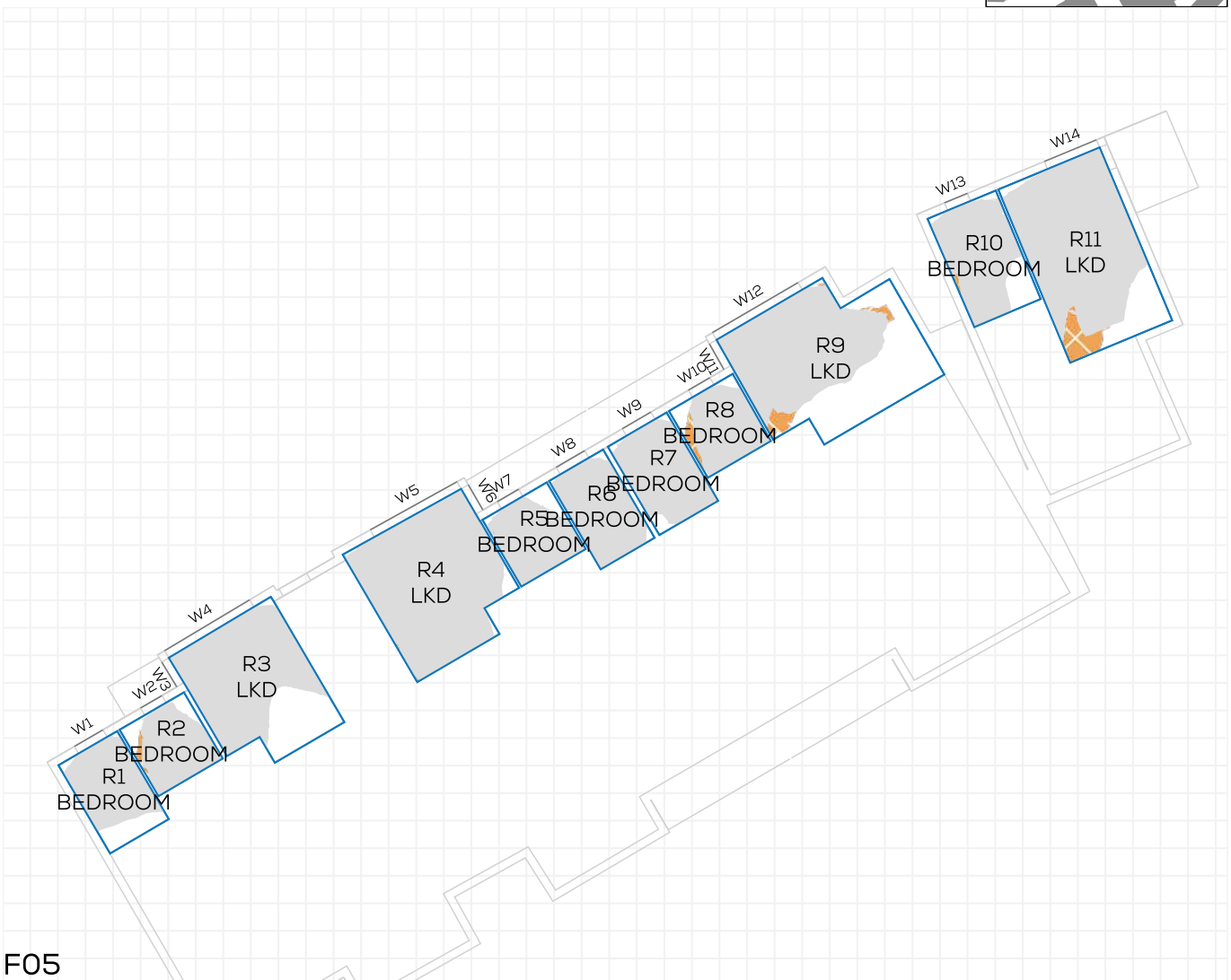
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE DANUBE								
F04	R1	RESIDENTIAL	BEDROOM	9.1	61.8	60.7	0.1	1.7
F04	R2	RESIDENTIAL	BEDROOM	7.5	66.5	62.9	0.3	5.4
F04	R3	RESIDENTIAL	LKD	21.1	74.7	74.7	0.0	0
F04	R4	RESIDENTIAL	LKD	24.5	93.3	93	0.1	0.3
F04	R5	RESIDENTIAL	BEDROOM	7.6	75.3	75	0.0	0.4
F04	R6	RESIDENTIAL	BEDROOM	8.4	73.8	73.8	0.0	0
F04	R7	RESIDENTIAL	BEDROOM	9.1	67.6	67.2	0.0	0.6
F04	R8	RESIDENTIAL	BEDROOM	7.4	71.9	63.6	0.6	11.5
F04	R9	RESIDENTIAL	LKD	30.1	45.1	41.9	1.0	7.3
F04	R10	RESIDENTIAL	BEDROOM	11.3	61	58.9	0.2	3.5
F04	R11	RESIDENTIAL	LKD	27.2	78	68.8	2.5	11.7

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	THE DANUBE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL92
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



F05

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE DANUBE								
F05	R1	RESIDENTIAL	BEDROOM	9.1	79.7	79.7	0.0	0
F05	R2	RESIDENTIAL	BEDROOM	7.5	85.1	81.9	0.2	3.8
F05	R3	RESIDENTIAL	LKD	21.1	76.4	76.4	0.0	0
F05	R4	RESIDENTIAL	LKD	24.5	97.8	97.6	0.0	0.1
F05	R5	RESIDENTIAL	BEDROOM	7.6	87.7	87.6	0.0	0.2
F05	R6	RESIDENTIAL	BEDROOM	8.4	96.6	96.6	0.0	0
F05	R7	RESIDENTIAL	BEDROOM	9.1	93.9	93.9	0.0	0
F05	R8	RESIDENTIAL	BEDROOM	7.4	89.2	83.1	0.5	6.8
F05	R9	RESIDENTIAL	LKD	30.1	61.3	58.3	0.9	4.9
F05	R10	RESIDENTIAL	BEDROOM	11.3	84.1	83.3	0.1	1
F05	R11	RESIDENTIAL	LKD	27.2	86.6	80.9	1.5	6.6

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: THE DANUBE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL93
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F06

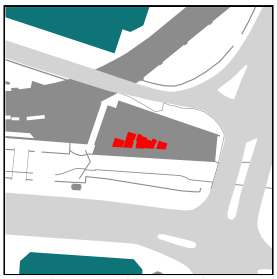
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
THE DANUBE								
F06	R1	RESIDENTIAL	BEDROOM	9.1	98.7	98.7	0.0	0
F06	R2	RESIDENTIAL	BEDROOM	7.5	94.2	94.1	0.0	0
F06	R3	RESIDENTIAL	LKD	21.1	87.9	87.9	0.0	0
F06	R4	RESIDENTIAL	LKD	24.5	99.8	99.8	0.0	0
F06	R5	RESIDENTIAL	BEDROOM	7.6	93.3	93.3	0.0	0.1
F06	R6	RESIDENTIAL	BEDROOM	8.4	98.2	98.2	0.0	0
F06	R7	RESIDENTIAL	BEDROOM	9.1	98.6	98.6	0.0	0
F06	R8	RESIDENTIAL	BEDROOM	7.4	93.7	92.7	0.1	1
F06	R9	RESIDENTIAL	LKD	30.1	90.9	90.1	0.2	0.9
F06	R10	RESIDENTIAL	BEDROOM	11.3	96.9	96.1	0.1	0.8
F06	R11	RESIDENTIAL	LKD	27.2	99	95.2	1.0	3.8

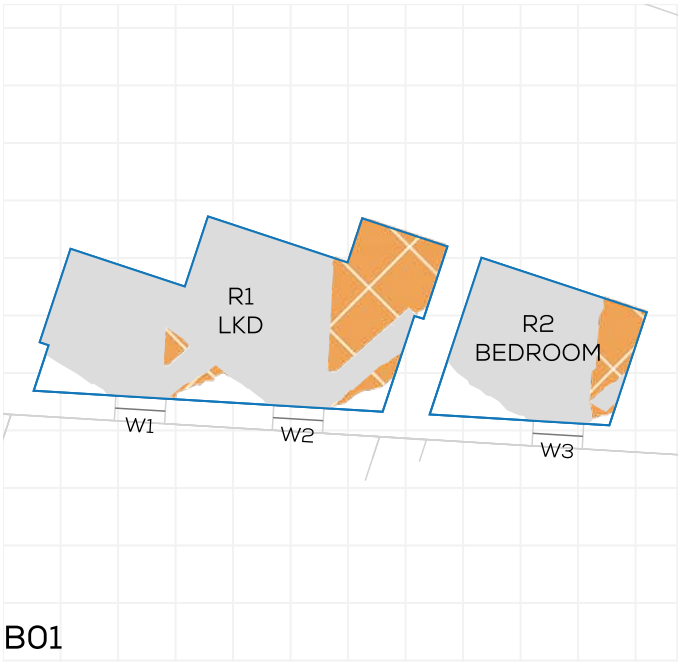
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL94
SCHEME IR:	IR17

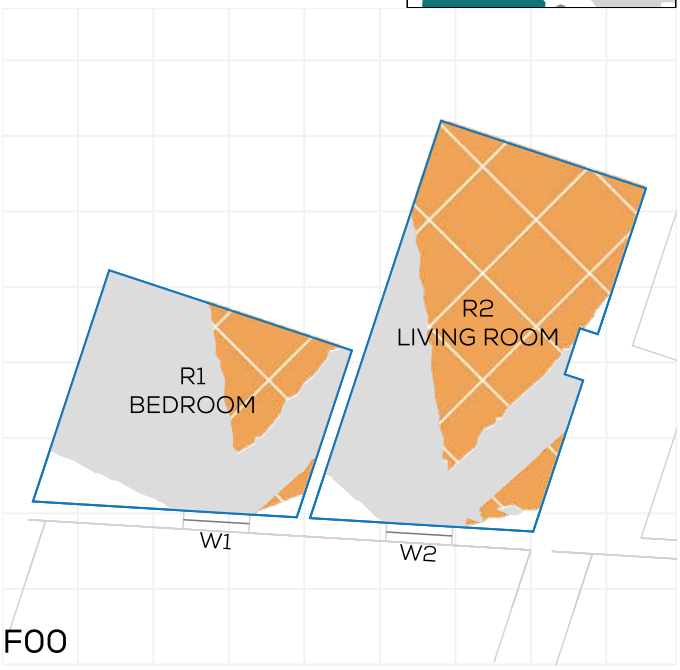
KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

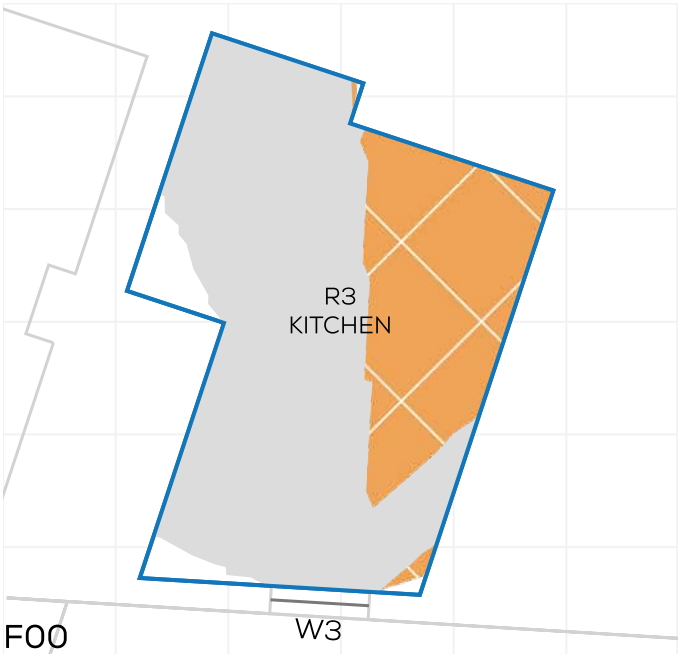




B01



F00



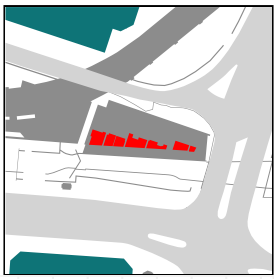
F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
B01	R1	RESIDENTIAL	LKD	17.1	93.3	71.4	3.7	23.5
B01	R2	RESIDENTIAL	BEDROOM	7.5	89.7	75.7	1.0	15.6
F00	R1	RESIDENTIAL	BEDROOM	9.4	92.1	72.3	1.9	21.5
F00	R2	RESIDENTIAL	LIVING ROOM	14.6	96.6	35.9	8.9	62.9
F00	R3	RESIDENTIAL	KITCHEN	12.2	94.7	65.3	3.6	31.1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL95
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F01

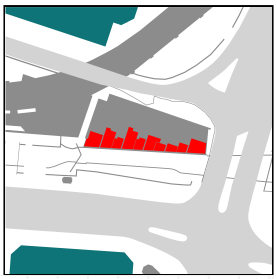
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F01	R1	RESIDENTIAL	LKD	21.0	82.6	15.1	14.2	81.7
F01	R2	RESIDENTIAL	BEDROOM	11.9	76	33.6	5.0	55.9
F01	R3	RESIDENTIAL	BEDROOM	10.4	67.5	23.7	4.6	64.8
F01	R4	RESIDENTIAL	LKD	22.2	74.3	43.3	6.9	41.7
F01	R5	RESIDENTIAL	BEDROOM	12.2	72.2	52	2.5	28
F01	R6	RESIDENTIAL	LIVING ROOM	12.1	79	58.3	2.5	26.2
F01	R7	RESIDENTIAL	BEDROOM	3.4	100	100	0.0	0

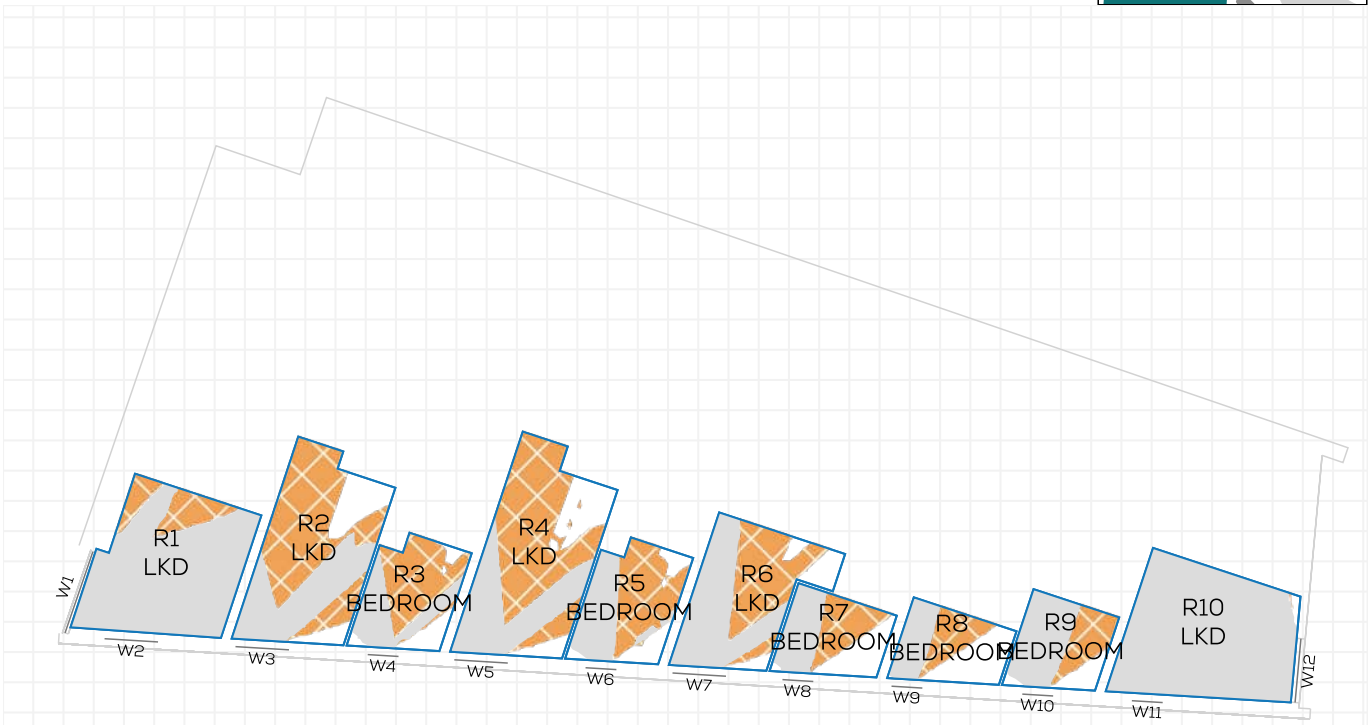
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL96
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F02

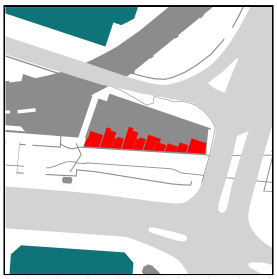
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F02	R1	RESIDENTIAL	LKD	22.4	100	84.9	3.4	15.1
F02	R2	RESIDENTIAL	LKD	22.3	85.3	30.9	12.1	63.7
F02	R3	RESIDENTIAL	BEDROOM	10.7	85.3	32.8	5.6	61.6
F02	R4	RESIDENTIAL	LKD	24.1	84.8	29.9	13.2	64.7
F02	R5	RESIDENTIAL	BEDROOM	11.6	83.7	35.4	5.6	57.7
F02	R6	RESIDENTIAL	LKD	16.9	88.5	47.5	7.0	46.4
F02	R7	RESIDENTIAL	BEDROOM	8.9	72.2	36.9	3.1	48.9
F02	R8	RESIDENTIAL	BEDROOM	8.4	61.6	31.1	2.6	49.5
F02	R9	RESIDENTIAL	BEDROOM	8.8	85.5	55.5	2.6	35.1
F02	R10	RESIDENTIAL	LKD	23.6	99	98.9	0.0	0.1

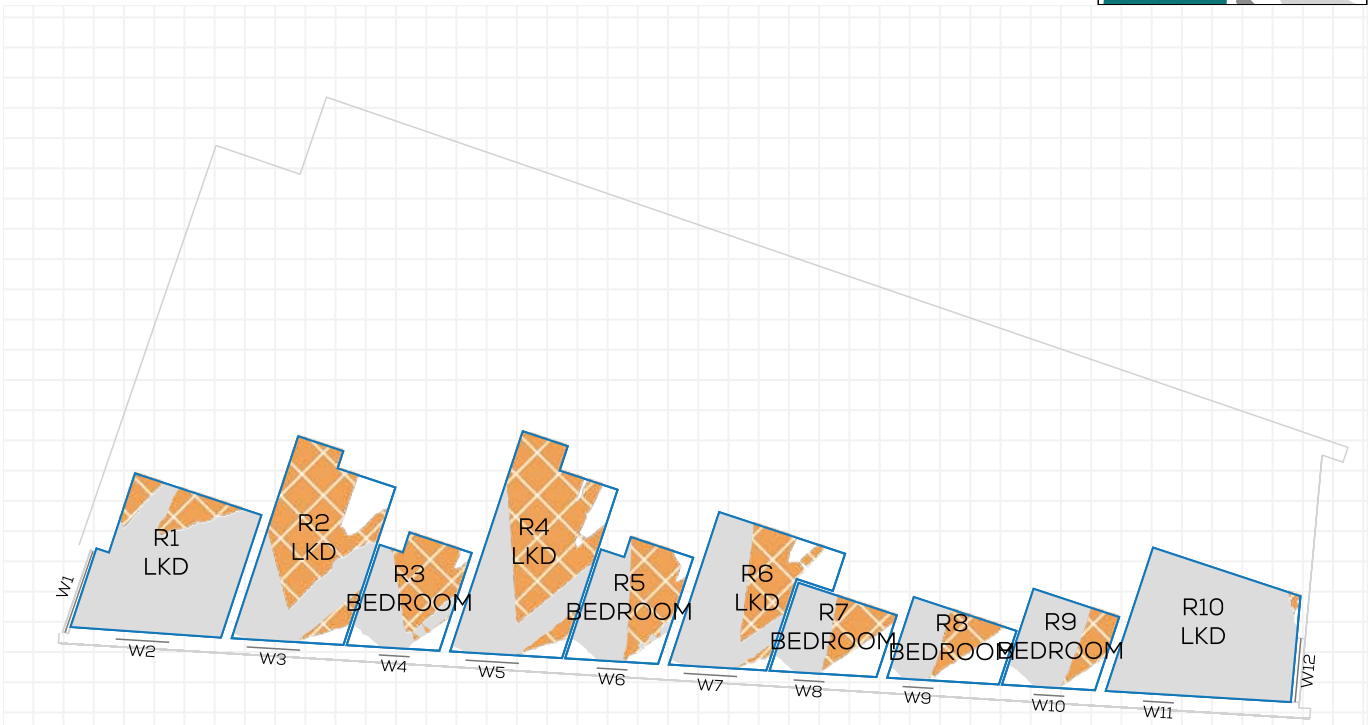
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL97
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F03

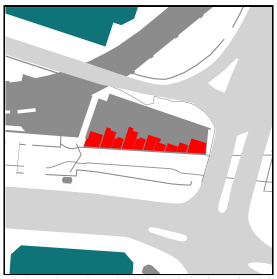
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F03	R1	RESIDENTIAL	LKD	22.4	100	85.4	3.3	14.6
F03	R2	RESIDENTIAL	LKD	22.3	88.7	33.5	12.3	62.3
F03	R3	RESIDENTIAL	BEDROOM	10.7	88.8	39.9	5.2	55
F03	R4	RESIDENTIAL	LKD	24.1	92.8	36.8	13.5	60.4
F03	R5	RESIDENTIAL	BEDROOM	11.6	88.3	44.5	5.1	49.6
F03	R6	RESIDENTIAL	LKD	16.9	88.2	56.3	5.4	36.2
F03	R7	RESIDENTIAL	BEDROOM	8.9	78.6	46.1	2.9	41.4
F03	R8	RESIDENTIAL	BEDROOM	8.4	68.8	40.7	2.3	40.8
F03	R9	RESIDENTIAL	BEDROOM	8.8	88.2	64.4	2.1	26.9
F03	R10	RESIDENTIAL	LKD	23.6	99.6	98.9	0.2	0.7

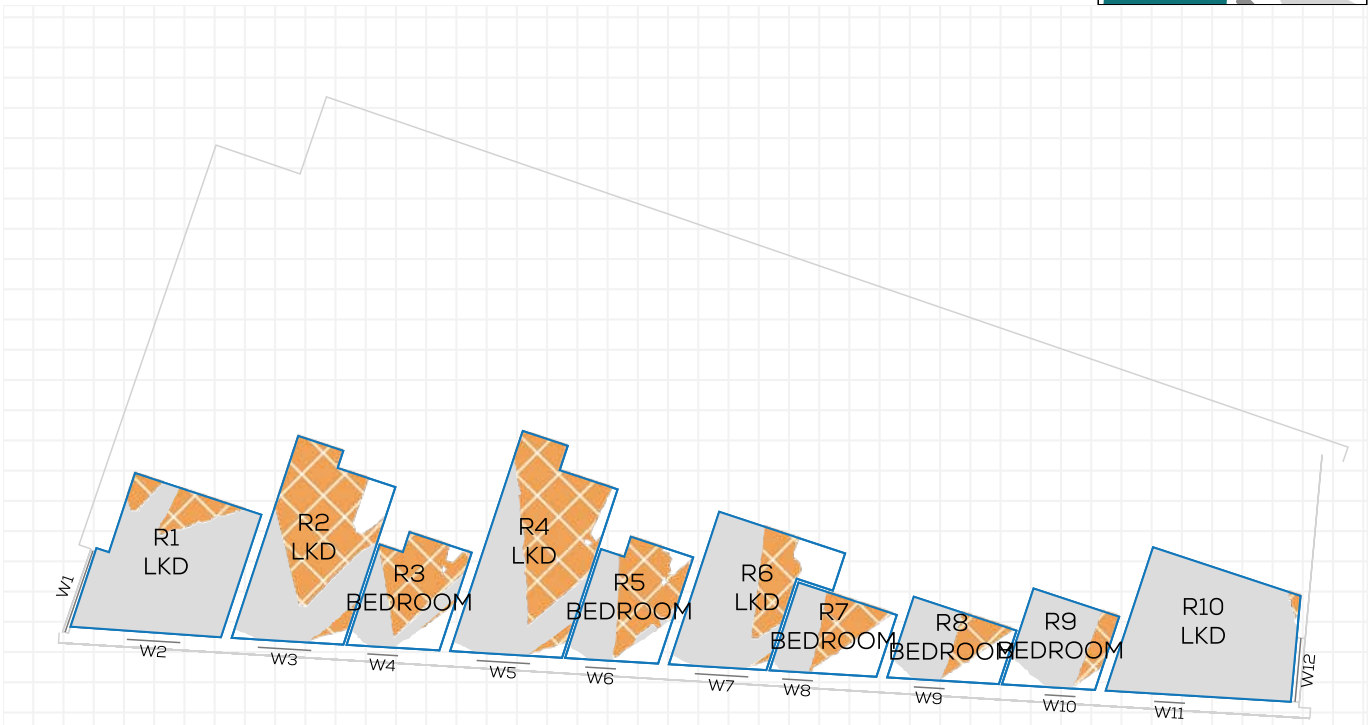
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL98
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F04

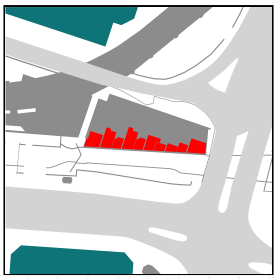
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F04	R1	RESIDENTIAL	LKD	22.4	100	86.8	3.0	13.2
F04	R2	RESIDENTIAL	LKD	22.3	91.3	37.6	12.0	58.8
F04	R3	RESIDENTIAL	BEDROOM	10.7	86	32.8	5.7	61.9
F04	R4	RESIDENTIAL	LKD	24.1	96.1	44	12.5	54.2
F04	R5	RESIDENTIAL	BEDROOM	11.6	84.9	35.3	5.8	58.4
F04	R6	RESIDENTIAL	LKD	16.9	87.6	64.3	3.9	26.5
F04	R7	RESIDENTIAL	BEDROOM	8.9	71.9	36.7	3.1	49
F04	R8	RESIDENTIAL	BEDROOM	8.4	75.2	50	2.1	33.5
F04	R9	RESIDENTIAL	BEDROOM	8.8	89.1	72.6	1.4	18.5
F04	R10	RESIDENTIAL	LKD	23.6	99.8	98.9	0.2	0.9

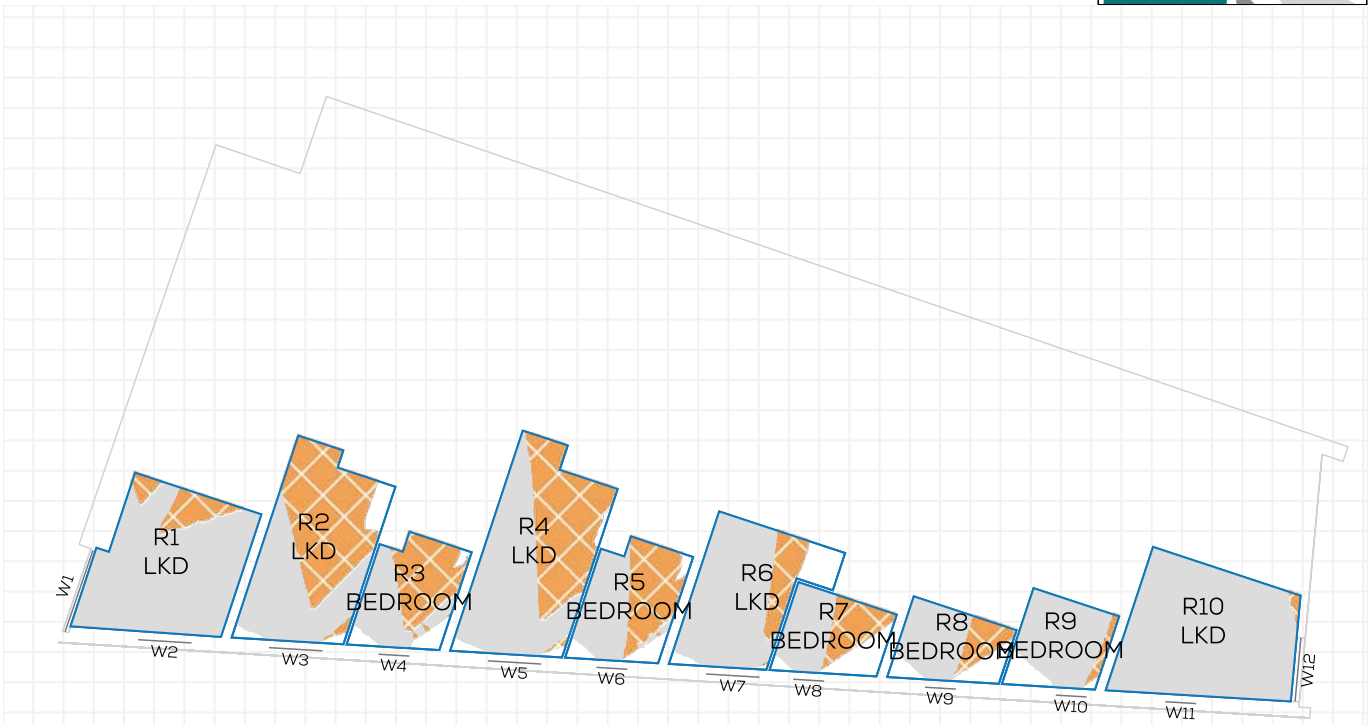
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL99
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F05

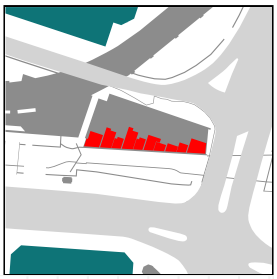
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F05	R1	RESIDENTIAL	LKD	22.4	100	88.1	2.7	11.9
F05	R2	RESIDENTIAL	LKD	22.3	94	41.4	11.7	55.9
F05	R3	RESIDENTIAL	BEDROOM	10.7	89.1	39.6	5.3	55.5
F05	R4	RESIDENTIAL	LKD	24.1	97.6	53.6	10.6	45.1
F05	R5	RESIDENTIAL	BEDROOM	11.6	89	44.3	5.2	50.2
F05	R6	RESIDENTIAL	LKD	16.9	89.1	72.8	2.7	18.2
F05	R7	RESIDENTIAL	BEDROOM	8.9	78.4	45.8	2.9	41.6
F05	R8	RESIDENTIAL	BEDROOM	8.4	79.5	56.6	1.9	28.8
F05	R9	RESIDENTIAL	BEDROOM	8.8	87	79.8	0.6	8.2
F05	R10	RESIDENTIAL	LKD	23.6	100	98.9	0.3	1.1

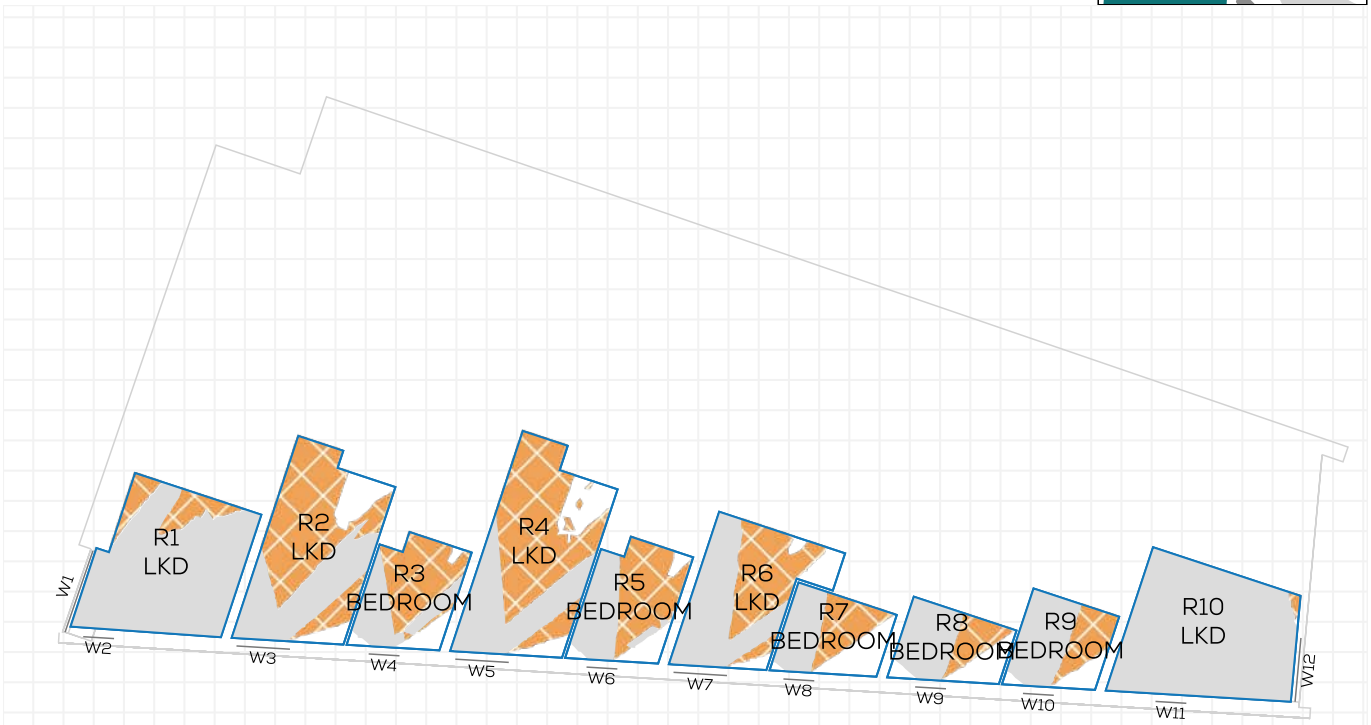
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL100
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F06

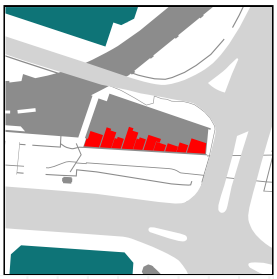
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F06	R1	RESIDENTIAL	LKD	22.4	100	86.5	3.0	13.5
F06	R2	RESIDENTIAL	LKD	22.3	88.1	32.9	12.3	62.6
F06	R3	RESIDENTIAL	BEDROOM	10.7	86.9	33.3	5.8	61.7
F06	R4	RESIDENTIAL	LKD	24.1	87.8	30.8	13.7	65
F06	R5	RESIDENTIAL	BEDROOM	11.6	86.1	36.5	5.8	57.6
F06	R6	RESIDENTIAL	LKD	16.9	89.5	48.9	6.9	45.3
F06	R7	RESIDENTIAL	BEDROOM	8.9	72.8	37.6	3.1	48.3
F06	R8	RESIDENTIAL	BEDROOM	8.4	75.4	50.4	2.1	33.2
F06	R9	RESIDENTIAL	BEDROOM	8.8	85.6	56.1	2.6	34.4
F06	R10	RESIDENTIAL	LKD	23.6	99.8	98.9	0.2	0.9

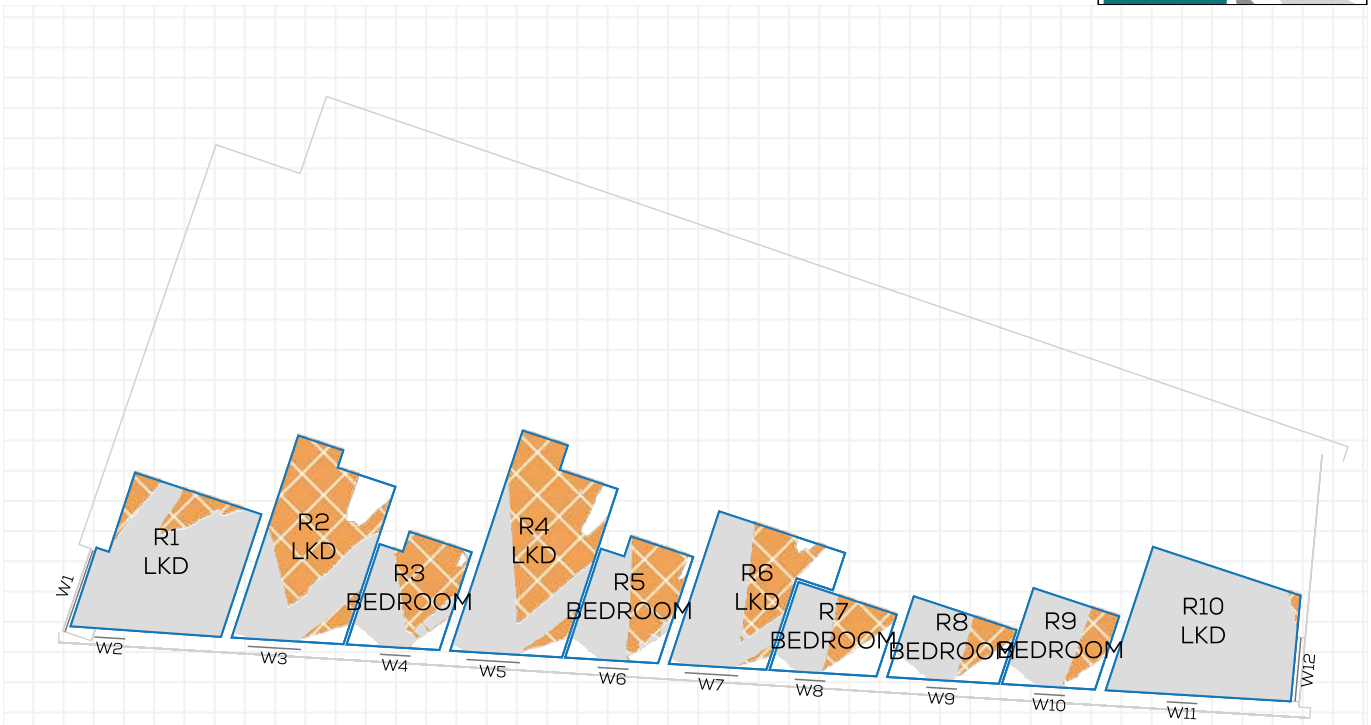
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL101
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F07

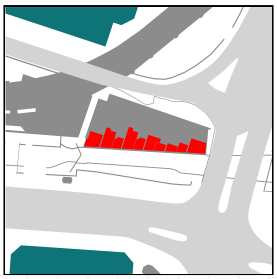
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F07	R1	RESIDENTIAL	LKD	22.4	100	86.3	3.1	13.7
F07	R2	RESIDENTIAL	LKD	22.3	90.3	34.8	12.4	61.5
F07	R3	RESIDENTIAL	BEDROOM	10.7	89.6	40.6	5.2	54.6
F07	R4	RESIDENTIAL	LKD	24.1	94	37.4	13.6	60.2
F07	R5	RESIDENTIAL	BEDROOM	11.6	90.2	45.5	5.2	49.5
F07	R6	RESIDENTIAL	LKD	16.9	90	57.3	5.5	36.4
F07	R7	RESIDENTIAL	BEDROOM	8.9	79.4	46.9	2.9	40.9
F07	R8	RESIDENTIAL	BEDROOM	8.4	79.7	57.4	1.9	28
F07	R9	RESIDENTIAL	BEDROOM	8.8	88.5	65	2.1	26.6
F07	R10	RESIDENTIAL	LKD	23.6	100	98.9	0.3	1.1

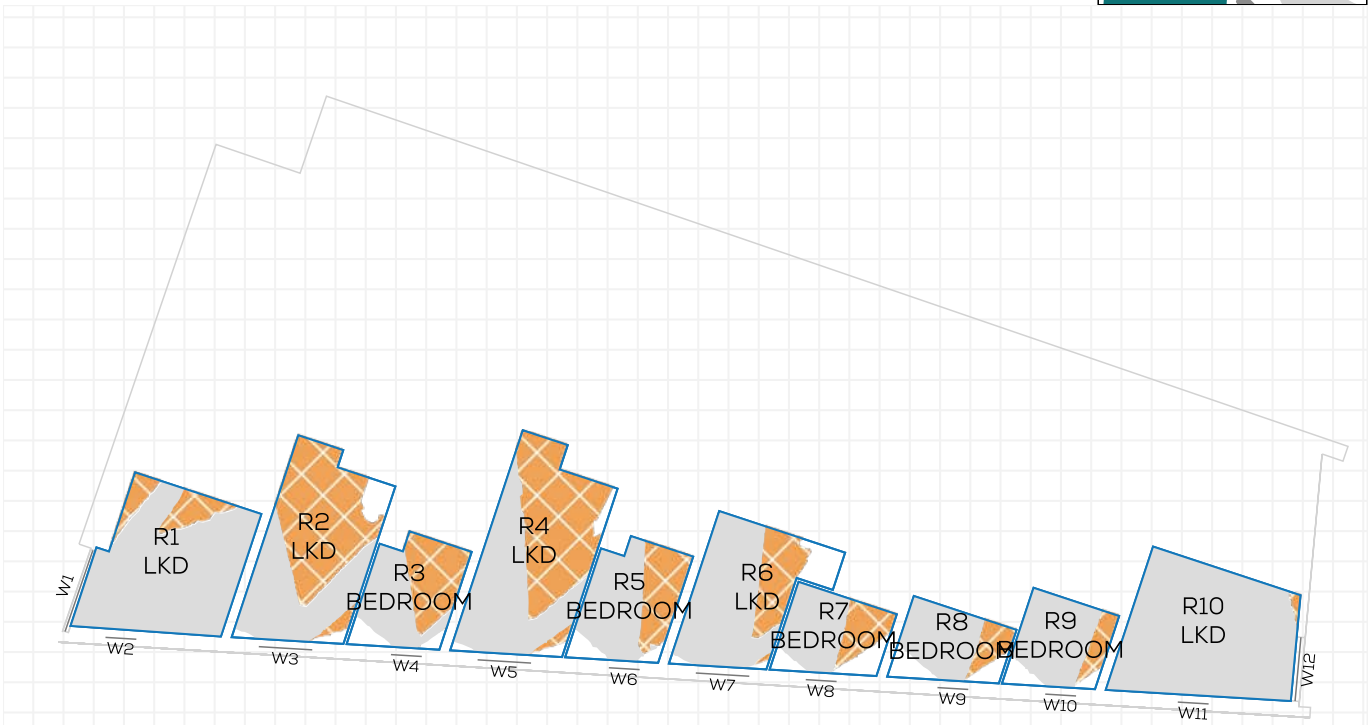
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL102
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





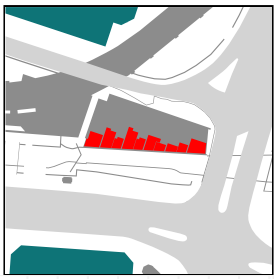
F08

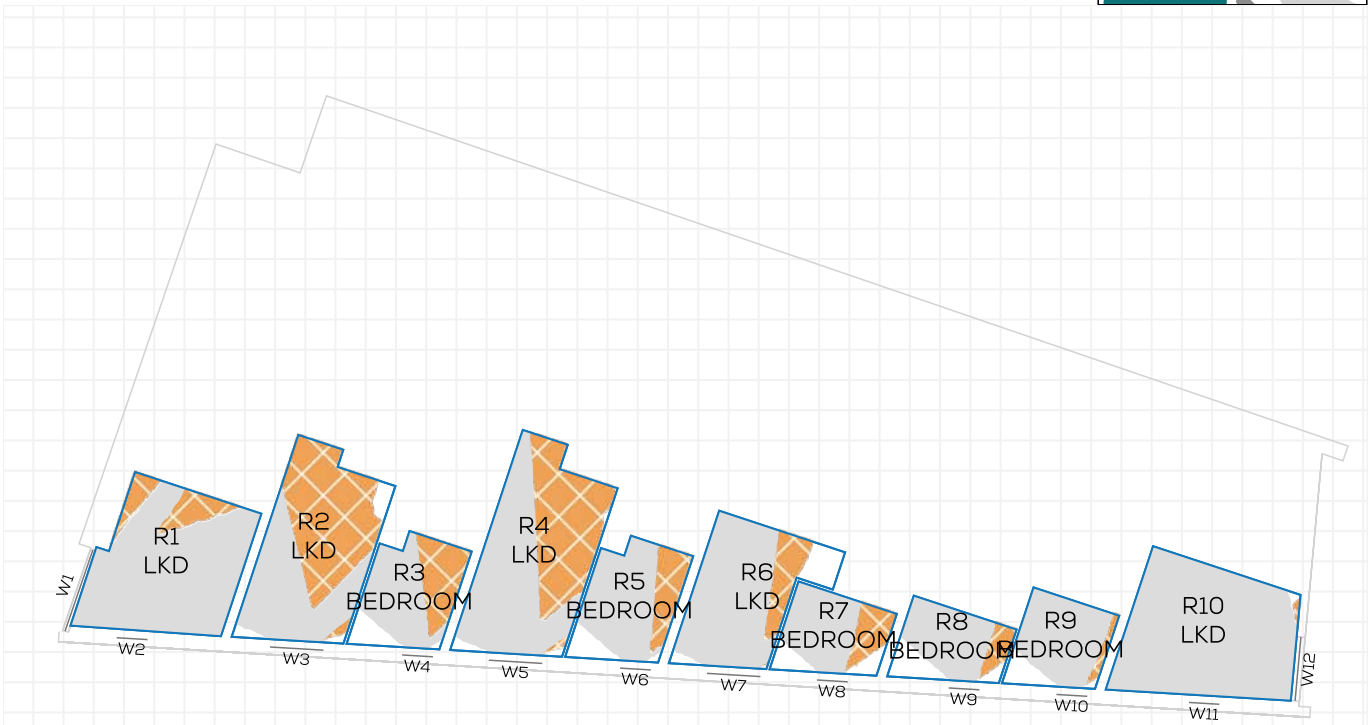
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F08	R1	RESIDENTIAL	LKD	22.4	100	86.4	3.0	13.6
F08	R2	RESIDENTIAL	LKD	22.3	93.3	38.3	12.3	58.9
F08	R3	RESIDENTIAL	BEDROOM	10.7	90.6	46.5	4.7	48.7
F08	R4	RESIDENTIAL	LKD	24.1	96.6	45.5	12.3	52.8
F08	R5	RESIDENTIAL	BEDROOM	11.6	91.6	56.5	4.1	38.2
F08	R6	RESIDENTIAL	LKD	16.9	89.3	65.1	4.1	27.1
F08	R7	RESIDENTIAL	BEDROOM	8.9	82.7	55	2.5	33.5
F08	R8	RESIDENTIAL	BEDROOM	8.4	81.1	62.7	1.5	22.7
F08	R9	RESIDENTIAL	BEDROOM	8.8	88.9	73	1.4	17.9
F08	R10	RESIDENTIAL	LKD	23.6	99.9	98.9	0.2	1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: AXIS TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL103
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F09

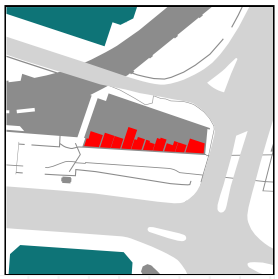
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F09	R1	RESIDENTIAL	LKD	22.4	100	86.3	3.1	13.7
F09	R2	RESIDENTIAL	LKD	22.3	95.5	41.9	12.0	56.2
F09	R3	RESIDENTIAL	BEDROOM	10.7	88.8	54.9	3.6	38.1
F09	R4	RESIDENTIAL	LKD	24.1	98	54.6	10.4	44.3
F09	R5	RESIDENTIAL	BEDROOM	11.6	89.8	66.6	2.7	25.8
F09	R6	RESIDENTIAL	LKD	16.9	89.6	73.5	2.7	18
F09	R7	RESIDENTIAL	BEDROOM	8.9	84.2	61.6	2.0	26.8
F09	R8	RESIDENTIAL	BEDROOM	8.4	80.1	66.6	1.1	16.9
F09	R9	RESIDENTIAL	BEDROOM	8.8	86.6	80	0.6	7.7
F09	R10	RESIDENTIAL	LKD	23.6	99.5	98.9	0.1	0.6

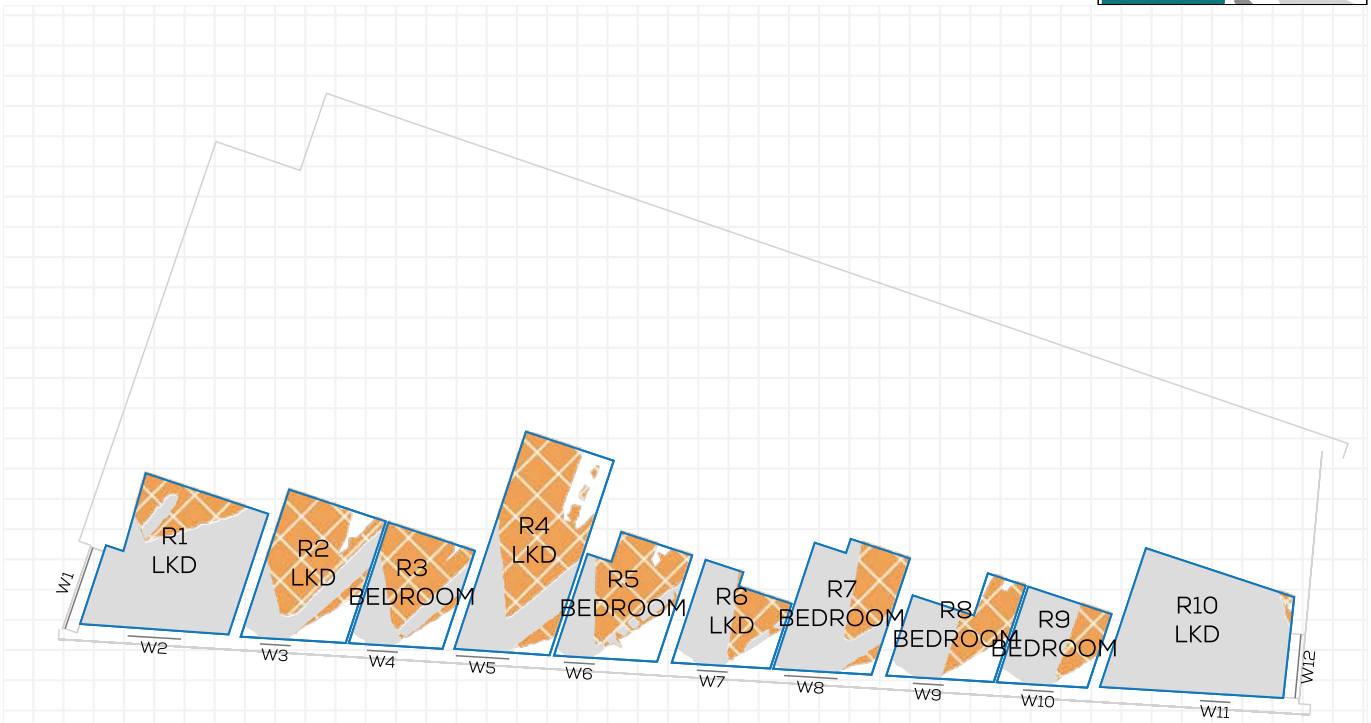
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL104
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F10

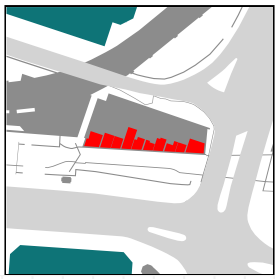
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F10	R1	RESIDENTIAL	LKD	21.4	100	81	4.1	19
F10	R2	RESIDENTIAL	LKD	15.7	84.9	26.5	9.2	68.8
F10	R3	RESIDENTIAL	BEDROOM	11.5	88.9	31.6	6.6	64.4
F10	R4	RESIDENTIAL	LKD	21.9	88.4	29.3	12.9	66.8
F10	R5	RESIDENTIAL	BEDROOM	12.8	82.1	26.9	7.1	67.2
F10	R6	RESIDENTIAL	LKD	9.1	86.5	54.1	2.9	37.4
F10	R7	RESIDENTIAL	BEDROOM	13.5	97.9	64.3	4.5	34.3
F10	R8	RESIDENTIAL	BEDROOM	10.0	81.1	41.8	3.9	48.5
F10	R9	RESIDENTIAL	BEDROOM	8.5	89.8	62.5	2.3	30.4
F10	R10	RESIDENTIAL	LKD	22.6	99.7	98.6	0.2	1.1

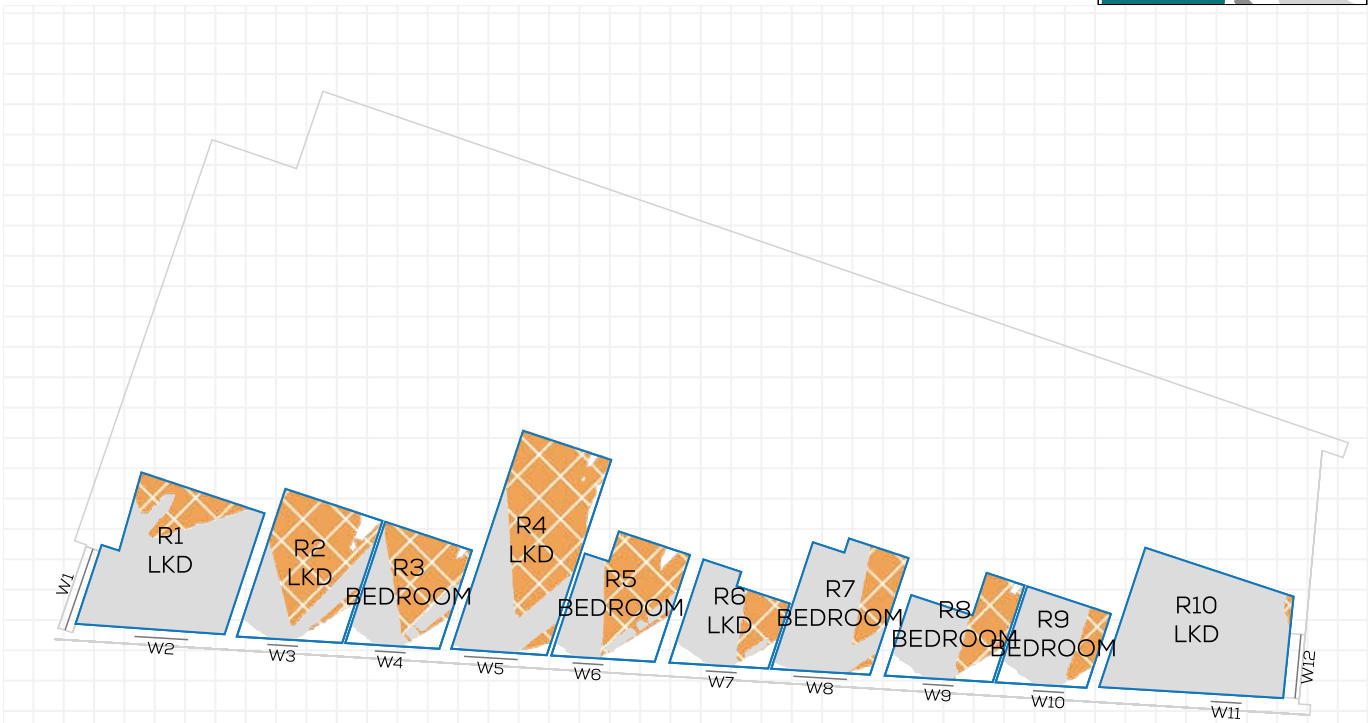
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL105
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F11

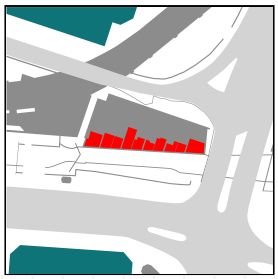
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F11	R1	RESIDENTIAL	LKD	21.4	100	82.6	3.7	17.4
F11	R2	RESIDENTIAL	LKD	15.7	88.5	29	9.4	67.3
F11	R3	RESIDENTIAL	BEDROOM	11.5	91.1	38.1	6.1	58.1
F11	R4	RESIDENTIAL	LKD	21.9	97.4	35.9	13.5	63.1
F11	R5	RESIDENTIAL	BEDROOM	12.8	86.1	34.5	6.6	60
F11	R6	RESIDENTIAL	LKD	9.1	88.7	61.9	2.4	30.2
F11	R7	RESIDENTIAL	BEDROOM	13.5	98.4	73	3.4	25.9
F11	R8	RESIDENTIAL	BEDROOM	10.0	85.6	48.1	3.7	43.8
F11	R9	RESIDENTIAL	BEDROOM	8.5	90.9	71.6	1.6	21.2
F11	R10	RESIDENTIAL	LKD	22.6	100	99	0.2	1

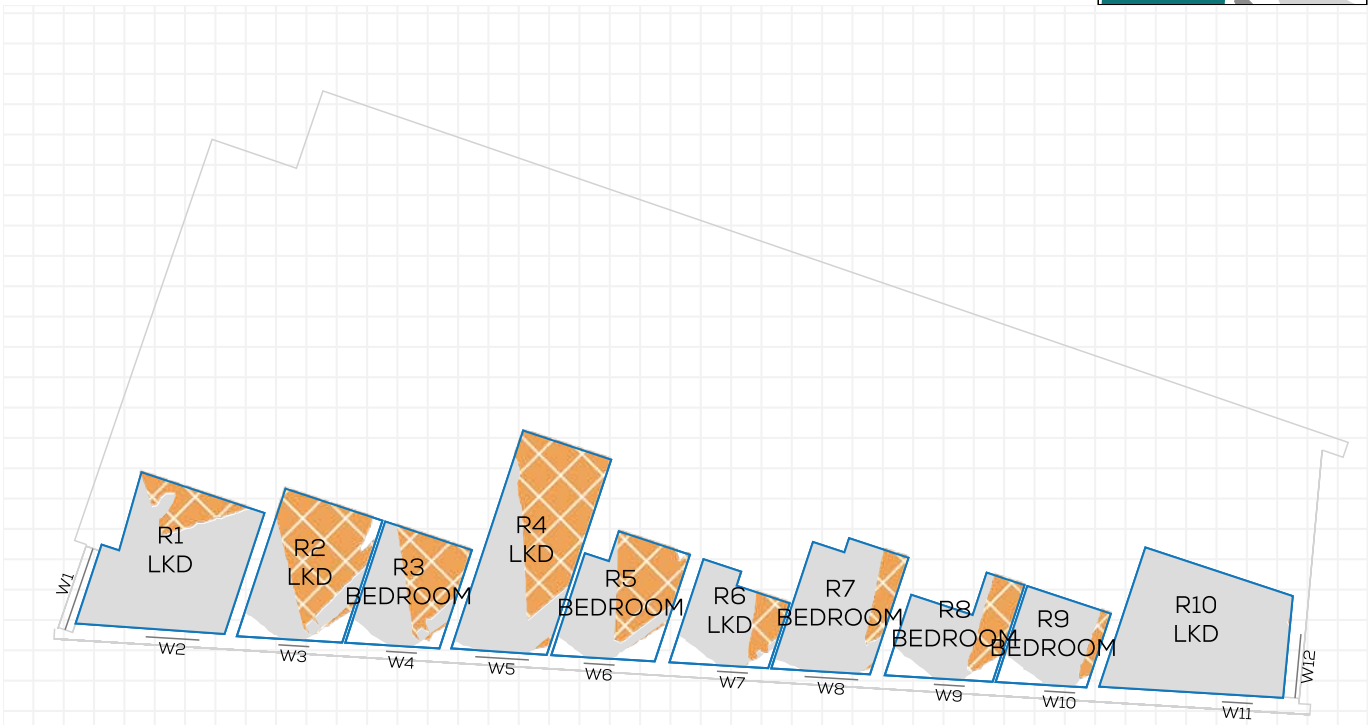
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL106
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F12

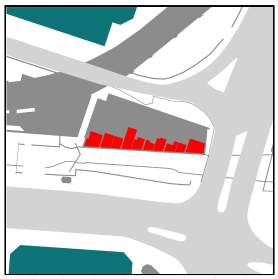
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F12	R1	RESIDENTIAL	LKD	21.4	100	85.2	3.2	14.8
F12	R2	RESIDENTIAL	LKD	15.7	90.3	32.4	9.1	64.1
F12	R3	RESIDENTIAL	BEDROOM	11.5	92.7	46.8	5.3	49.5
F12	R4	RESIDENTIAL	LKD	21.9	99.1	44.4	12.0	55.2
F12	R5	RESIDENTIAL	BEDROOM	12.8	89.7	43.8	5.9	51.2
F12	R6	RESIDENTIAL	LKD	9.1	88.7	68.2	1.9	23.1
F12	R7	RESIDENTIAL	BEDROOM	13.5	98.4	82.6	2.1	16
F12	R8	RESIDENTIAL	BEDROOM	10.0	87.6	57.3	3.0	34.6
F12	R9	RESIDENTIAL	BEDROOM	8.5	89.6	79.6	0.9	11.2
F12	R10	RESIDENTIAL	LKD	22.6	100	99.9	0.0	0.1

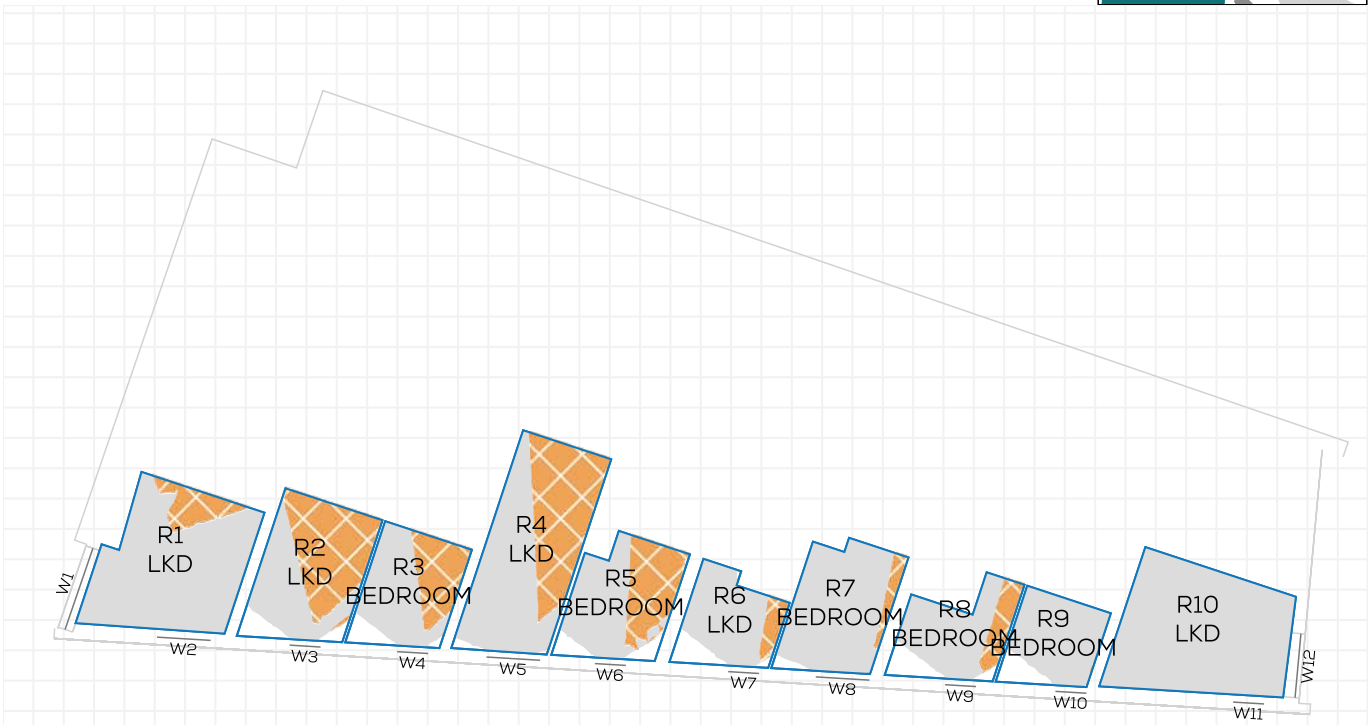
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL107
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F13

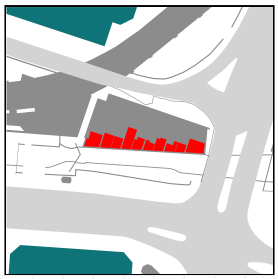
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F13	R1	RESIDENTIAL	LKD	21.4	100	88.1	2.6	11.9
F13	R2	RESIDENTIAL	LKD	15.7	92.3	38.7	8.4	58.1
F13	R3	RESIDENTIAL	BEDROOM	11.5	91.5	56.5	4.0	38.2
F13	R4	RESIDENTIAL	LKD	21.9	98.9	53.8	9.9	45.6
F13	R5	RESIDENTIAL	BEDROOM	12.8	91.1	51.9	5.0	43
F13	R6	RESIDENTIAL	LKD	9.1	86.4	73.7	1.2	14.7
F13	R7	RESIDENTIAL	BEDROOM	13.5	97.6	90	1.0	7.8
F13	R8	RESIDENTIAL	BEDROOM	10.0	86	66.3	2.0	22.9
F13	R9	RESIDENTIAL	BEDROOM	8.5	86.5	86.1	0.0	0.5
F13	R10	RESIDENTIAL	LKD	22.8	100	100	0.0	0

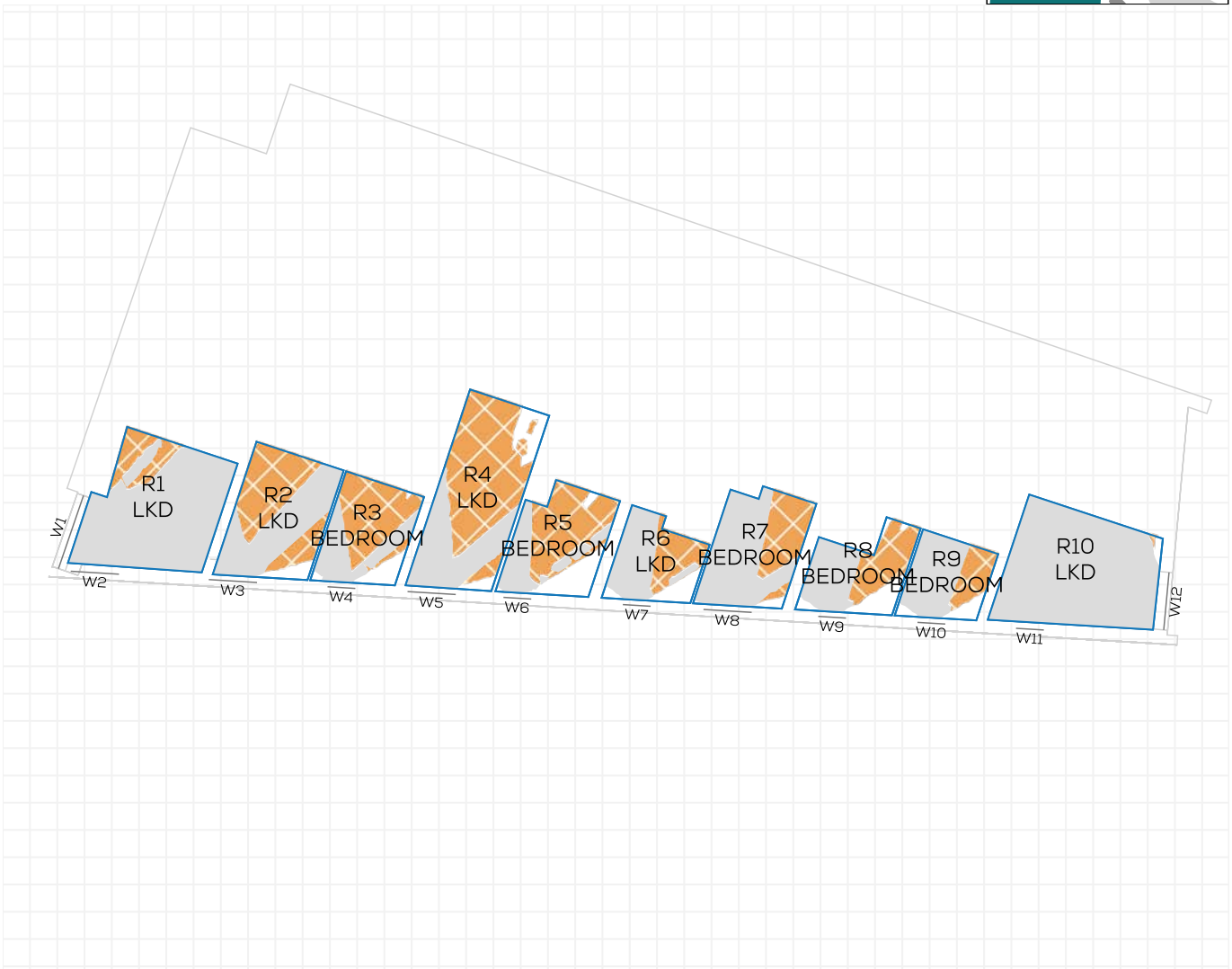
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL108
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F14

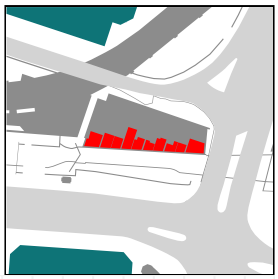
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F14	R1	RESIDENTIAL	LKD	21.4	100	87.2	2.7	12.8
F14	R2	RESIDENTIAL	LKD	15.7	95.7	46.6	7.7	51.3
F14	R3	RESIDENTIAL	BEDROOM	11.5	89.6	32.4	6.5	63.8
F14	R4	RESIDENTIAL	LKD	21.9	91.3	30.1	13.4	67
F14	R5	RESIDENTIAL	BEDROOM	12.8	81.6	26.6	7.0	67.4
F14	R6	RESIDENTIAL	LKD	9.1	86.2	52.4	3.1	39.1
F14	R7	RESIDENTIAL	BEDROOM	13.5	97.9	65.1	4.4	33.5
F14	R8	RESIDENTIAL	BEDROOM	10.0	81.5	42	3.9	48.4
F14	R9	RESIDENTIAL	BEDROOM	8.5	89.4	62.1	2.3	30.6
F14	R10	RESIDENTIAL	LKD	22.6	98.9	98.6	0.1	0.3

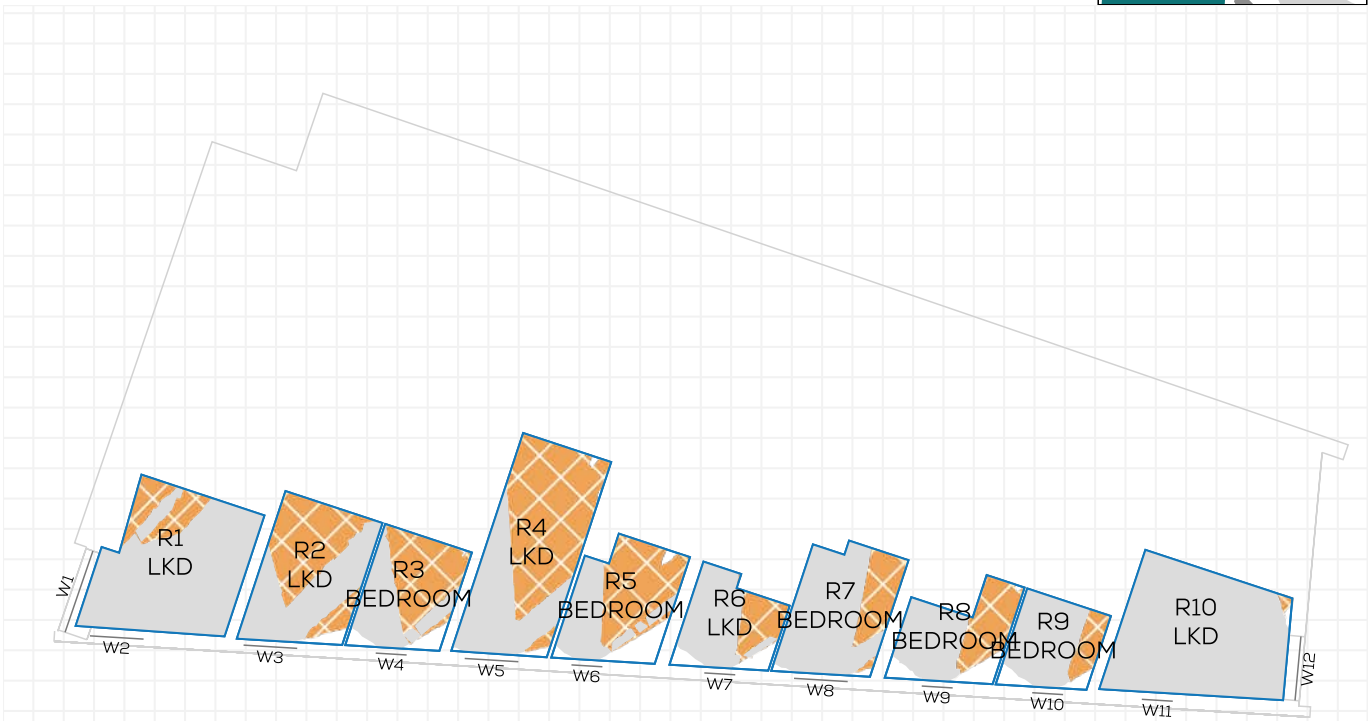
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL109
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F15

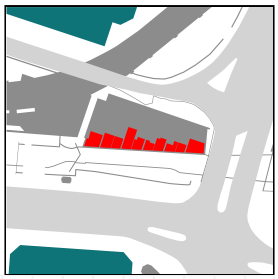
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F15	R1	RESIDENTIAL	LKD	21.4	100	85.1	3.2	14.9
F15	R2	RESIDENTIAL	LKD	15.7	97.1	48	7.7	50.6
F15	R3	RESIDENTIAL	BEDROOM	11.5	91.6	40.1	5.9	56.3
F15	R4	RESIDENTIAL	LKD	21.9	98.4	36.3	13.6	63.1
F15	R5	RESIDENTIAL	BEDROOM	12.8	86.5	34.1	6.7	60.5
F15	R6	RESIDENTIAL	LKD	9.1	88.5	62.2	2.4	29.7
F15	R7	RESIDENTIAL	BEDROOM	13.5	98.4	73.7	3.3	25.1
F15	R8	RESIDENTIAL	BEDROOM	10.0	85.9	48.1	3.8	44.1
F15	R9	RESIDENTIAL	BEDROOM	8.5	90.7	71.2	1.7	21.5
F15	R10	RESIDENTIAL	LKD	22.5	99.5	98.7	0.2	0.8

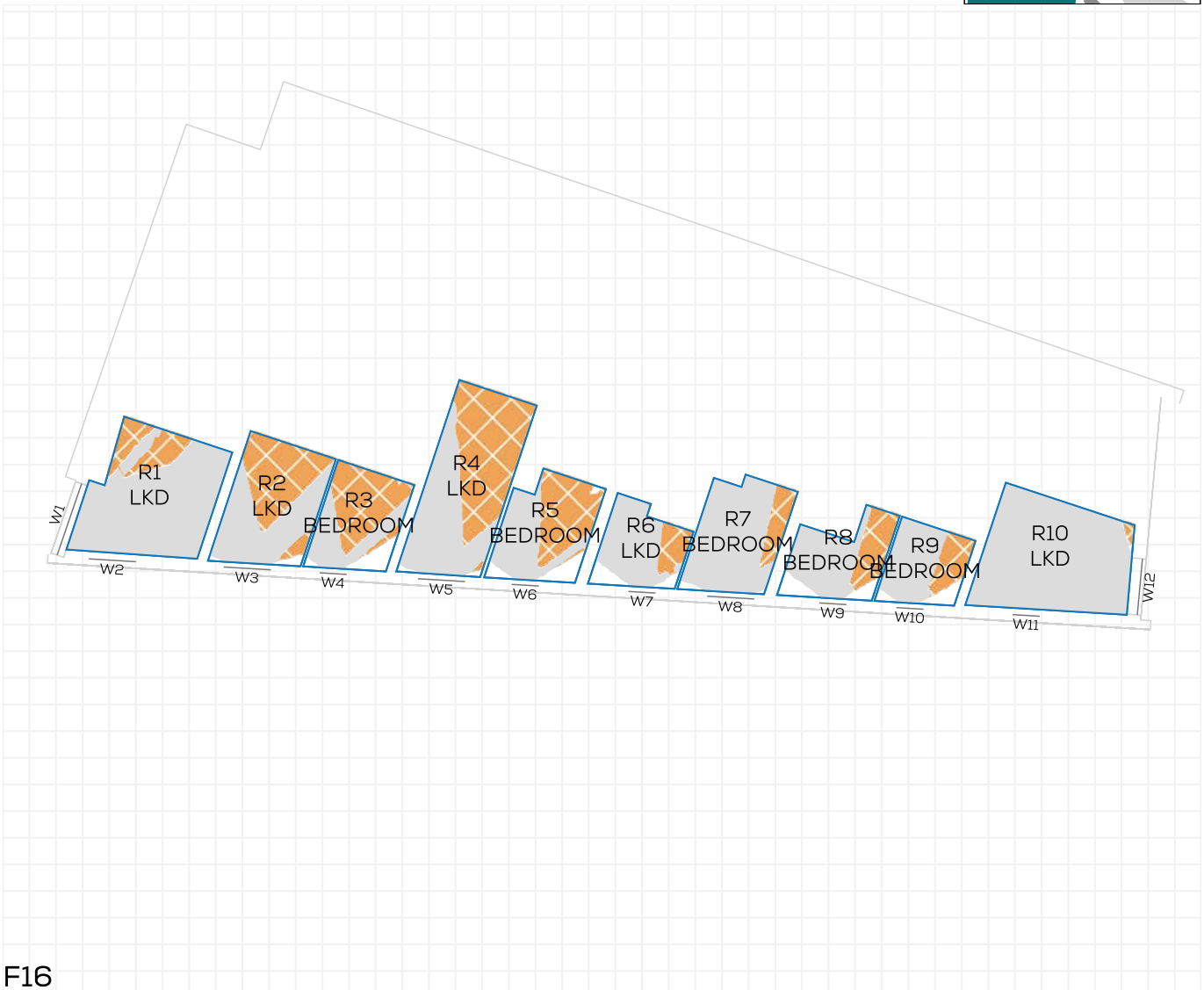
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL110
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F16

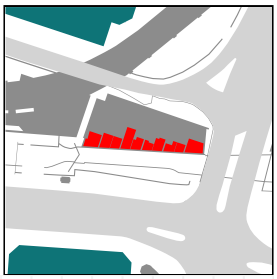
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F16	R1	RESIDENTIAL	LKD	21.4	100	83.5	3.5	16.5
F16	R2	RESIDENTIAL	LKD	15.7	97.9	50.2	7.5	48.8
F16	R3	RESIDENTIAL	BEDROOM	11.5	89.5	32.6	6.5	63.5
F16	R4	RESIDENTIAL	LKD	21.9	99.1	45.1	11.8	54.5
F16	R5	RESIDENTIAL	BEDROOM	12.8	89.3	42.7	6.0	52.2
F16	R6	RESIDENTIAL	LKD	9.1	88.7	68.7	1.8	22.6
F16	R7	RESIDENTIAL	BEDROOM	13.5	98.3	83.3	2.0	15.3
F16	R8	RESIDENTIAL	BEDROOM	10.0	87.2	56.3	3.1	35.4
F16	R9	RESIDENTIAL	BEDROOM	8.5	89.4	62.1	2.3	30.5
F16	R10	RESIDENTIAL	LKD	22.5	99.8	98.7	0.3	1.2

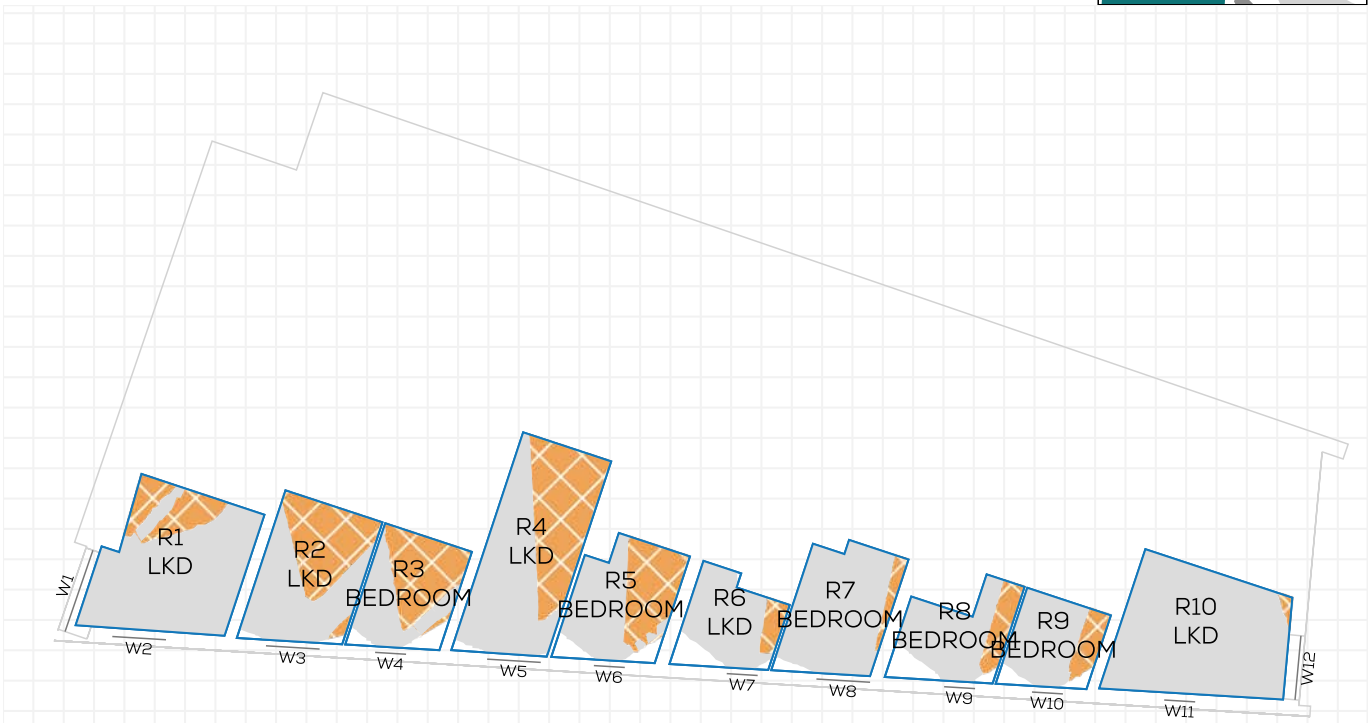
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL111
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F17

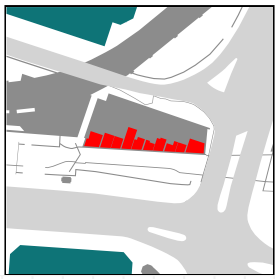
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F17	R1	RESIDENTIAL	LKD	21.4	100	82.5	3.8	17.5
F17	R2	RESIDENTIAL	LKD	15.7	98.2	54.3	6.9	44.7
F17	R3	RESIDENTIAL	BEDROOM	11.5	91.7	39.9	5.9	56.5
F17	R4	RESIDENTIAL	LKD	21.9	98.9	54.5	9.7	44.9
F17	R5	RESIDENTIAL	BEDROOM	12.8	91.2	50.3	5.2	44.9
F17	R6	RESIDENTIAL	LKD	9.1	86.9	74.5	1.1	14.3
F17	R7	RESIDENTIAL	BEDROOM	13.5	97.5	90.4	1.0	7.2
F17	R8	RESIDENTIAL	BEDROOM	10.0	86.5	66.1	2.0	23.5
F17	R9	RESIDENTIAL	BEDROOM	8.5	90.8	71.2	1.7	21.5
F17	R10	RESIDENTIAL	LKD	22.5	100	98.7	0.3	1.3

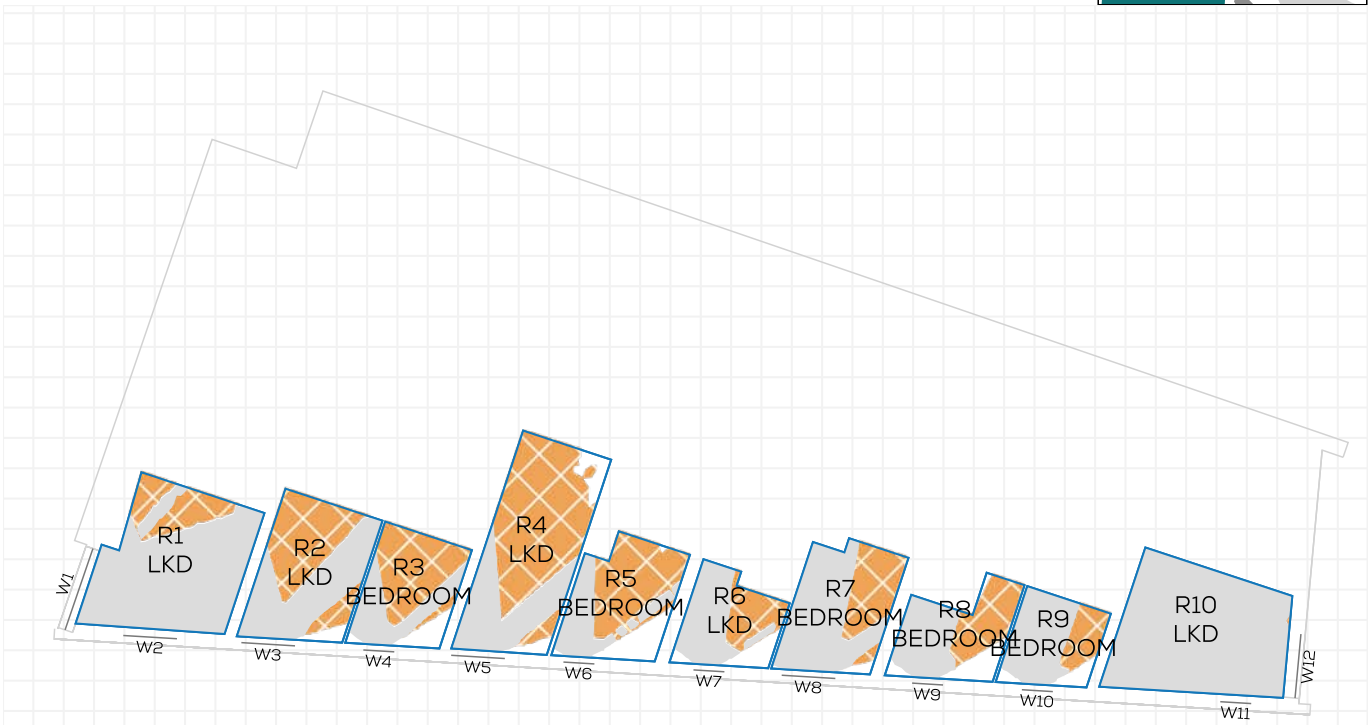
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL112
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F18

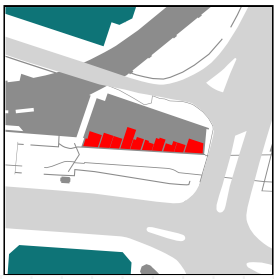
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F18	R1	RESIDENTIAL	LKD	21.4	100	82.2	3.8	17.8
F18	R2	RESIDENTIAL	LKD	15.7	96.9	48.9	7.6	49.6
F18	R3	RESIDENTIAL	BEDROOM	11.5	89.6	32.8	6.5	63.4
F18	R4	RESIDENTIAL	LKD	21.9	93.3	29	14.1	68.9
F18	R5	RESIDENTIAL	BEDROOM	12.8	84.2	19.4	8.3	77
F18	R6	RESIDENTIAL	LKD	9.1	86.2	54.7	2.9	36.5
F18	R7	RESIDENTIAL	BEDROOM	13.5	97.9	64.8	4.5	33.8
F18	R8	RESIDENTIAL	BEDROOM	10.0	82.9	44.3	3.8	46.5
F18	R9	RESIDENTIAL	BEDROOM	8.5	89.7	64.1	2.2	28.5
F18	R10	RESIDENTIAL	LKD	22.5	100	99.8	0.0	0.2

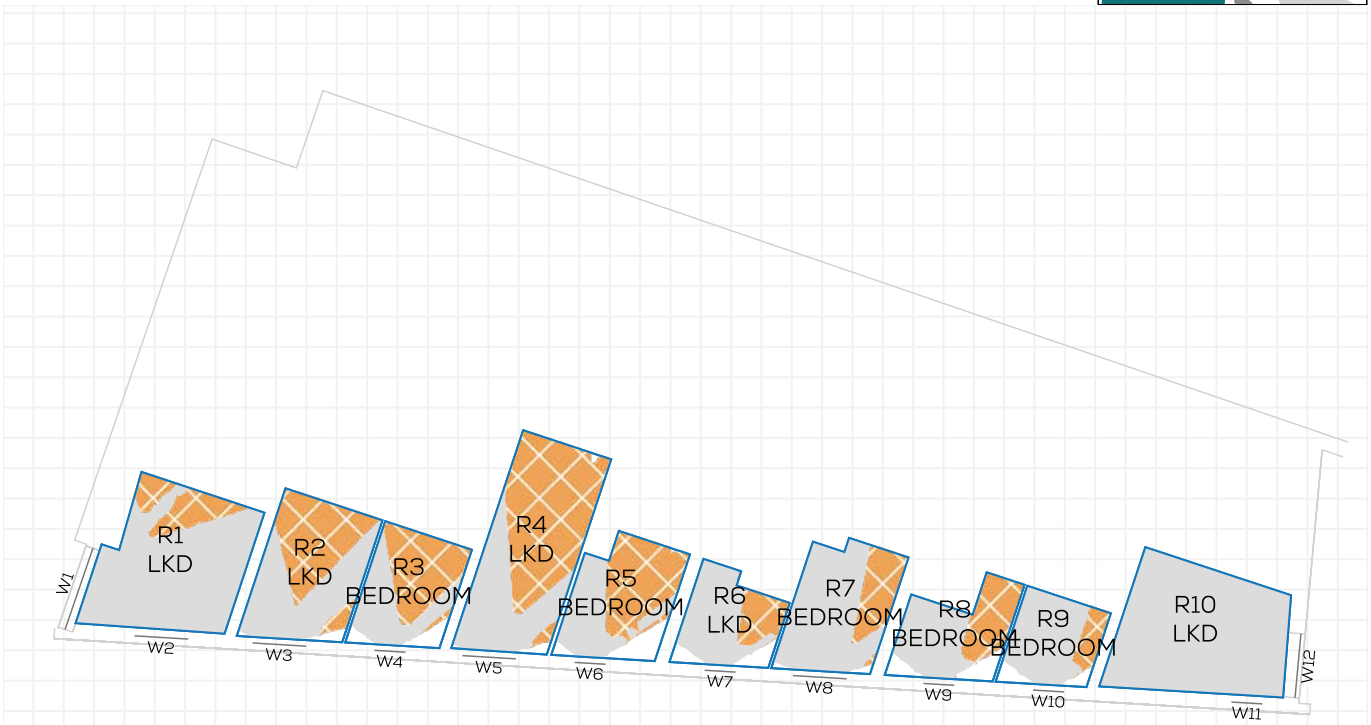
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL113
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F19

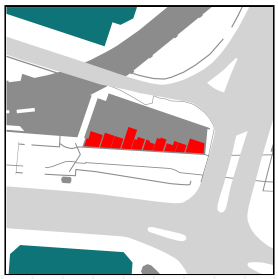
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F19	R1	RESIDENTIAL	LKD	21.4	100	83.5	3.5	16.5
F19	R2	RESIDENTIAL	LKD	15.7	97.7	50.3	7.5	48.6
F19	R3	RESIDENTIAL	BEDROOM	11.5	91.8	39.5	6.0	56.9
F19	R4	RESIDENTIAL	LKD	21.9	98.5	35.5	13.8	63.9
F19	R5	RESIDENTIAL	BEDROOM	12.8	88.3	37.5	6.5	57.6
F19	R6	RESIDENTIAL	LKD	9.1	88.6	63.9	2.2	27.9
F19	R7	RESIDENTIAL	BEDROOM	13.5	98.5	73.5	3.4	25.4
F19	R8	RESIDENTIAL	BEDROOM	10.0	87.1	50.4	3.7	42.1
F19	R9	RESIDENTIAL	BEDROOM	8.5	90.9	73.8	1.5	18.7
F19	R10	RESIDENTIAL	LKD	22.5	100	100	0.0	0

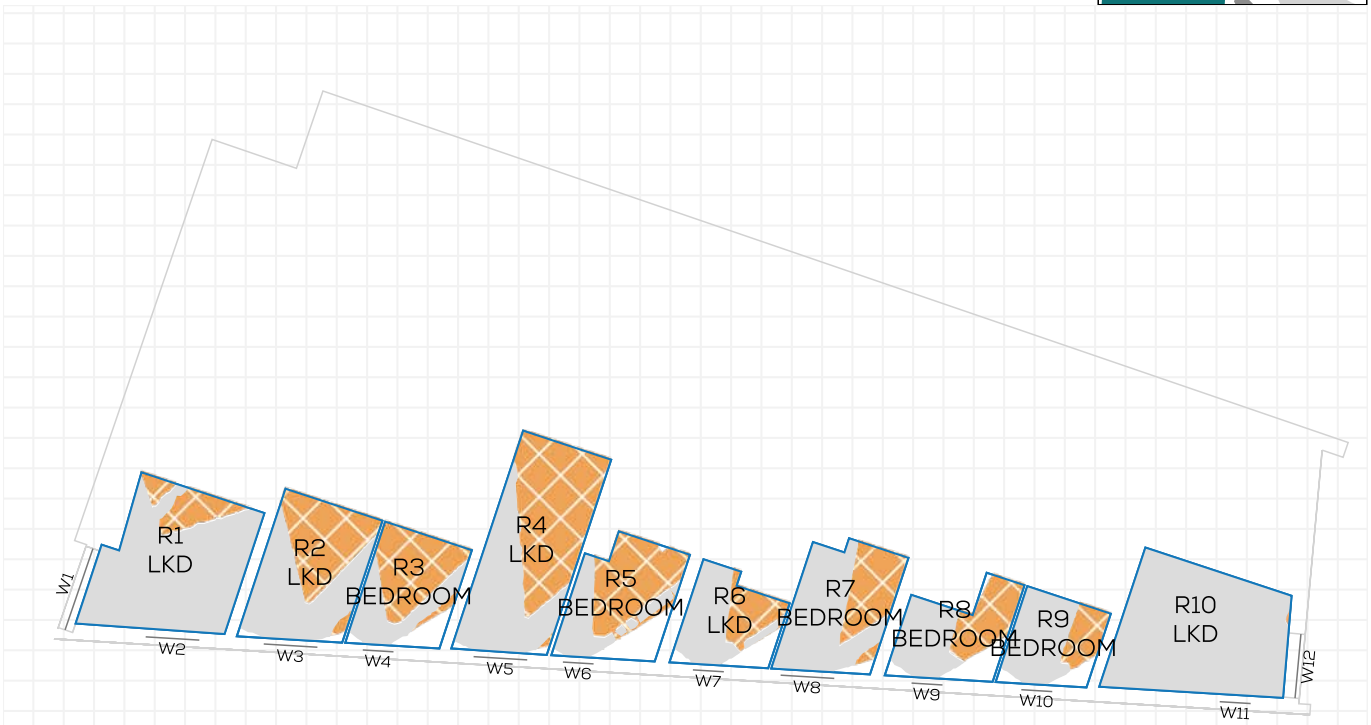
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL114
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F20

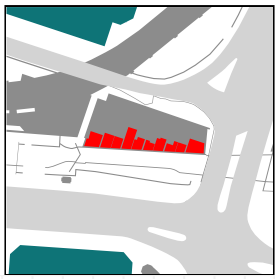
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F20	R1	RESIDENTIAL	LKD	21.4	100	86.1	3.0	13.9
F20	R2	RESIDENTIAL	LKD	15.7	98.3	53.5	7.0	45.6
F20	R3	RESIDENTIAL	BEDROOM	11.5	89.1	32.5	6.5	63.5
F20	R4	RESIDENTIAL	LKD	21.9	99.1	43	12.3	56.6
F20	R5	RESIDENTIAL	BEDROOM	12.8	84.1	18.8	8.4	77.6
F20	R6	RESIDENTIAL	LKD	9.1	86.1	55.1	2.8	36.1
F20	R7	RESIDENTIAL	BEDROOM	13.5	97.7	63.8	4.6	34.7
F20	R8	RESIDENTIAL	BEDROOM	10.0	82.4	44.7	3.8	45.8
F20	R9	RESIDENTIAL	BEDROOM	8.5	89.4	64.3	2.1	28.1
F20	R10	RESIDENTIAL	LKD	22.5	100	99.8	0.1	0.2

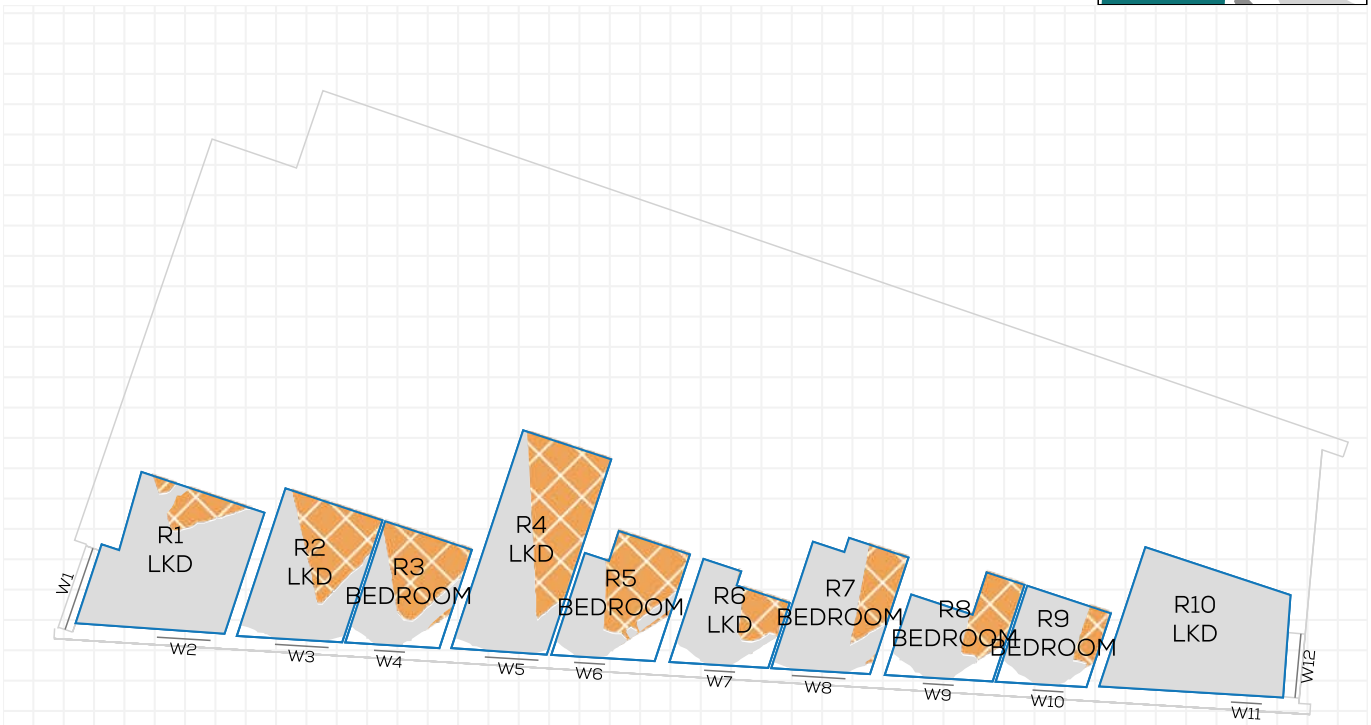
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL115
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F21

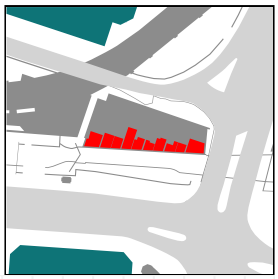
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F21	R1	RESIDENTIAL	LKD	21.4	100	88.8	2.4	11.2
F21	R2	RESIDENTIAL	LKD	15.7	98.1	59.9	6.0	39
F21	R3	RESIDENTIAL	BEDROOM	11.5	91.7	40.1	5.9	56.2
F21	R4	RESIDENTIAL	LKD	21.9	98.9	52.8	10.1	46.6
F21	R5	RESIDENTIAL	BEDROOM	12.8	88.3	37.4	6.5	57.6
F21	R6	RESIDENTIAL	LKD	9.1	88.5	64.6	2.2	26.9
F21	R7	RESIDENTIAL	BEDROOM	13.5	98.3	72.9	3.4	25.9
F21	R8	RESIDENTIAL	BEDROOM	10.0	86.6	50.9	3.6	41.2
F21	R9	RESIDENTIAL	BEDROOM	8.5	90.6	74.3	1.4	18
F21	R10	RESIDENTIAL	LKD	22.4	100	100	0.0	0

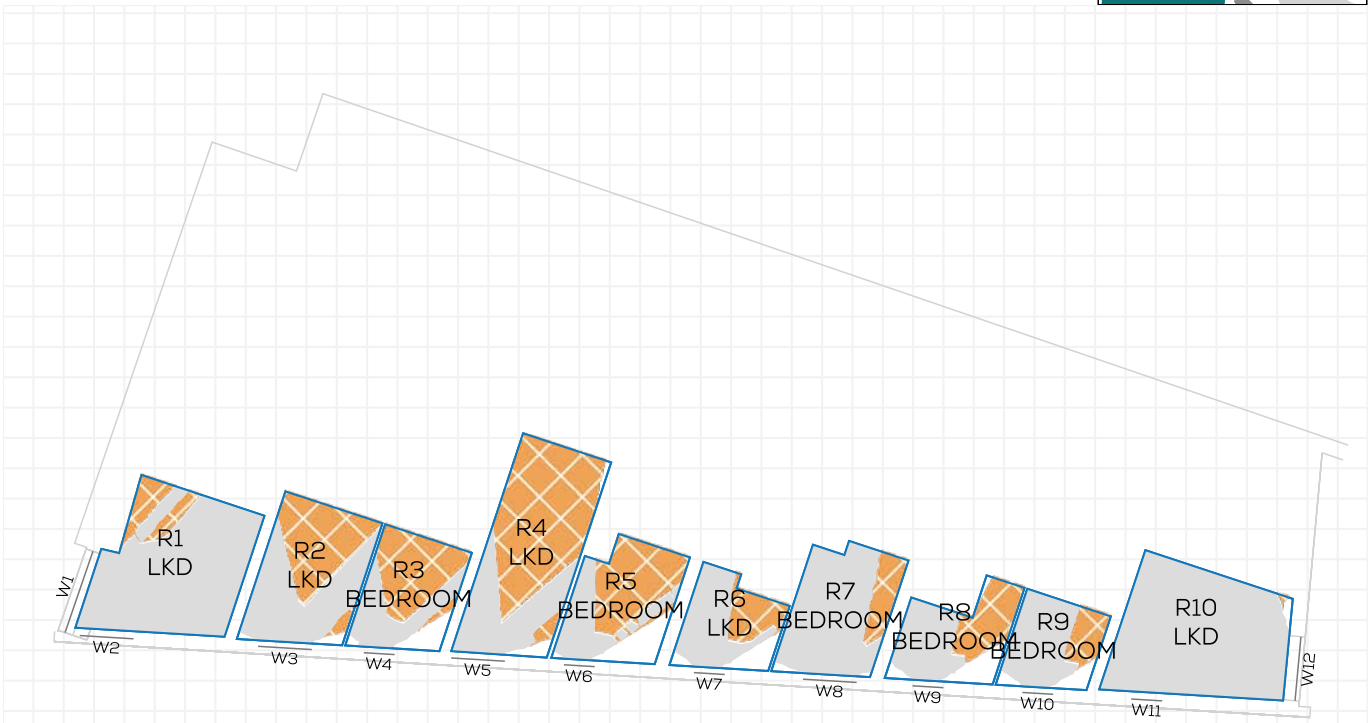
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL116
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F22

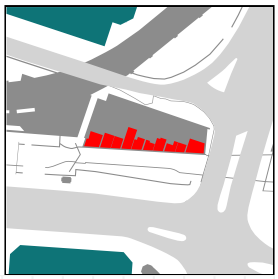
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F22	R1	RESIDENTIAL	LKD	21.5	100	88.4	2.5	11.6
F22	R2	RESIDENTIAL	LKD	15.7	98.1	52.2	7.2	46.8
F22	R3	RESIDENTIAL	BEDROOM	11.5	89.8	34.7	6.3	61.4
F22	R4	RESIDENTIAL	LKD	21.9	97.4	29.9	14.8	69.3
F22	R5	RESIDENTIAL	BEDROOM	12.8	84.8	31.3	6.9	63.2
F22	R6	RESIDENTIAL	LKD	9.1	86.4	57.5	2.6	33.4
F22	R7	RESIDENTIAL	BEDROOM	13.5	98.4	81.4	2.3	17.2
F22	R8	RESIDENTIAL	BEDROOM	10.0	83.1	46.2	3.7	44.4
F22	R9	RESIDENTIAL	BEDROOM	8.5	89.9	66.8	2.0	25.6
F22	R10	RESIDENTIAL	LKD	22.6	99.1	98.7	0.1	0.4

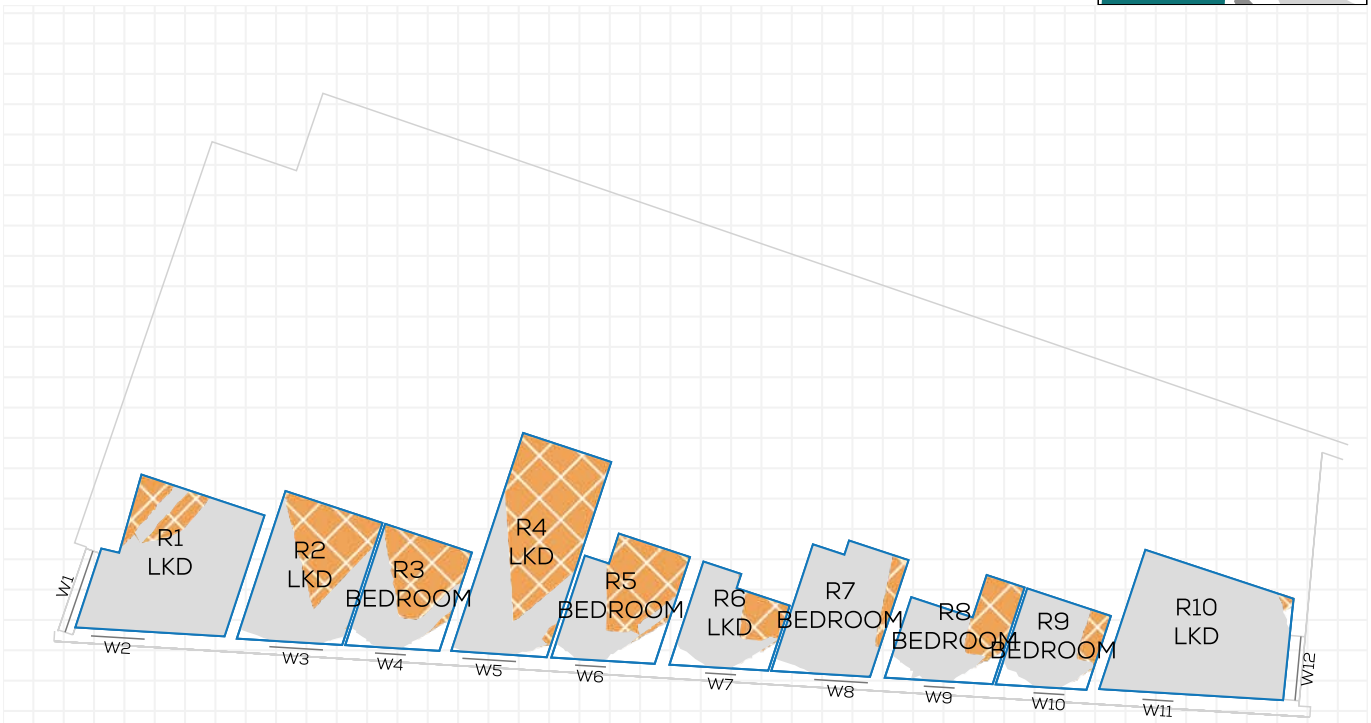
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL117
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F23

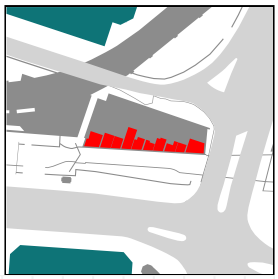
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F23	R1	RESIDENTIAL	LKD	21.5	100	86.2	3.0	13.8
F23	R2	RESIDENTIAL	LKD	15.7	98.2	56.9	6.5	42
F23	R3	RESIDENTIAL	BEDROOM	11.5	91.8	41.9	5.7	54.4
F23	R4	RESIDENTIAL	LKD	21.9	98.8	36.2	13.7	63.4
F23	R5	RESIDENTIAL	BEDROOM	12.8	88.6	32.1	7.2	63.7
F23	R6	RESIDENTIAL	LKD	9.1	88.8	66.6	2.0	25
F23	R7	RESIDENTIAL	BEDROOM	13.5	97.7	89.3	1.1	8.6
F23	R8	RESIDENTIAL	BEDROOM	10.0	87.3	53.2	3.4	39.1
F23	R9	RESIDENTIAL	BEDROOM	8.5	91.1	77.1	1.2	15.4
F23	R10	RESIDENTIAL	LKD	22.6	99.5	98.7	0.2	0.8

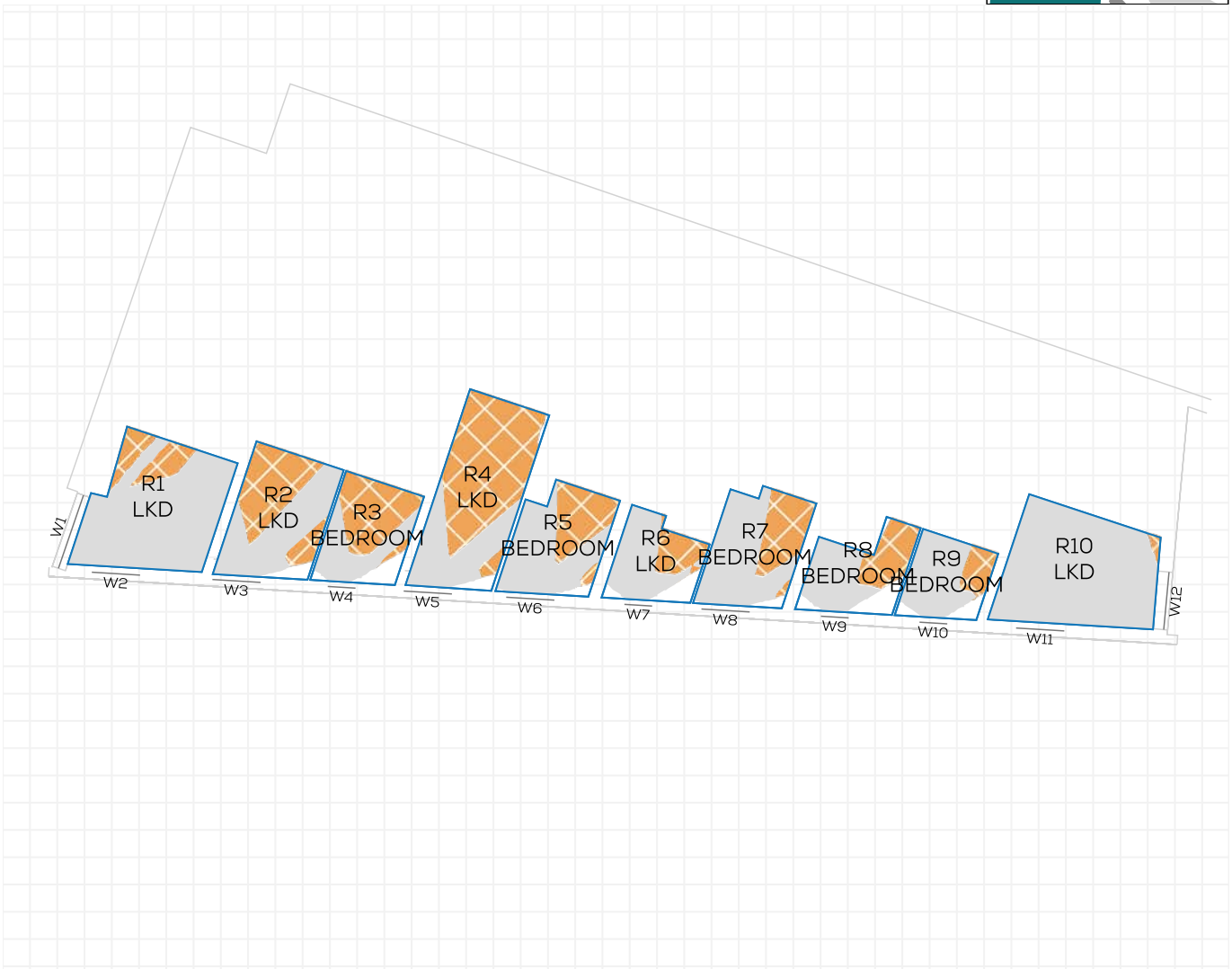
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL118
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F24

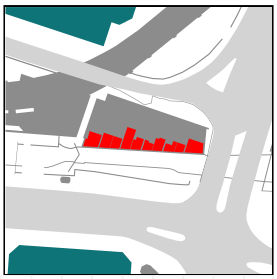
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F24	R1	RESIDENTIAL	LKD	21.5	100	84.5	3.3	15.5
F24	R2	RESIDENTIAL	LKD	15.7	96.2	49.6	7.3	48.4
F24	R3	RESIDENTIAL	BEDROOM	11.5	89.9	35.6	6.2	60.4
F24	R4	RESIDENTIAL	LKD	21.9	97.3	29.3	14.9	69.9
F24	R5	RESIDENTIAL	BEDROOM	12.8	97.4	60.8	4.7	37.6
F24	R6	RESIDENTIAL	LKD	9.1	86.6	59.8	2.4	31
F24	R7	RESIDENTIAL	BEDROOM	13.5	97.7	65	4.4	33.4
F24	R8	RESIDENTIAL	BEDROOM	10.0	83.4	48.5	3.5	41.9
F24	R9	RESIDENTIAL	BEDROOM	8.5	89.9	69.3	1.8	22.8
F24	R10	RESIDENTIAL	LKD	22.5	100	98.6	0.3	1.4

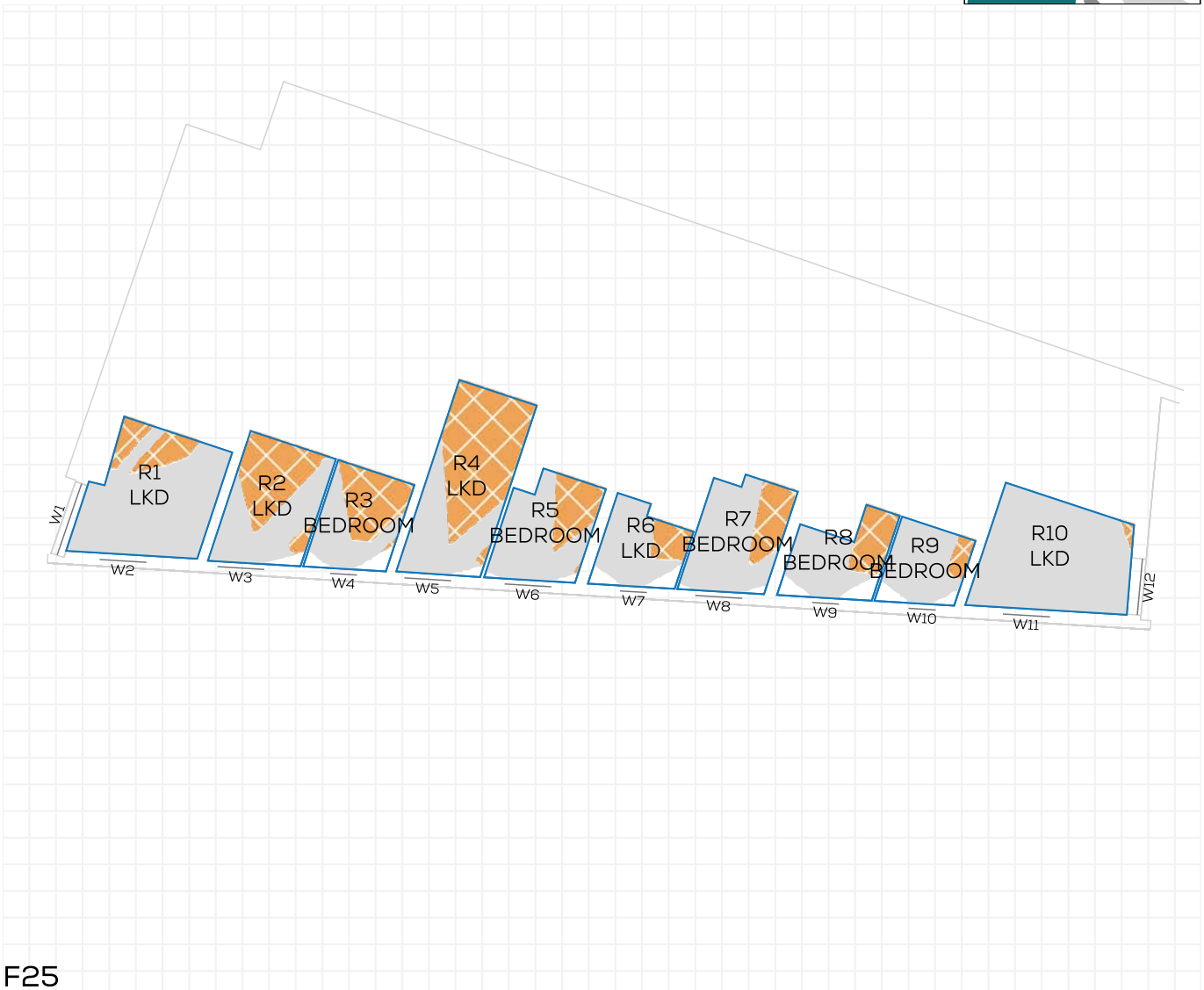
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL119
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F25

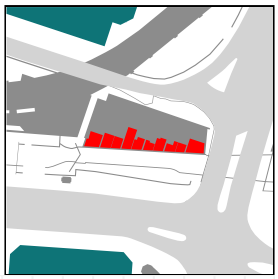
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F25	R1	RESIDENTIAL	LKD	21.5	100	83.6	3.5	16.4
F25	R2	RESIDENTIAL	LKD	15.7	97.4	50.1	7.4	48.6
F25	R3	RESIDENTIAL	BEDROOM	11.5	91.9	43.5	5.5	52.7
F25	R4	RESIDENTIAL	LKD	21.9	98.7	35.1	13.9	64.4
F25	R5	RESIDENTIAL	BEDROOM	12.8	98.1	68.8	3.7	29.8
F25	R6	RESIDENTIAL	LKD	9.1	88.6	67.5	1.9	23.9
F25	R7	RESIDENTIAL	BEDROOM	13.5	98.3	73.5	3.4	25.2
F25	R8	RESIDENTIAL	BEDROOM	10.0	87.3	54.7	3.2	37.3
F25	R9	RESIDENTIAL	BEDROOM	8.5	90.7	78.4	1.1	13.6
F25	R10	RESIDENTIAL	LKD	22.5	100	98.6	0.3	1.4

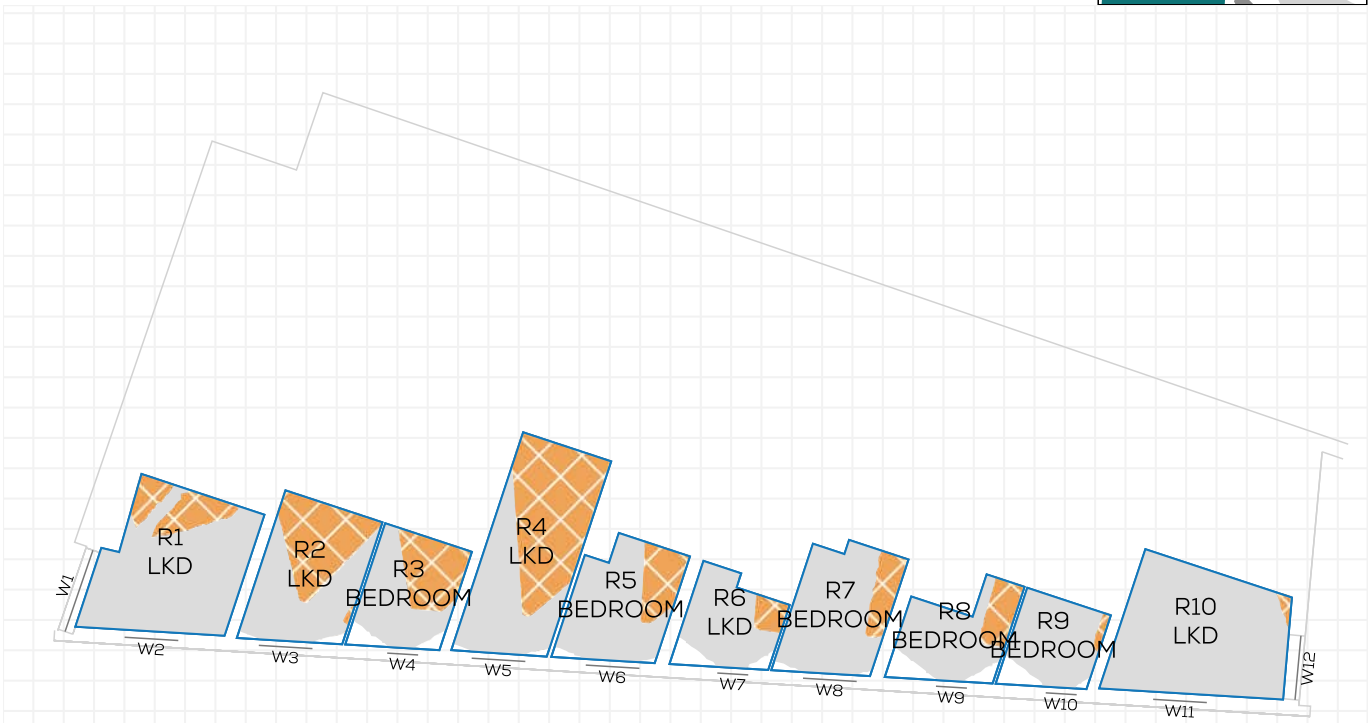
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	AXIS TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL120
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





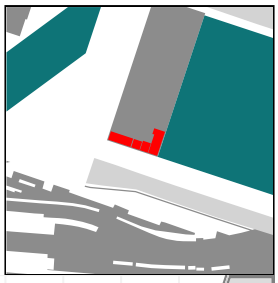
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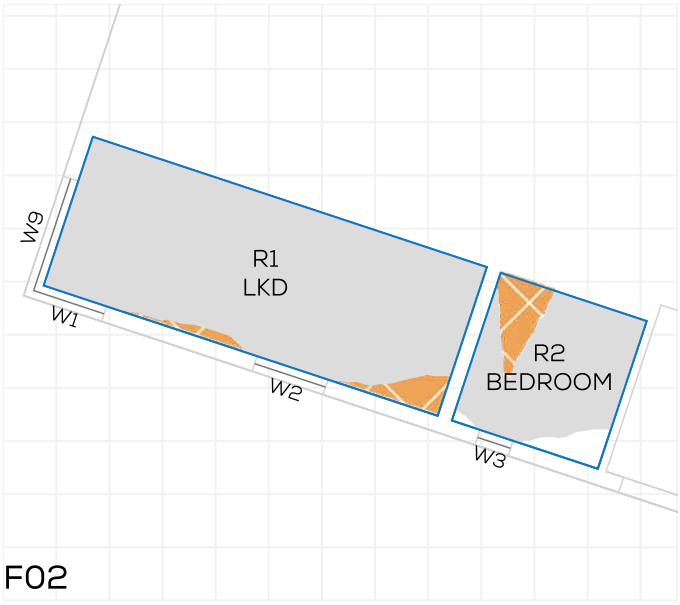
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
AXIS TOWER								
F26	R1	RESIDENTIAL	LKD	21.5	100	83.3	3.6	16.7
F26	R2	RESIDENTIAL	LKD	15.7	98.1	54.1	6.9	44.8
F26	R3	RESIDENTIAL	BEDROOM	11.5	92.3	53.3	4.5	42.3
F26	R4	RESIDENTIAL	LKD	21.9	99.1	41.8	12.6	57.8
F26	R5	RESIDENTIAL	BEDROOM	12.8	98	75.4	2.9	23.1
F26	R6	RESIDENTIAL	LKD	9.1	88.7	76.4	1.1	13.8
F26	R7	RESIDENTIAL	BEDROOM	13.5	98.3	82.2	2.2	16.4
F26	R8	RESIDENTIAL	BEDROOM	10.0	87.3	66.7	2.1	23.6
F26	R9	RESIDENTIAL	BEDROOM	8.5	89.4	85.5	0.3	4.4
F26	R10	RESIDENTIAL	LKD	22.5	100	98.7	0.3	1.3

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL121
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F02



F02



F03



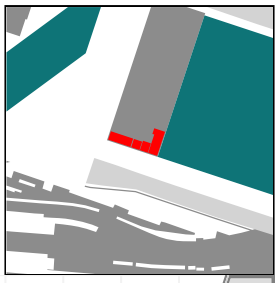
F03

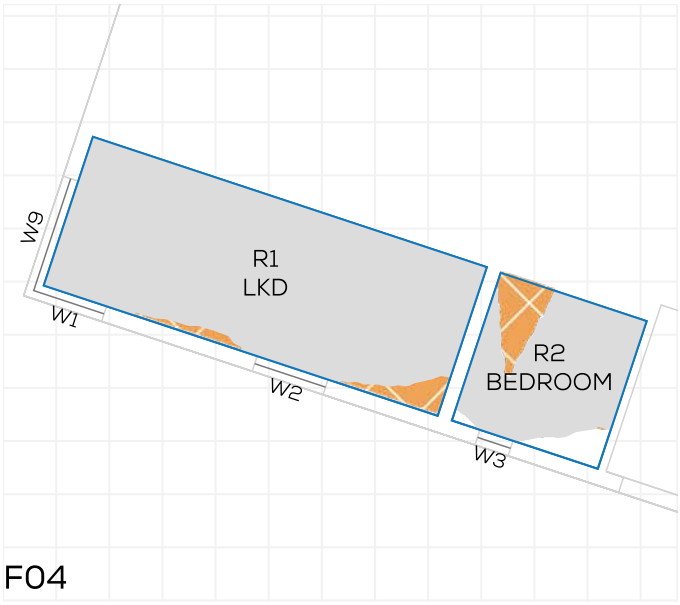
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F02	R1	RESIDENTIAL	LKD	23.0	100	95.5	1.0	4.5
F02	R2	RESIDENTIAL	BEDROOM	8.5	91.6	78	1.2	14.9
F02	R3	RESIDENTIAL	BEDROOM	9.1	98.8	95.4	0.3	3.4
F02	R4	RESIDENTIAL	LKD	27.7	99.9	99.3	0.2	0.6
F03	R1	RESIDENTIAL	LKD	23.0	100	95.8	1.0	4.2
F03	R2	RESIDENTIAL	BEDROOM	8.5	91.7	78.1	1.2	14.8
F03	R3	RESIDENTIAL	BEDROOM	9.1	98.7	95.1	0.3	3.7
F03	R4	RESIDENTIAL	LKD	27.7	99.9	99.3	0.2	0.6

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL122
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





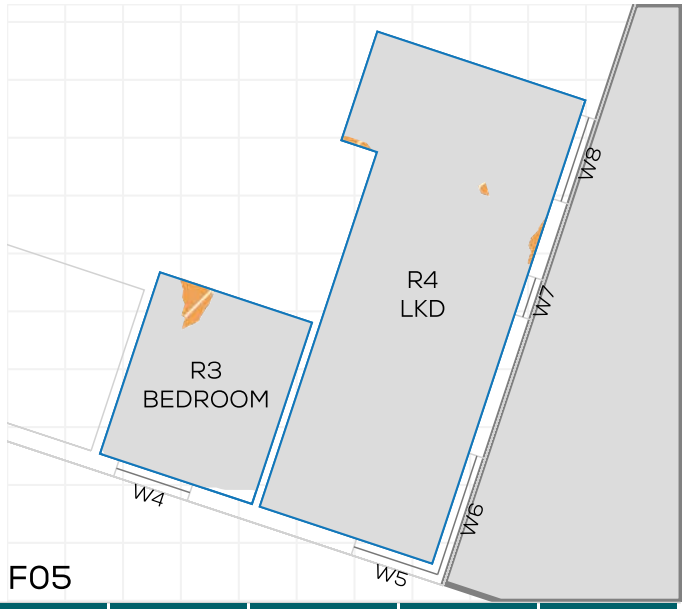
F04



F04



F05



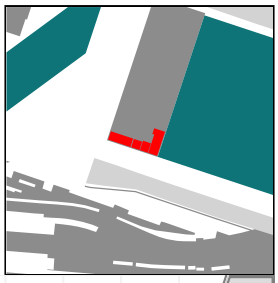
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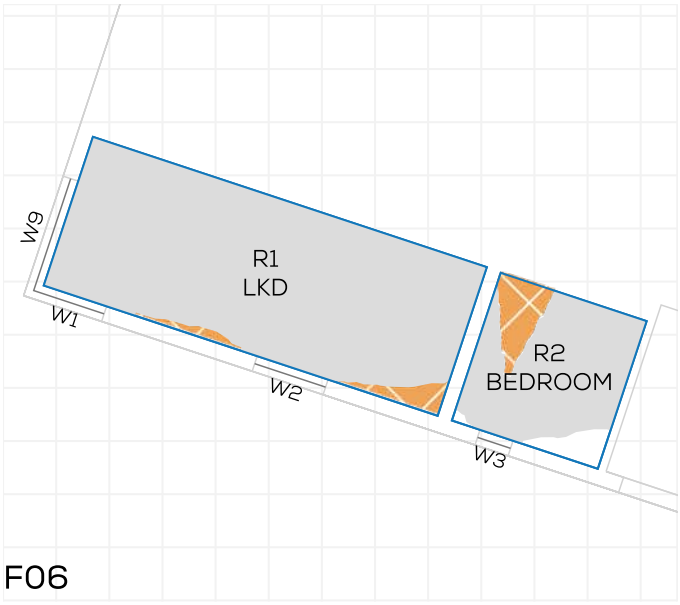
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F04	R1	RESIDENTIAL	LKD	23.0	100	96	0.9	4
F04	R2	RESIDENTIAL	BEDROOM	8.5	91.7	77.9	1.2	15.1
F04	R3	RESIDENTIAL	BEDROOM	9.1	98.8	95.5	0.3	3.4
F04	R4	RESIDENTIAL	LKD	27.7	99.9	99.4	0.2	0.6
F05	R1	RESIDENTIAL	LKD	23.0	100	96.1	0.9	3.9
F05	R2	RESIDENTIAL	BEDROOM	8.5	91.8	78.3	1.1	14.7
F05	R3	RESIDENTIAL	BEDROOM	9.1	98.8	95.4	0.3	3.4
F05	R4	RESIDENTIAL	LKD	27.7	100	99.4	0.2	0.6

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL123
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

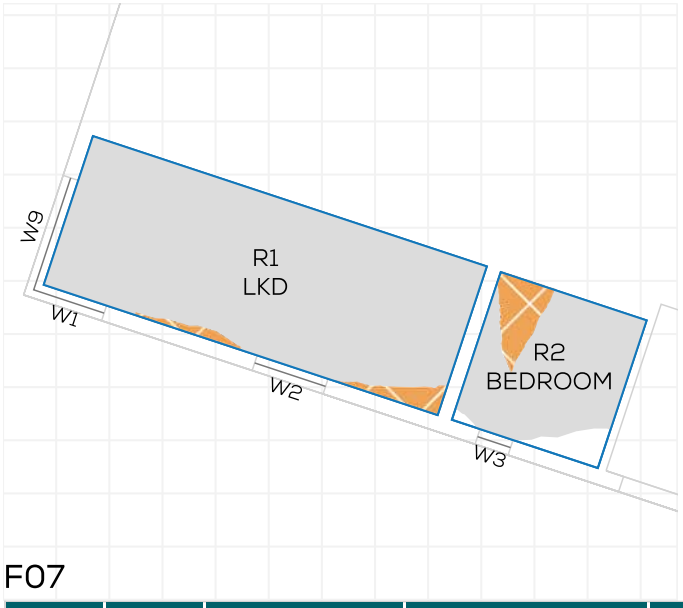




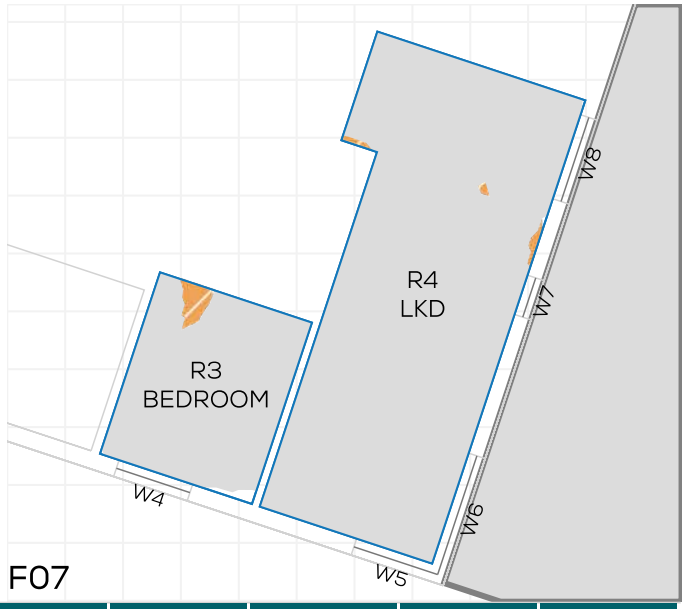
F06



F06



F07



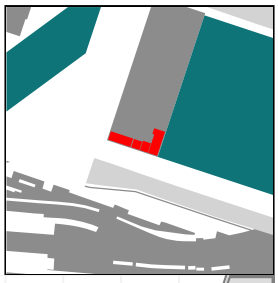
F07

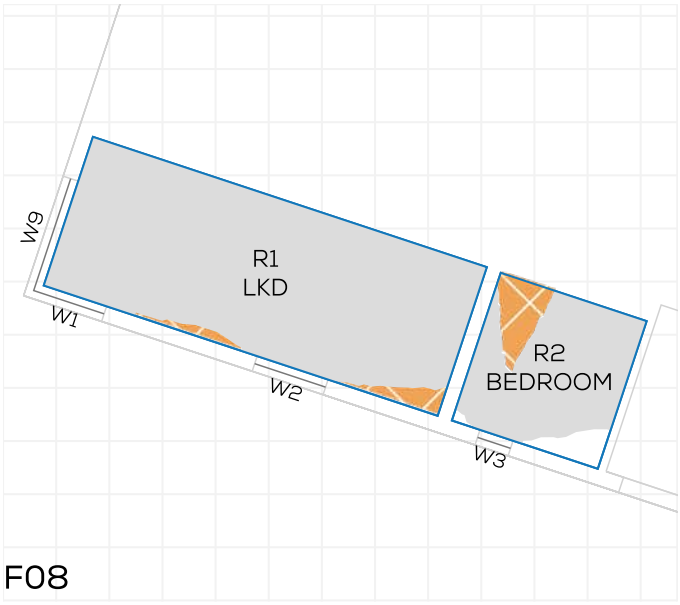
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F06	R1	RESIDENTIAL	LKD	23.0	100	96.3	0.8	3.7
F06	R2	RESIDENTIAL	BEDROOM	8.5	91.7	78.2	1.1	14.8
F06	R3	RESIDENTIAL	BEDROOM	9.1	98.8	95.3	0.3	3.5
F06	R4	RESIDENTIAL	LKD	27.7	99.9	99.3	0.2	0.6
F07	R1	RESIDENTIAL	LKD	23.0	100	96.5	0.8	3.5
F07	R2	RESIDENTIAL	BEDROOM	8.5	91.6	78.3	1.1	14.5
F07	R3	RESIDENTIAL	BEDROOM	9.1	98.8	95.5	0.3	3.4
F07	R4	RESIDENTIAL	LKD	27.7	99.9	99.4	0.2	0.6

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL124
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





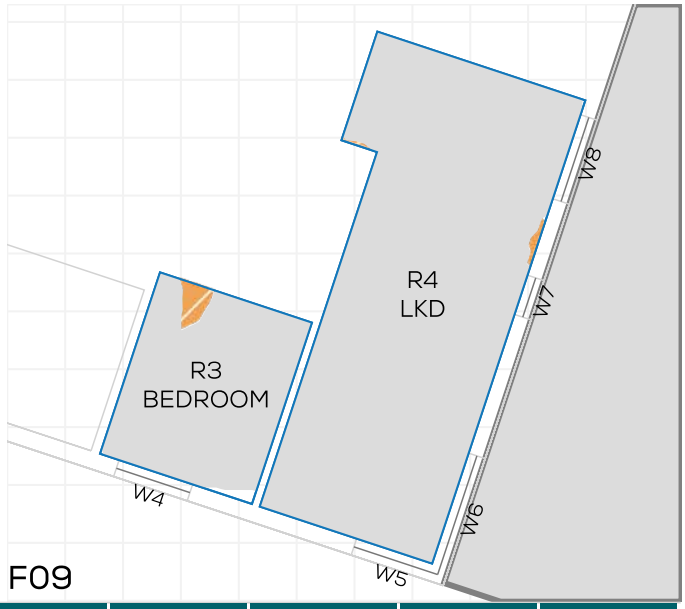
F08



F08



F09



F09

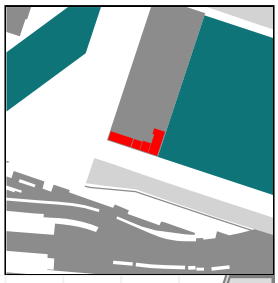
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F08	R1	RESIDENTIAL	LKD	23.0	100	96.6	0.8	3.4
F08	R2	RESIDENTIAL	BEDROOM	8.5	91.8	78.5	1.1	14.5
F08	R3	RESIDENTIAL	BEDROOM	9.1	98.8	95.4	0.3	3.4
F08	R4	RESIDENTIAL	LKD	27.7	100	99.5	0.1	0.4
F09	R1	RESIDENTIAL	LKD	23.0	100	96.6	0.8	3.4
F09	R2	RESIDENTIAL	BEDROOM	8.5	91.7	78.5	1.1	14.4
F09	R3	RESIDENTIAL	BEDROOM	9.1	98.8	95.3	0.3	3.5
F09	R4	RESIDENTIAL	LKD	27.7	100	99.6	0.1	0.4

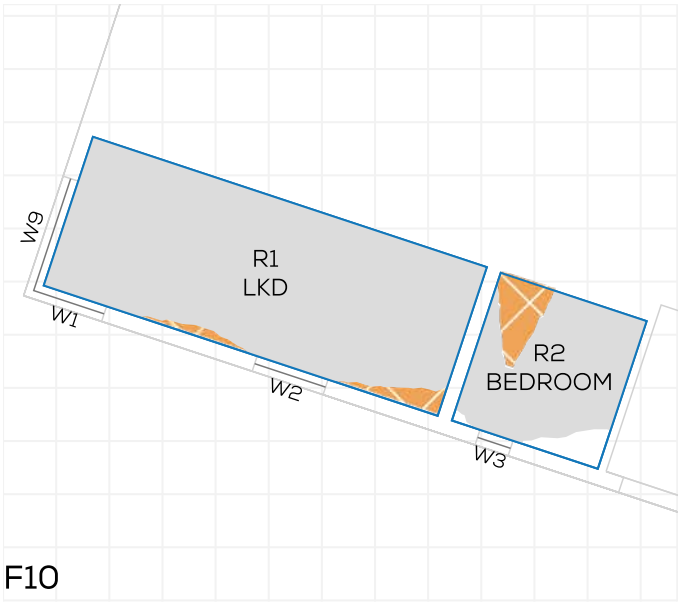
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	VIADUX - PHASE 1
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL125
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

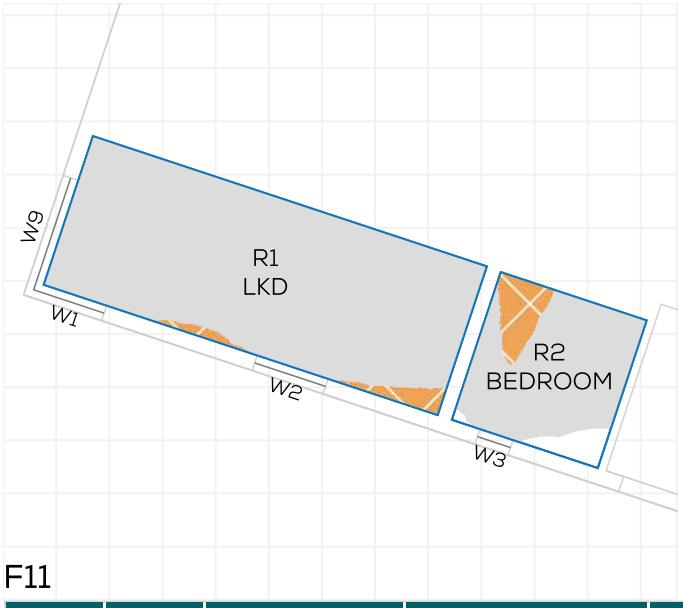




F10



F10



F11



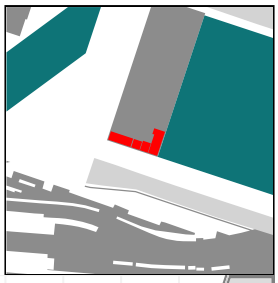
F11

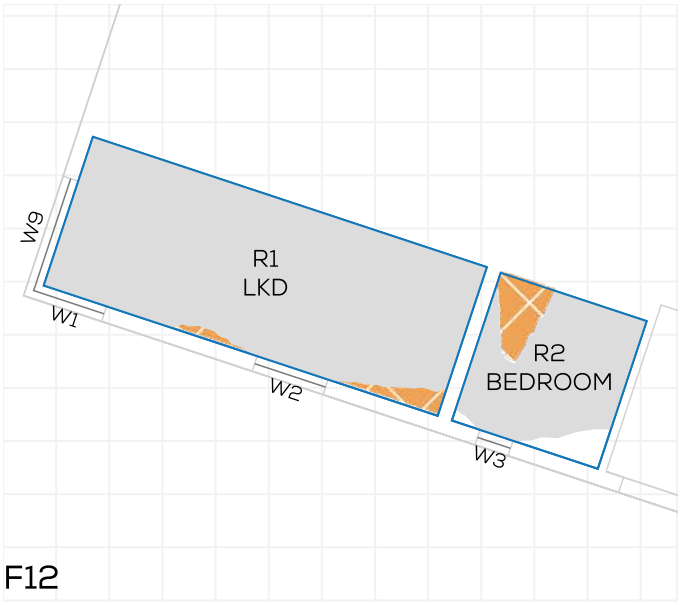
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F10	R1	RESIDENTIAL	LKD	23.0	100	96.7	0.8	3.3
F10	R2	RESIDENTIAL	BEDROOM	8.5	91.8	78.5	1.1	14.4
F10	R3	RESIDENTIAL	BEDROOM	9.1	98.8	95.5	0.3	3.4
F10	R4	RESIDENTIAL	LKD	27.7	100	99.6	0.1	0.4
F11	R1	RESIDENTIAL	LKD	23.0	100	96.7	0.8	3.3
F11	R2	RESIDENTIAL	BEDROOM	8.5	91.7	78.6	1.1	14.2
F11	R3	RESIDENTIAL	BEDROOM	9.1	98.8	95.3	0.3	3.5
F11	R4	RESIDENTIAL	LKD	27.7	100	99.6	0.1	0.4

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL126
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F12



F12



F13



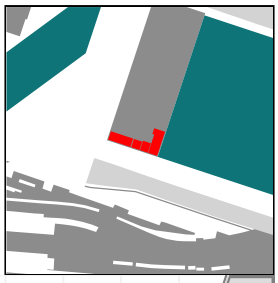
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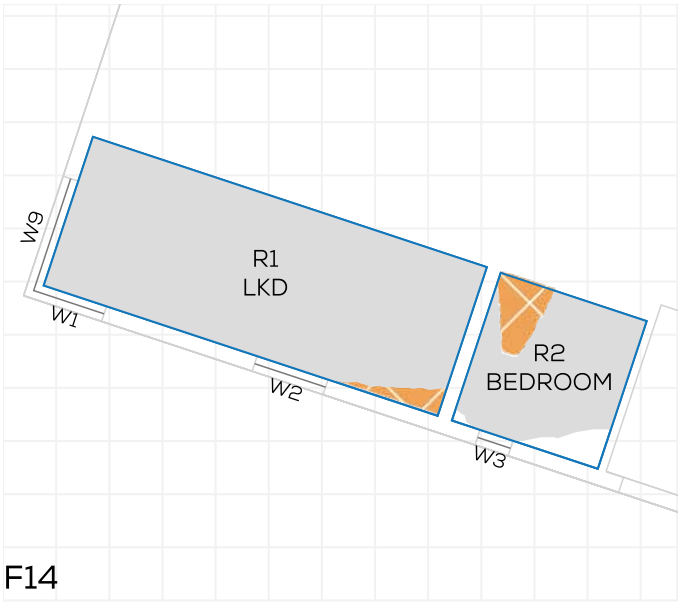
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F12	R1	RESIDENTIAL	LKD	23.0	100	97	0.7	3
F12	R2	RESIDENTIAL	BEDROOM	8.5	91.6	78.7	1.1	14.1
F12	R3	RESIDENTIAL	BEDROOM	9.1	98.8	95.4	0.3	3.5
F12	R4	RESIDENTIAL	LKD	27.7	100	99.6	0.1	0.4
F13	R1	RESIDENTIAL	LKD	23.0	100	97.4	0.6	2.6
F13	R2	RESIDENTIAL	BEDROOM	8.5	91.6	79	1.1	13.8
F13	R3	RESIDENTIAL	BEDROOM	9.1	98.8	95.5	0.3	3.4
F13	R4	RESIDENTIAL	LKD	27.7	100	99.6	0.1	0.4

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL127
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

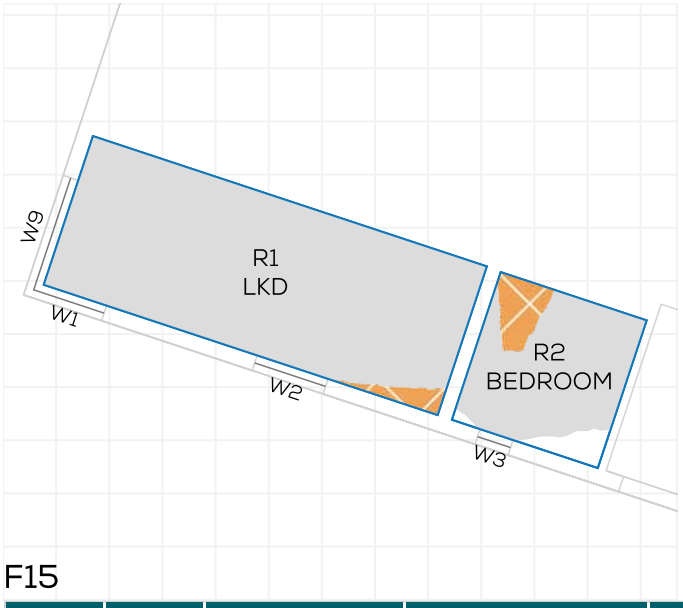




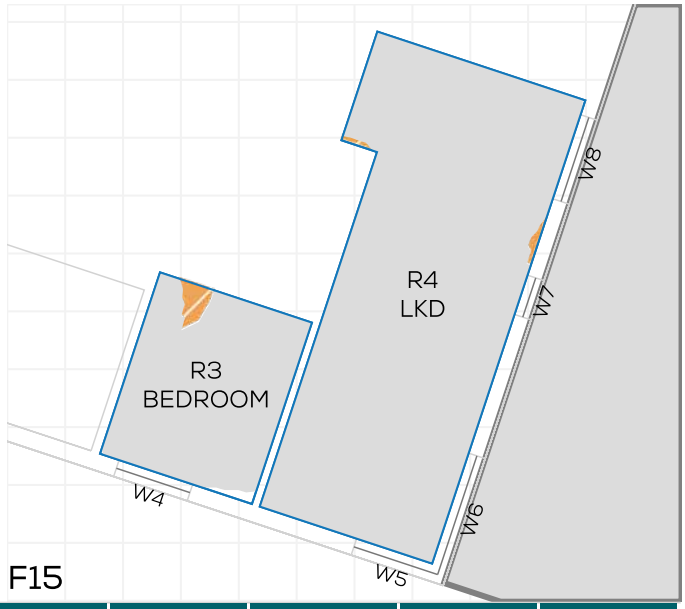
F14



F14



F15



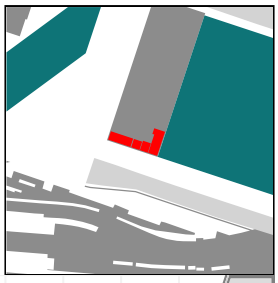
F15

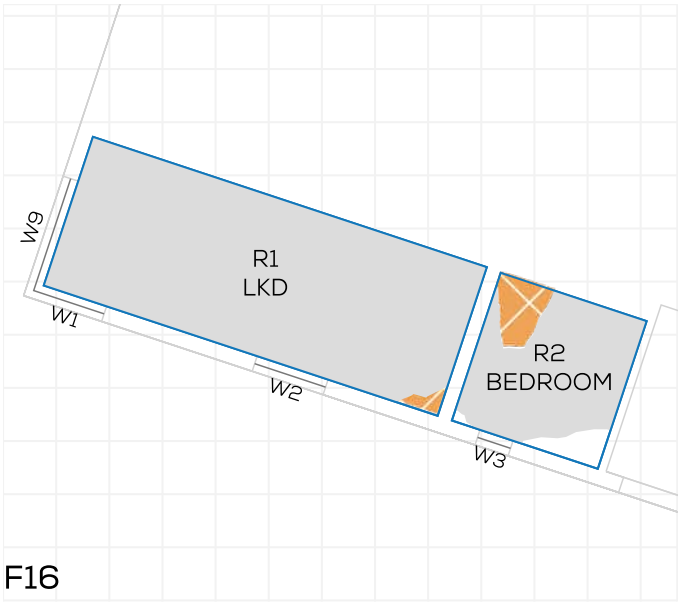
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F14	R1	RESIDENTIAL	LKD	23.0	100	97.8	0.5	2.2
F14	R2	RESIDENTIAL	BEDROOM	8.5	91.6	79	1.1	13.8
F14	R3	RESIDENTIAL	BEDROOM	9.1	98.8	95.3	0.3	3.5
F14	R4	RESIDENTIAL	LKD	27.7	100	99.5	0.1	0.5
F15	R1	RESIDENTIAL	LKD	23.0	100	97.8	0.5	2.2
F15	R2	RESIDENTIAL	BEDROOM	8.5	91.7	79.5	1.0	13.3
F15	R3	RESIDENTIAL	BEDROOM	9.1	98.9	95.5	0.3	3.4
F15	R4	RESIDENTIAL	LKD	27.7	100	99.5	0.1	0.5

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL128
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

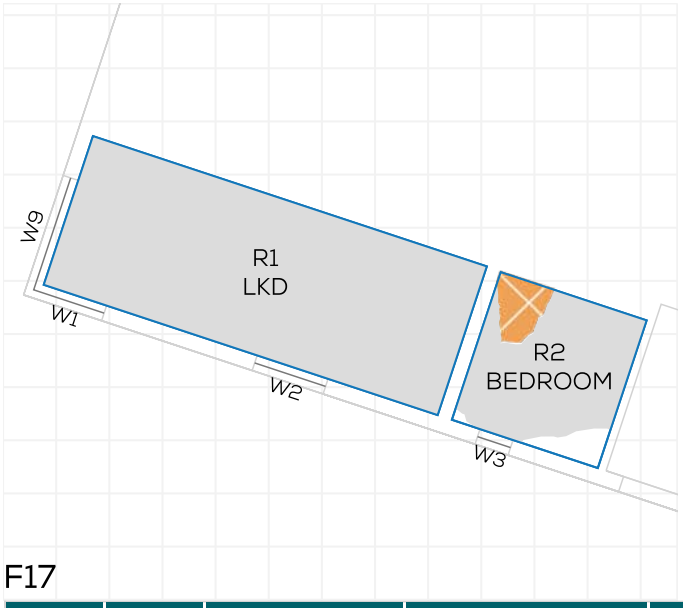




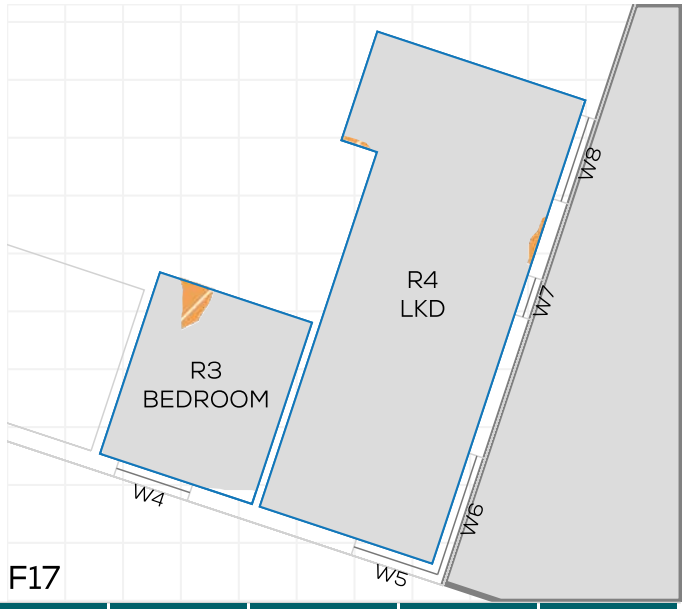
F16



F16



F17



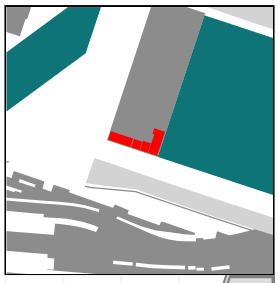
F17

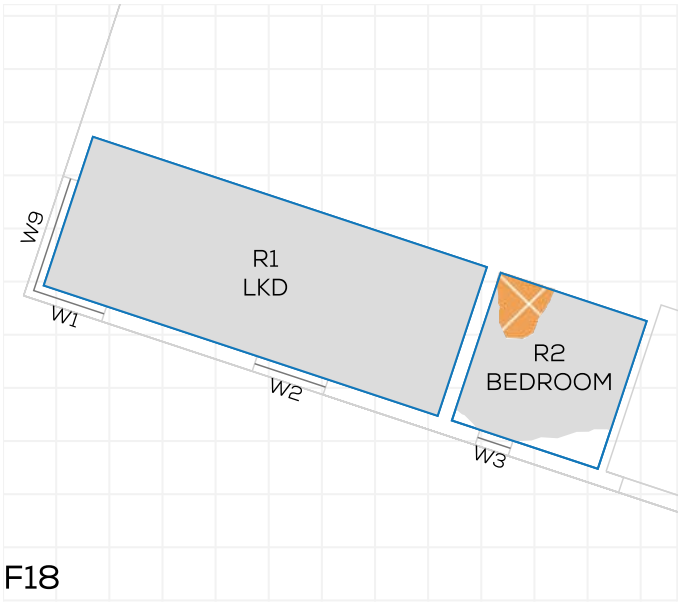
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F16	R1	RESIDENTIAL	LKD	23.0	100	99	0.2	1
F16	R2	RESIDENTIAL	BEDROOM	8.5	91.8	79.9	1.0	13
F16	R3	RESIDENTIAL	BEDROOM	9.1	98.8	95.5	0.3	3.4
F16	R4	RESIDENTIAL	LKD	27.7	100	99.5	0.1	0.5
F17	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F17	R2	RESIDENTIAL	BEDROOM	8.5	91.7	80.3	1.0	12.5
F17	R3	RESIDENTIAL	BEDROOM	9.1	98.8	95.4	0.3	3.5
F17	R4	RESIDENTIAL	LKD	27.7	100	99.5	0.1	0.5

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL129
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

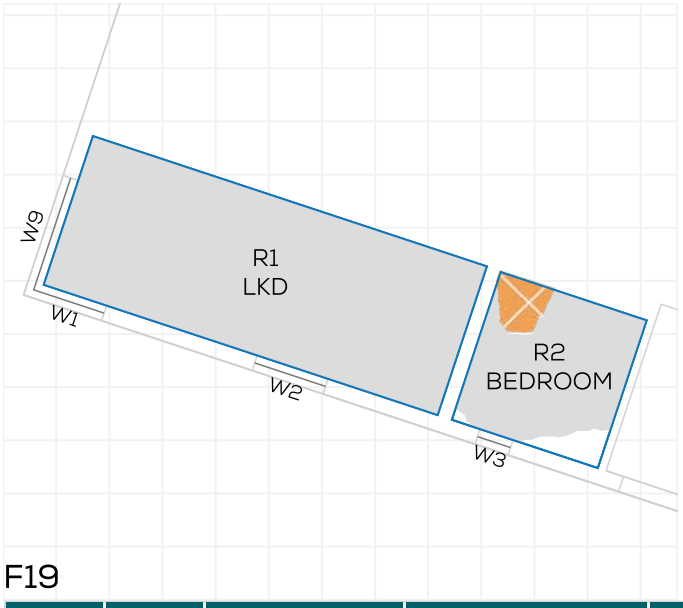




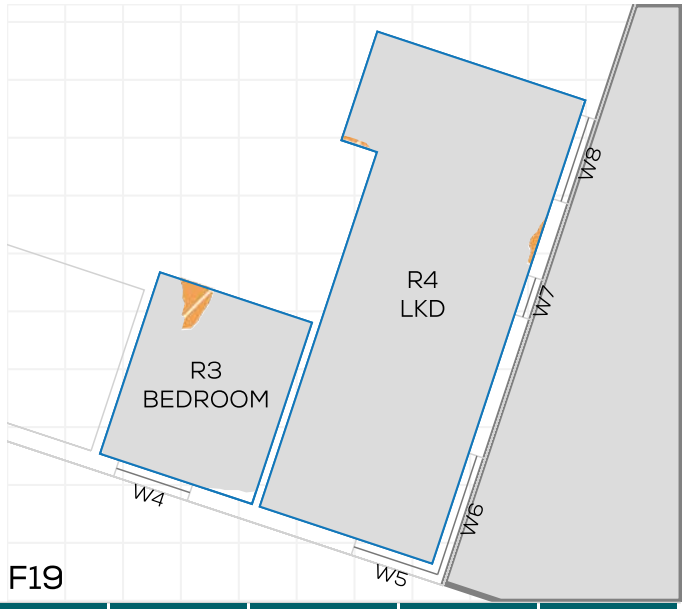
F18



F18



F19



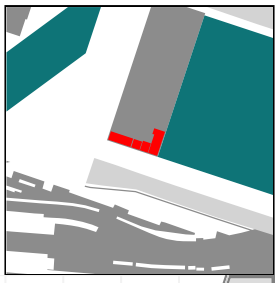
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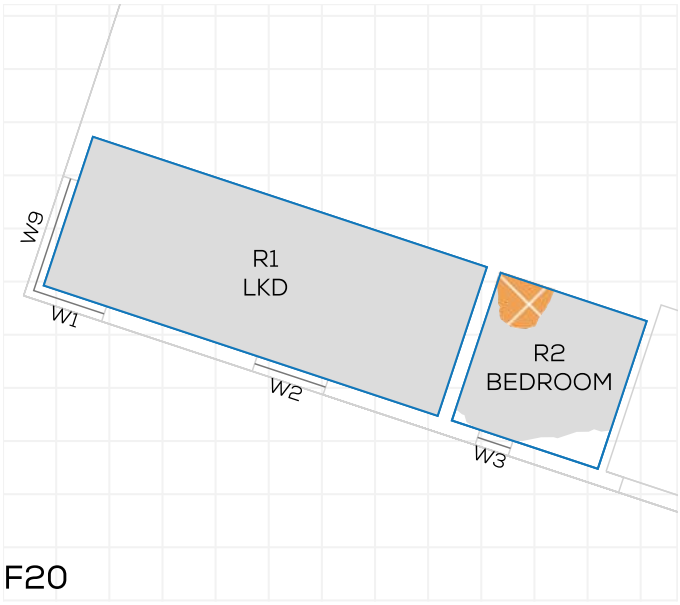
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F18	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F18	R2	RESIDENTIAL	BEDROOM	8.5	91.6	80.9	0.9	11.7
F18	R3	RESIDENTIAL	BEDROOM	9.1	98.9	95.5	0.3	3.3
F18	R4	RESIDENTIAL	LKD	27.7	100	99.5	0.1	0.5
F19	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F19	R2	RESIDENTIAL	BEDROOM	8.5	91.9	81.7	0.9	11.2
F19	R3	RESIDENTIAL	BEDROOM	9.1	98.9	95.5	0.3	3.5
F19	R4	RESIDENTIAL	LKD	27.7	100	99.5	0.1	0.5

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL130
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

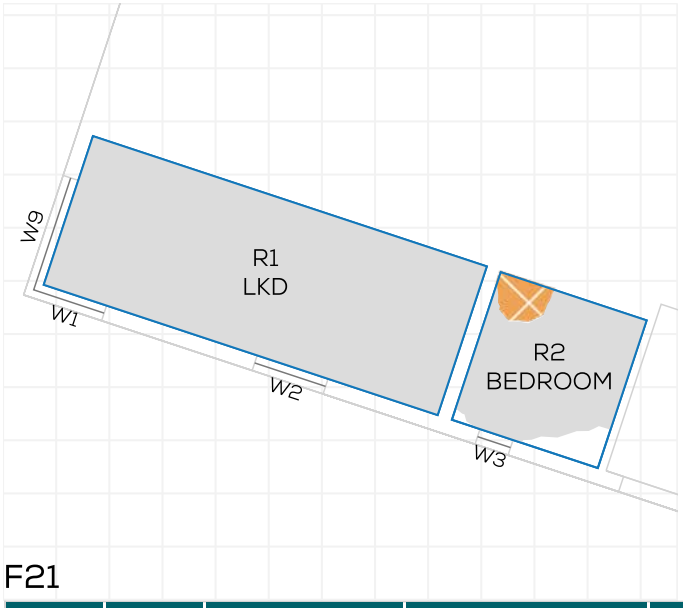




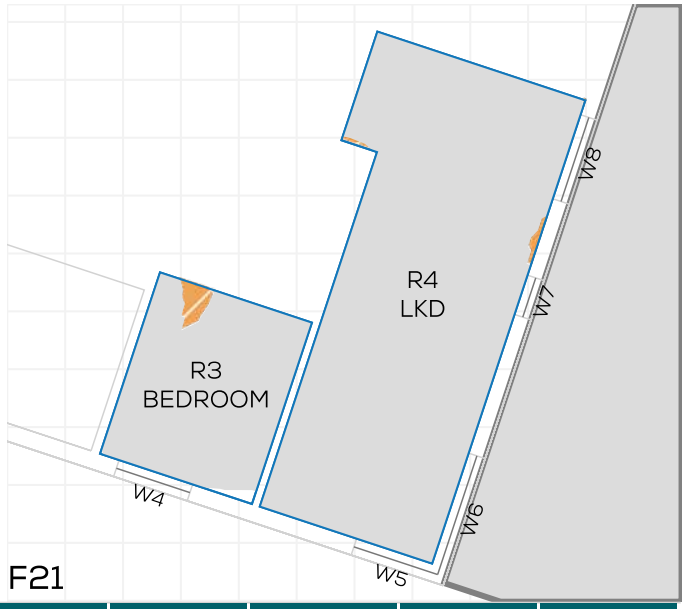
F20



F20



F21



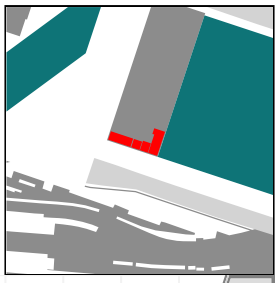
F21

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F20	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F20	R2	RESIDENTIAL	BEDROOM	8.5	91.8	82.6	0.8	10
F20	R3	RESIDENTIAL	BEDROOM	9.1	98.8	95.4	0.3	3.5
F20	R4	RESIDENTIAL	LKD	27.7	100	99.5	0.1	0.5
F21	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F21	R2	RESIDENTIAL	BEDROOM	8.5	91.7	83.3	0.7	9.2
F21	R3	RESIDENTIAL	BEDROOM	9.1	98.8	95.5	0.3	3.3
F21	R4	RESIDENTIAL	LKD	27.7	100	99.5	0.1	0.5

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL131
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

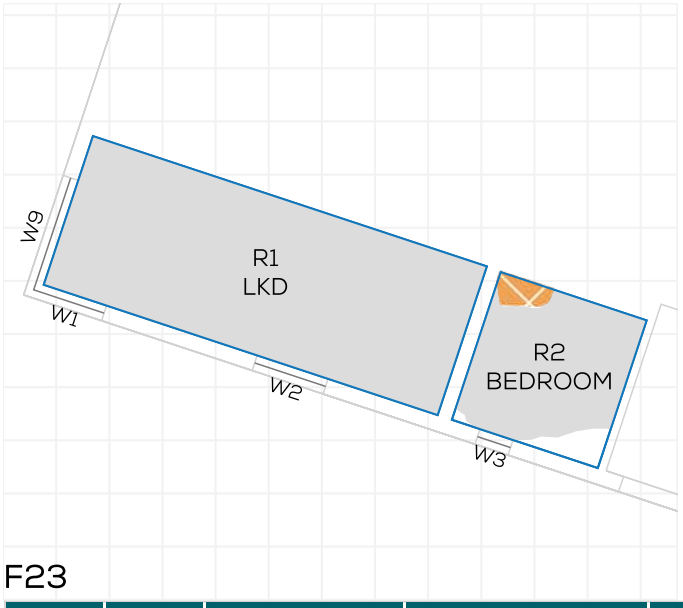




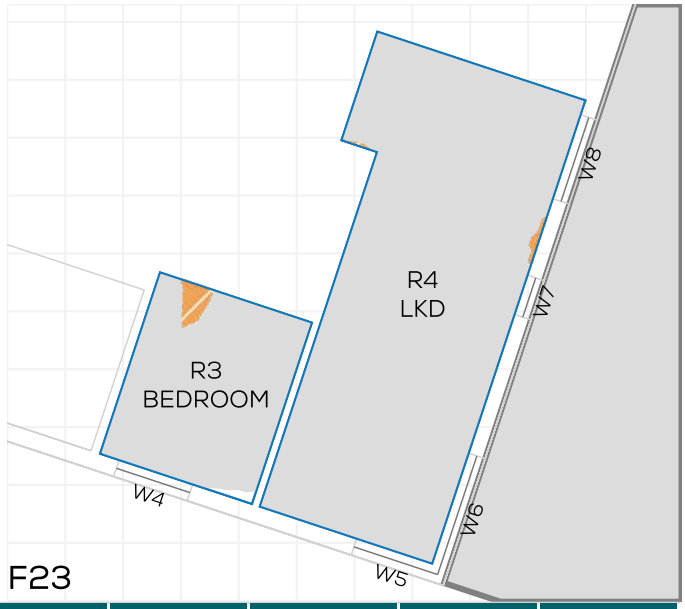
F22



F22



F23



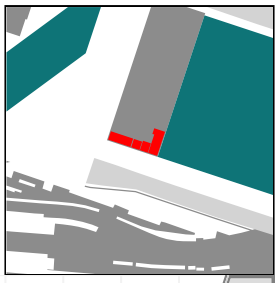
F23

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F22	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F22	R2	RESIDENTIAL	BEDROOM	8.5	91.8	84.3	0.6	8.1
F22	R3	RESIDENTIAL	BEDROOM	9.1	98.8	95.4	0.3	3.5
F22	R4	RESIDENTIAL	LKD	27.7	100	99.6	0.1	0.4
F23	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F23	R2	RESIDENTIAL	BEDROOM	8.5	91.7	85.8	0.5	6.4
F23	R3	RESIDENTIAL	BEDROOM	9.1	98.9	95.5	0.3	3.5
F23	R4	RESIDENTIAL	LKD	27.7	100	99.6	0.1	0.4

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL132
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

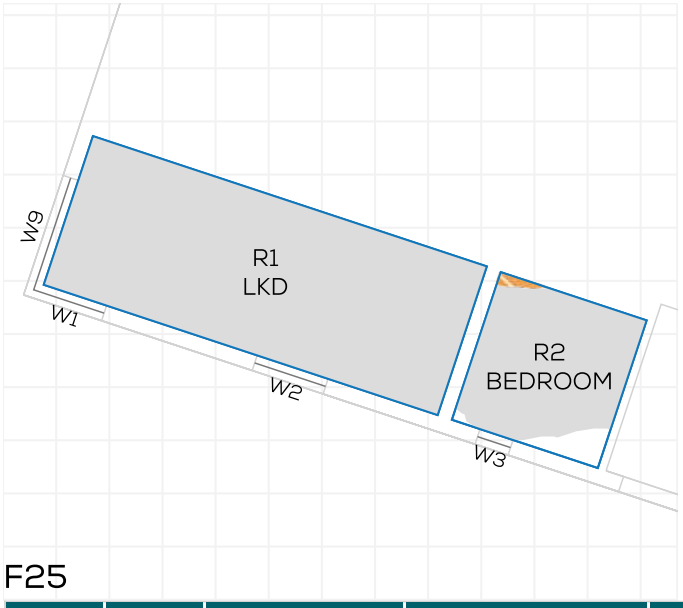




F24



F24



F25



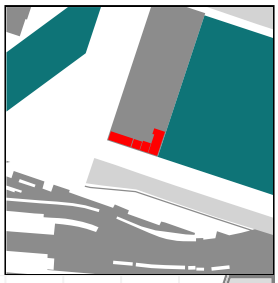
F25

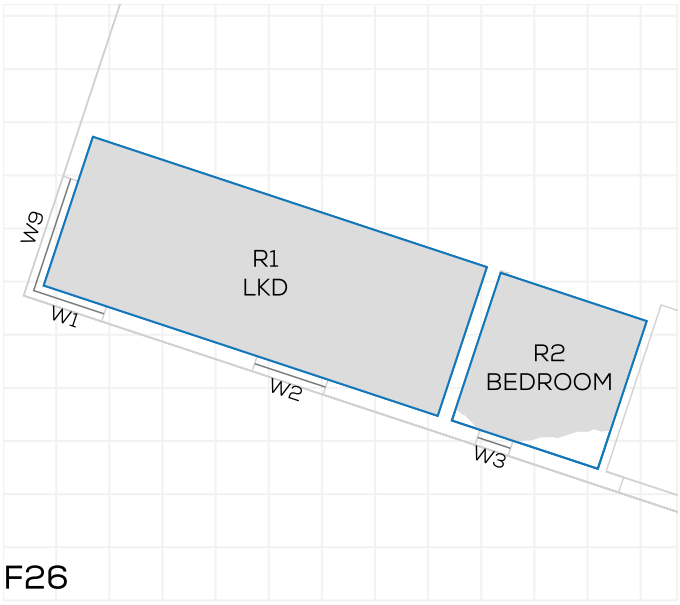
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F24	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F24	R2	RESIDENTIAL	BEDROOM	8.5	91.8	87.7	0.3	4.5
F24	R3	RESIDENTIAL	BEDROOM	9.1	98.9	96.2	0.2	2.7
F24	R4	RESIDENTIAL	LKD	27.7	100	99.6	0.1	0.4
F25	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F25	R2	RESIDENTIAL	BEDROOM	8.5	91.6	89.9	0.1	1.9
F25	R3	RESIDENTIAL	BEDROOM	9.1	98.8	96.5	0.2	2.3
F25	R4	RESIDENTIAL	LKD	27.7	100	99.6	0.1	0.4

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL133
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

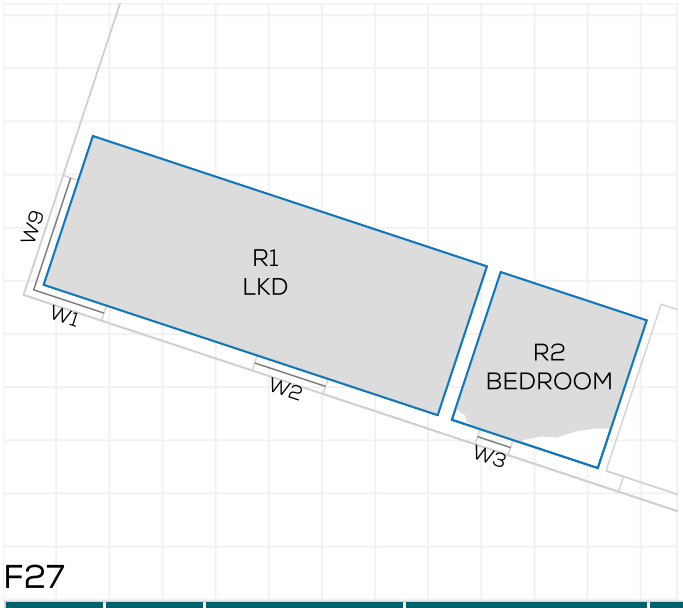




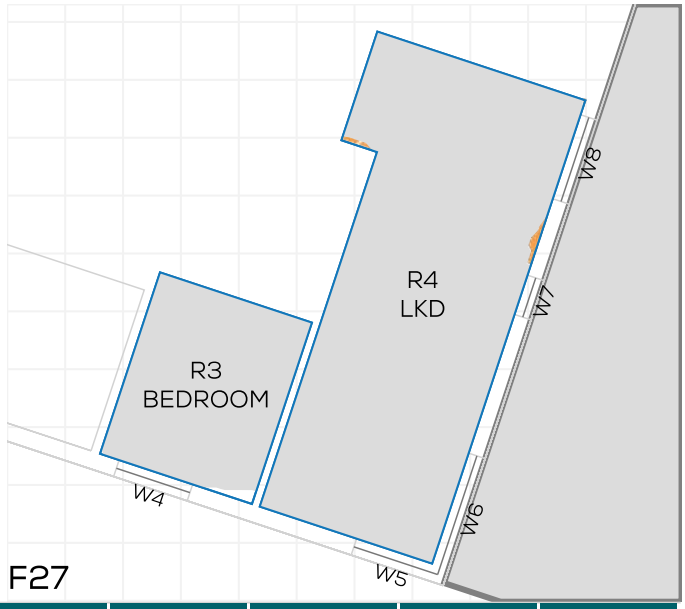
F26



F26



F27



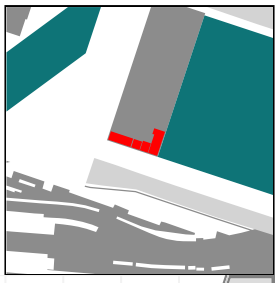
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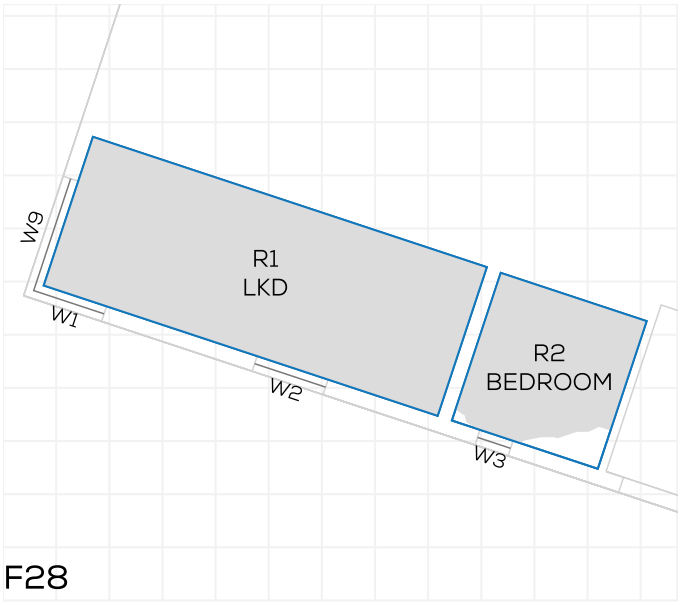
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F26	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F26	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.6	0.0	0.1
F26	R3	RESIDENTIAL	BEDROOM	9.1	98.9	97.6	0.1	1.2
F26	R4	RESIDENTIAL	LKD	27.7	100	99.6	0.1	0.4
F27	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F27	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F27	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F27	R4	RESIDENTIAL	LKD	27.7	100	99.5	0.1	0.5

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL134
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





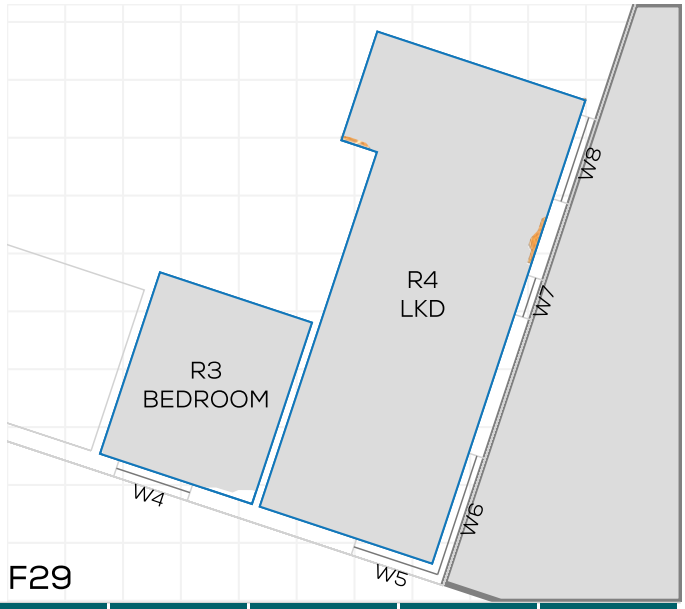
F28



F28



F29



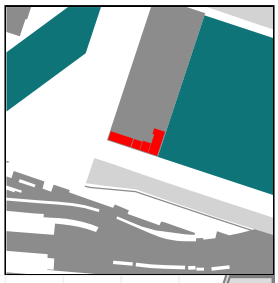
F29

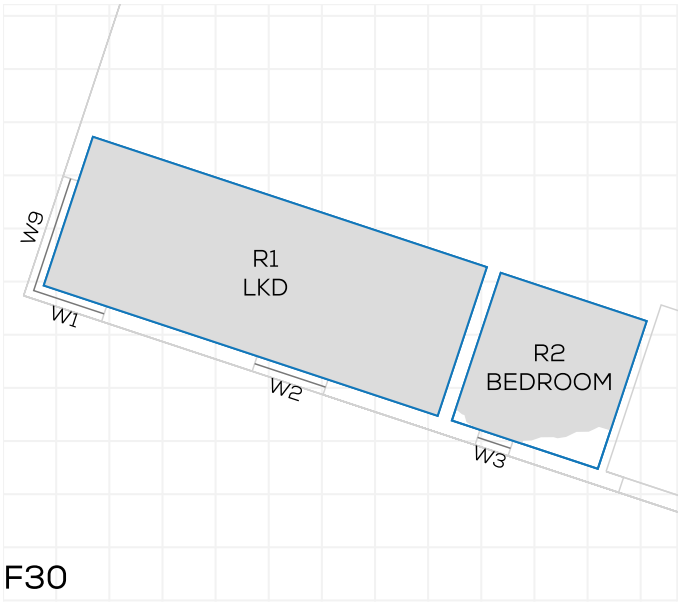
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F28	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F28	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F28	R3	RESIDENTIAL	BEDROOM	9.1	98.9	98.9	0.0	0
F28	R4	RESIDENTIAL	LKD	27.7	100	99.5	0.1	0.5
F29	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F29	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F29	R3	RESIDENTIAL	BEDROOM	9.1	98.9	98.9	0.0	0
F29	R4	RESIDENTIAL	LKD	27.7	100	99.5	0.1	0.5

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL135
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

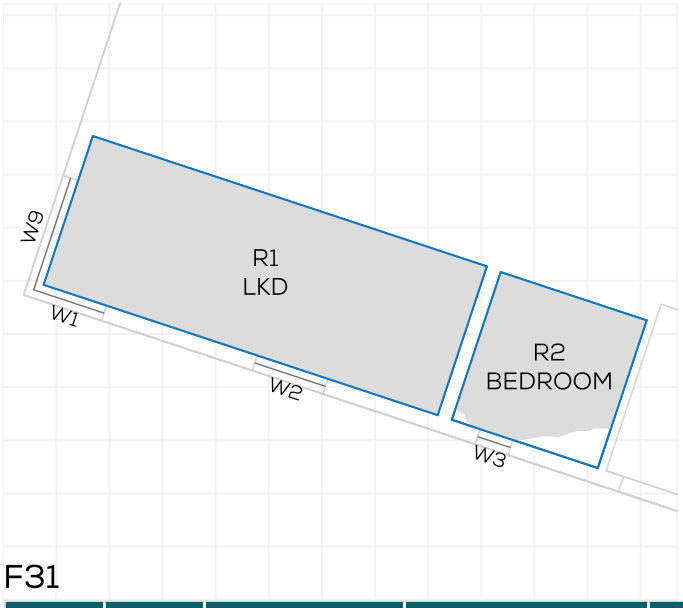




F30



F30



F31



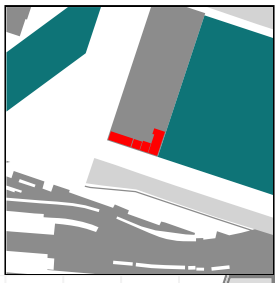
F31

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F30	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F30	R2	RESIDENTIAL	BEDROOM	8.5	91.8	91.8	0.0	0
F30	R3	RESIDENTIAL	BEDROOM	9.1	98.9	98.9	0.0	0
F30	R4	RESIDENTIAL	LKD	27.7	100	99.8	0.1	0.2
F31	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F31	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F31	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F31	R4	RESIDENTIAL	LKD	27.7	100	99.8	0.1	0.2

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL136
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F32



F32



F33



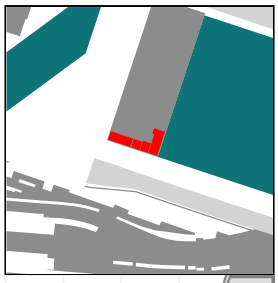
F33

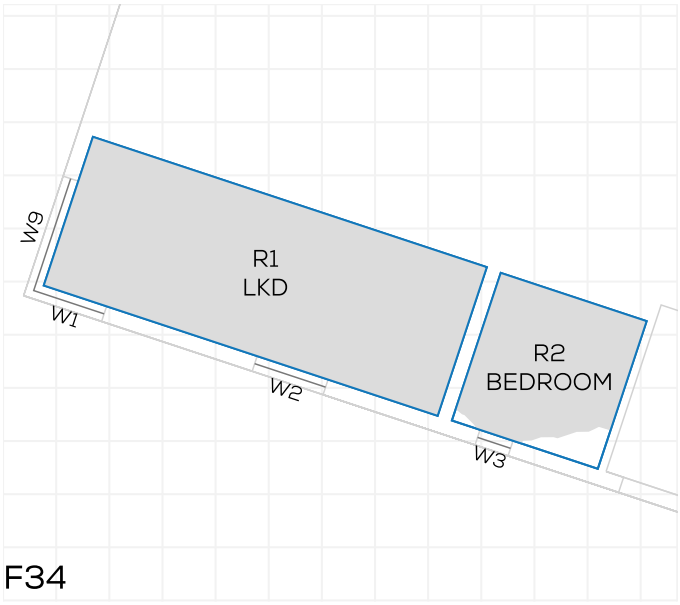
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F32	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F32	R2	RESIDENTIAL	BEDROOM	8.5	91.8	91.8	0.0	0
F32	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F32	R4	RESIDENTIAL	LKD	27.7	100	99.8	0.1	0.2
F33	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F33	R2	RESIDENTIAL	BEDROOM	8.5	91.8	91.8	0.0	0
F33	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F33	R4	RESIDENTIAL	LKD	27.7	100	99.8	0.0	0.2

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL137
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

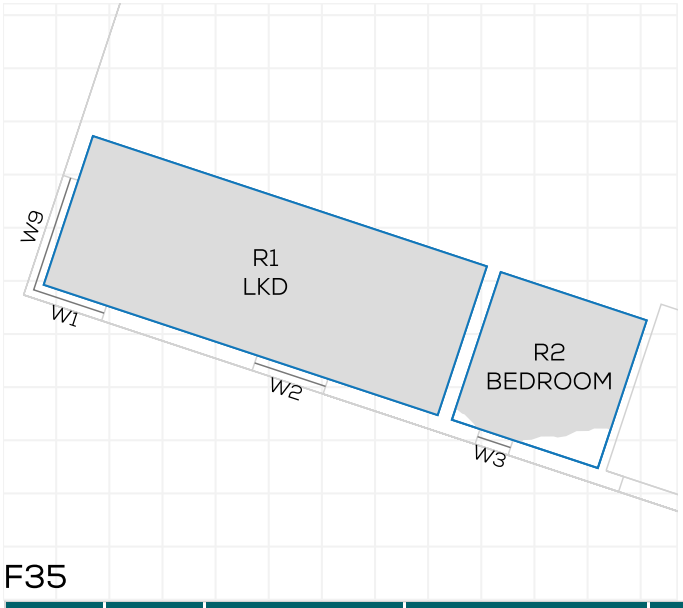




F34



F34



F35



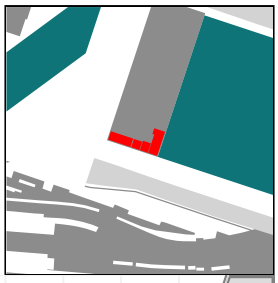
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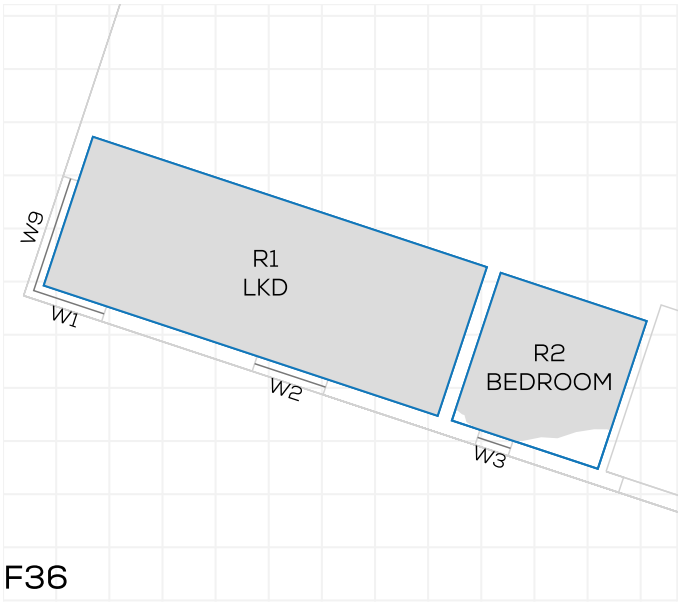
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F34	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F34	R2	RESIDENTIAL	BEDROOM	8.5	91.6	91.6	0.0	0
F34	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F34	R4	RESIDENTIAL	LKD	27.7	100	99.9	0.0	0.1
F35	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F35	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F35	R3	RESIDENTIAL	BEDROOM	9.1	98.9	98.9	0.0	0
F35	R4	RESIDENTIAL	LKD	27.7	100	99.9	0.0	0.1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL138
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

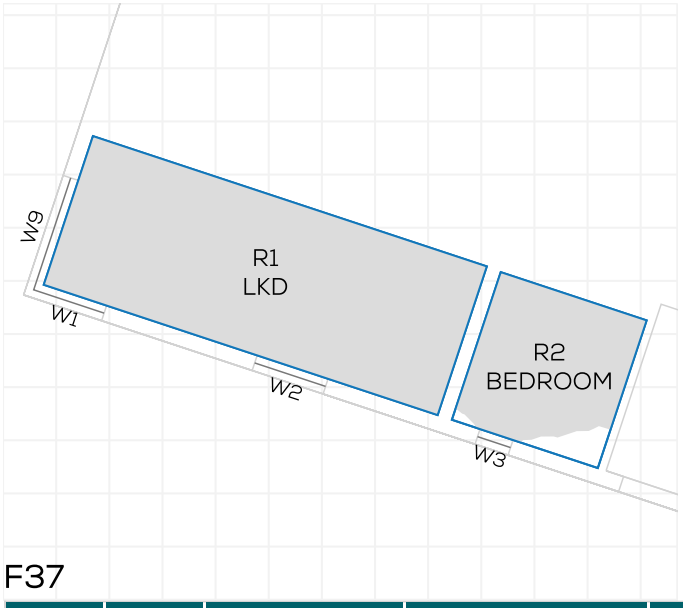




F36



F36



F37



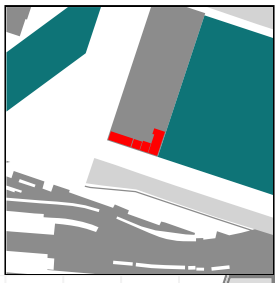
F37

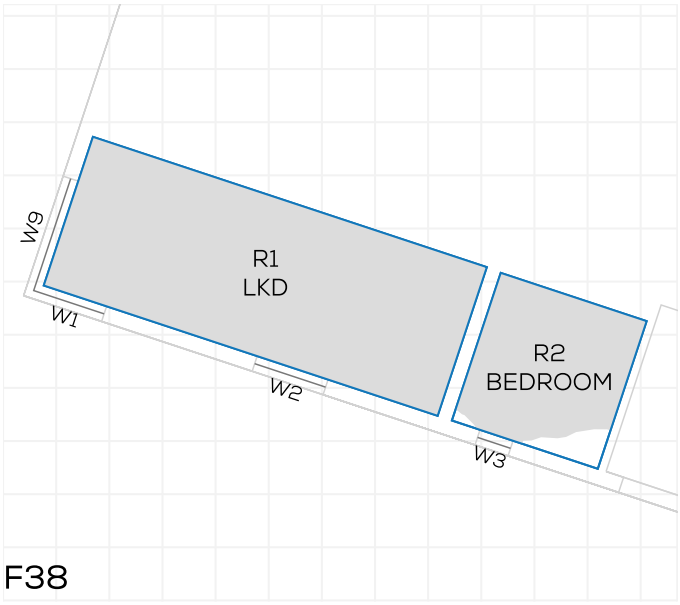
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F36	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F36	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F36	R3	RESIDENTIAL	BEDROOM	9.1	98.8	98.8	0.0	0
F36	R4	RESIDENTIAL	LKD	27.7	100	99.9	0.0	0.1
F37	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F37	R2	RESIDENTIAL	BEDROOM	8.5	91.6	91.6	0.0	0
F37	R3	RESIDENTIAL	BEDROOM	9.1	98.9	98.9	0.0	0
F37	R4	RESIDENTIAL	LKD	27.7	100	99.9	0.0	0.1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: VIADUX - PHASE 1
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL139
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F38



F38



F39



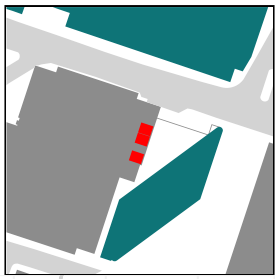
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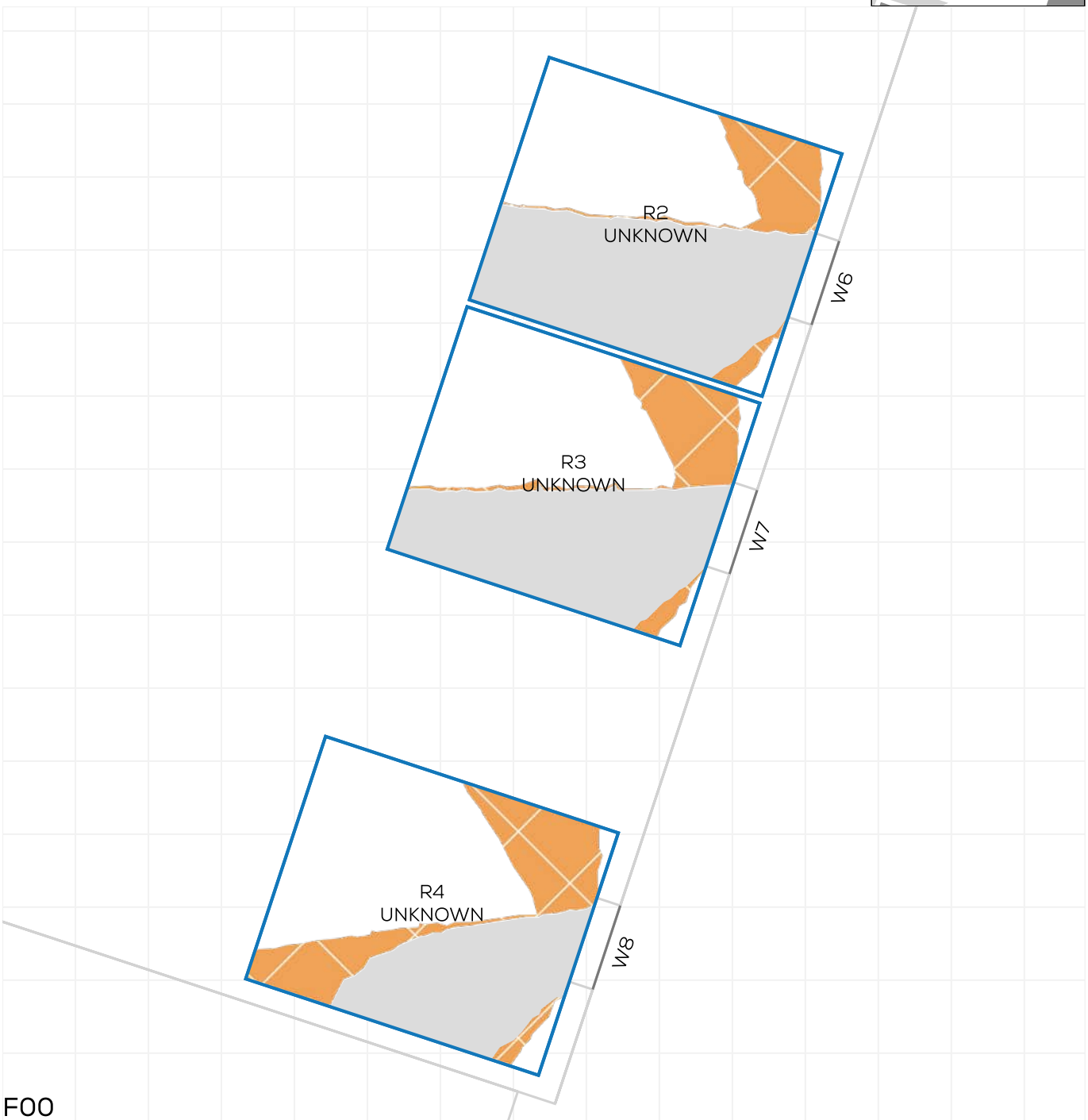
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
VIADUX - PHASE 1								
F38	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F38	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F38	R3	RESIDENTIAL	BEDROOM	9.1	98.9	98.9	0.0	0
F38	R4	RESIDENTIAL	LKD	27.7	100	99.9	0.0	0.1
F39	R1	RESIDENTIAL	LKD	23.0	100	100	0.0	0
F39	R2	RESIDENTIAL	BEDROOM	8.5	91.7	91.7	0.0	0
F39	R3	RESIDENTIAL	BEDROOM	9.1	98.9	98.9	0.0	0
F39	R4	RESIDENTIAL	LKD	27.7	100	99.9	0.0	0.1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL140
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





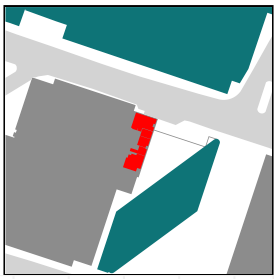
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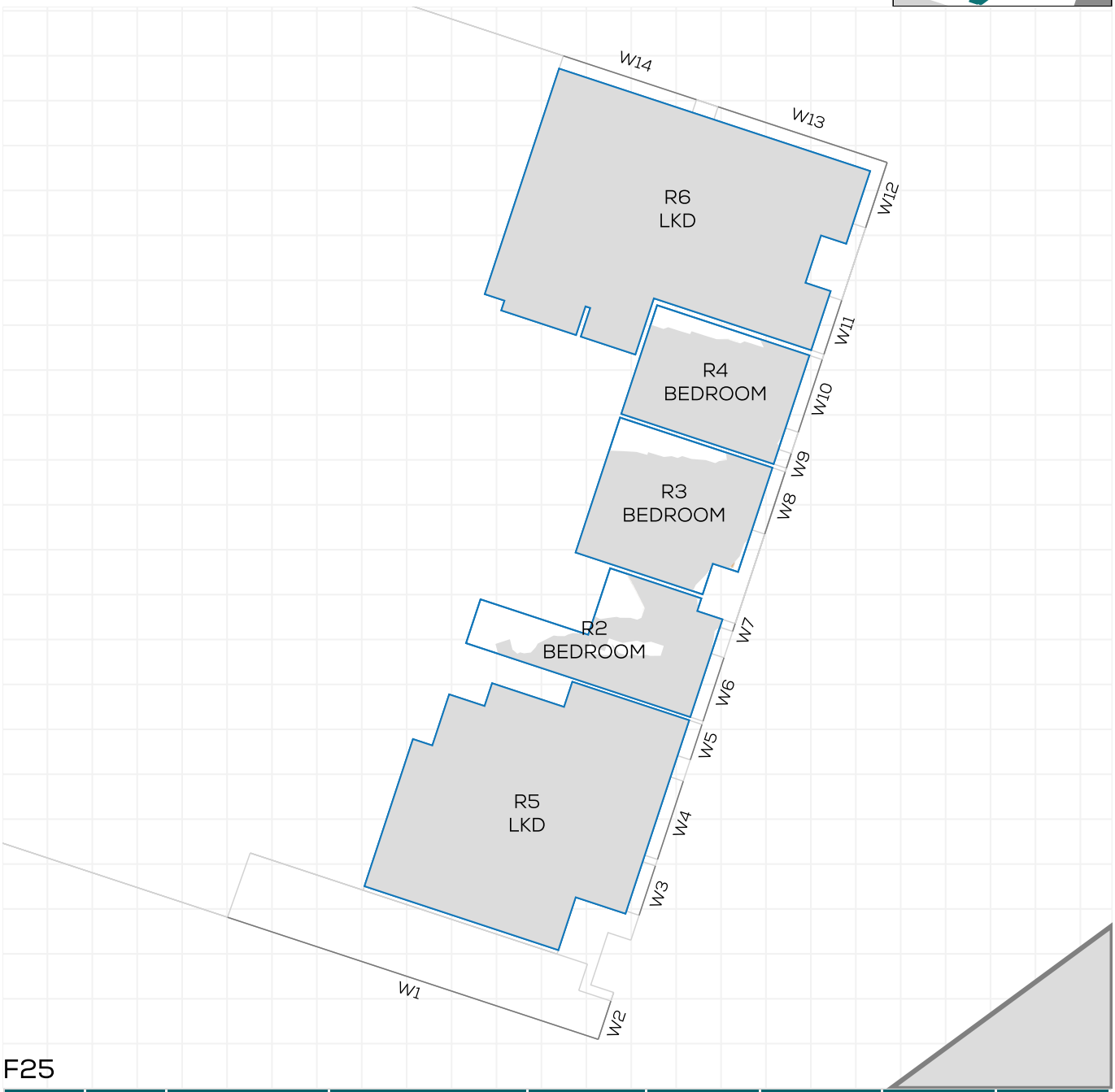
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
BEETHAM TOWER								
F00	R2	RESIDENTIAL	UNKNOWN	14.8	61.6	49.4	1.8	19.9
F00	R3	RESIDENTIAL	UNKNOWN	14.8	55.7	41.7	2.1	25.1
F00	R4	RESIDENTIAL	UNKNOWN	14.8	51.2	28.9	3.3	43.7

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL141
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





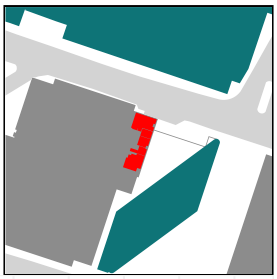
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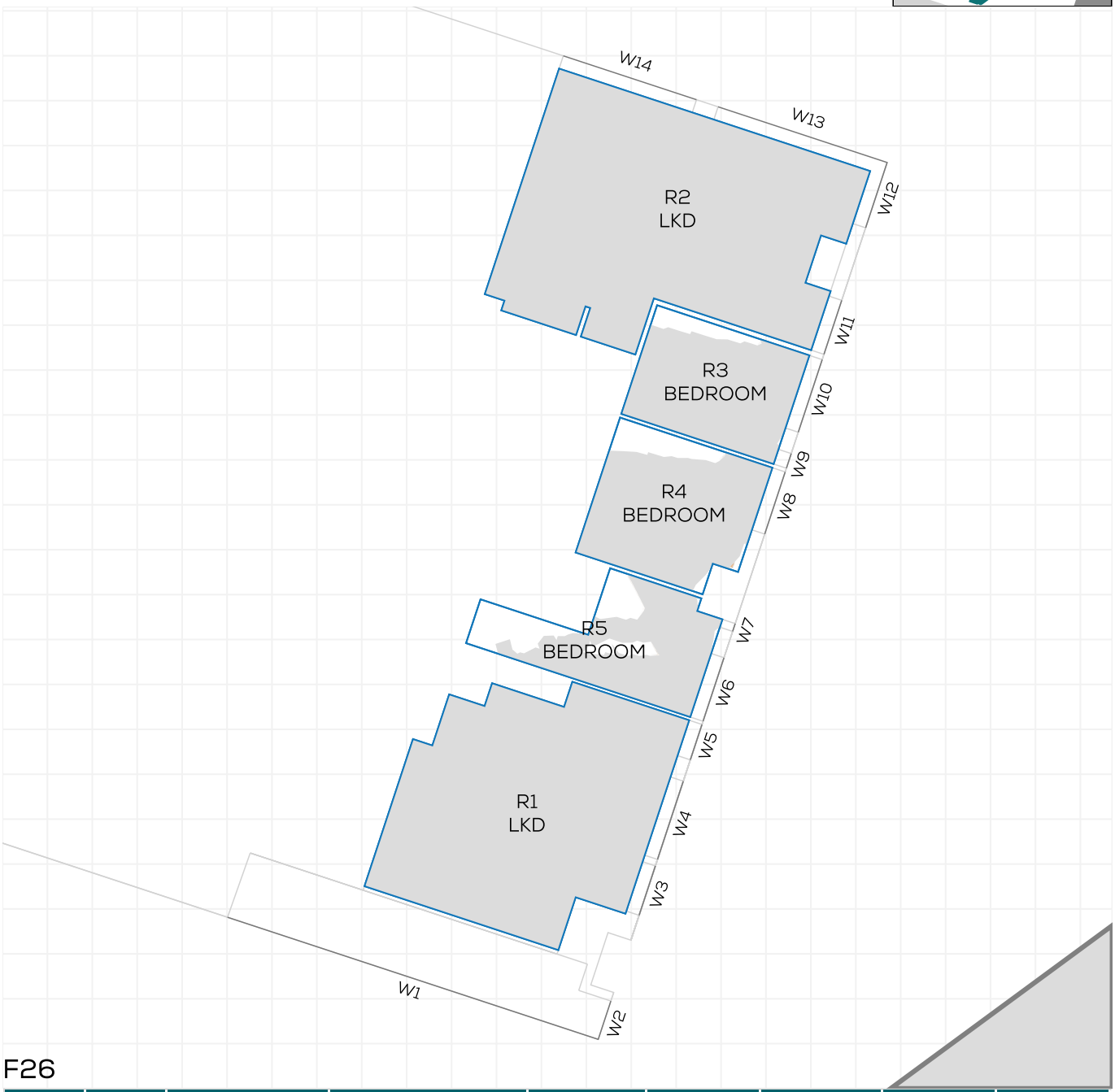
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
BEETHAM TOWER								
F25	R2	RESIDENTIAL	BEDROOM	9.5	70.2	70.1	0.0	0.1
F25	R3	RESIDENTIAL	BEDROOM	10.9	87.3	87.3	0.0	0.1
F25	R4	RESIDENTIAL	BEDROOM	9.1	91.5	91.6	0.0	0
F25	R5	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F25	R6	RESIDENTIAL	LKD	34.5	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL142
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F26

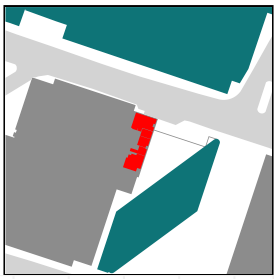
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
BEETHAM TOWER								
F26	R1	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F26	R2	RESIDENTIAL	LKD	34.5	100	100	0.0	0
F26	R3	RESIDENTIAL	BEDROOM	9.1	91.6	91.6	0.0	0
F26	R4	RESIDENTIAL	BEDROOM	10.9	87.4	87.4	0.0	0.1
F26	R5	RESIDENTIAL	BEDROOM	9.5	70.4	70.4	0.0	0.1

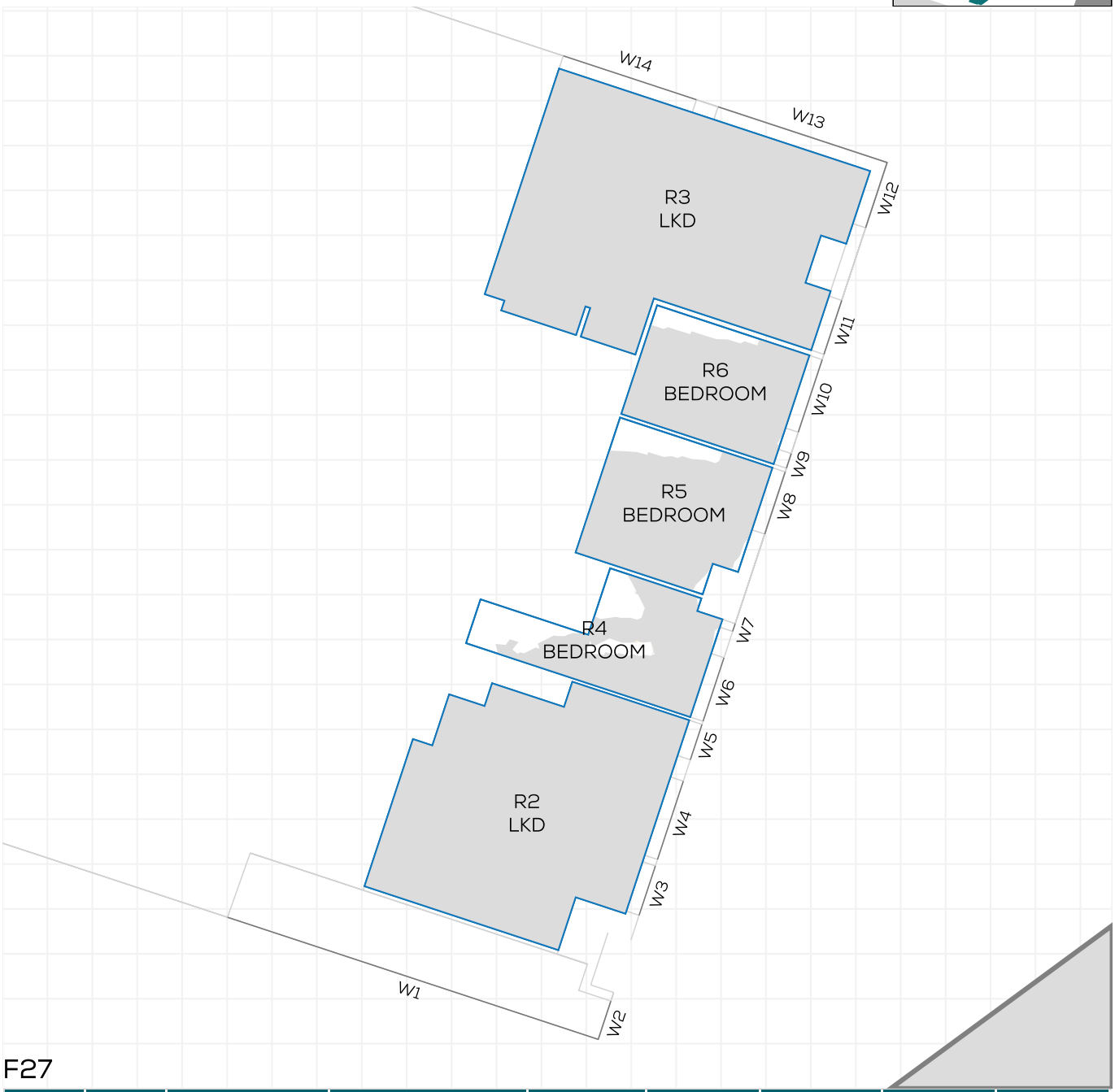
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	BEETHAM TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL143
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F27

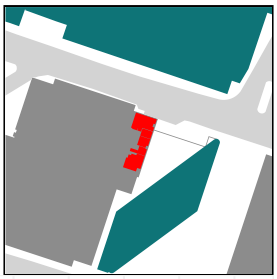
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
BEETHAM TOWER								
F27	R2	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F27	R3	RESIDENTIAL	LKD	34.5	100	100	0.0	0
F27	R4	RESIDENTIAL	BEDROOM	9.5	70.5	70.4	0.0	0.2
F27	R5	RESIDENTIAL	BEDROOM	10.9	87.5	87.5	0.0	0
F27	R6	RESIDENTIAL	BEDROOM	9.1	91.7	91.7	0.0	0

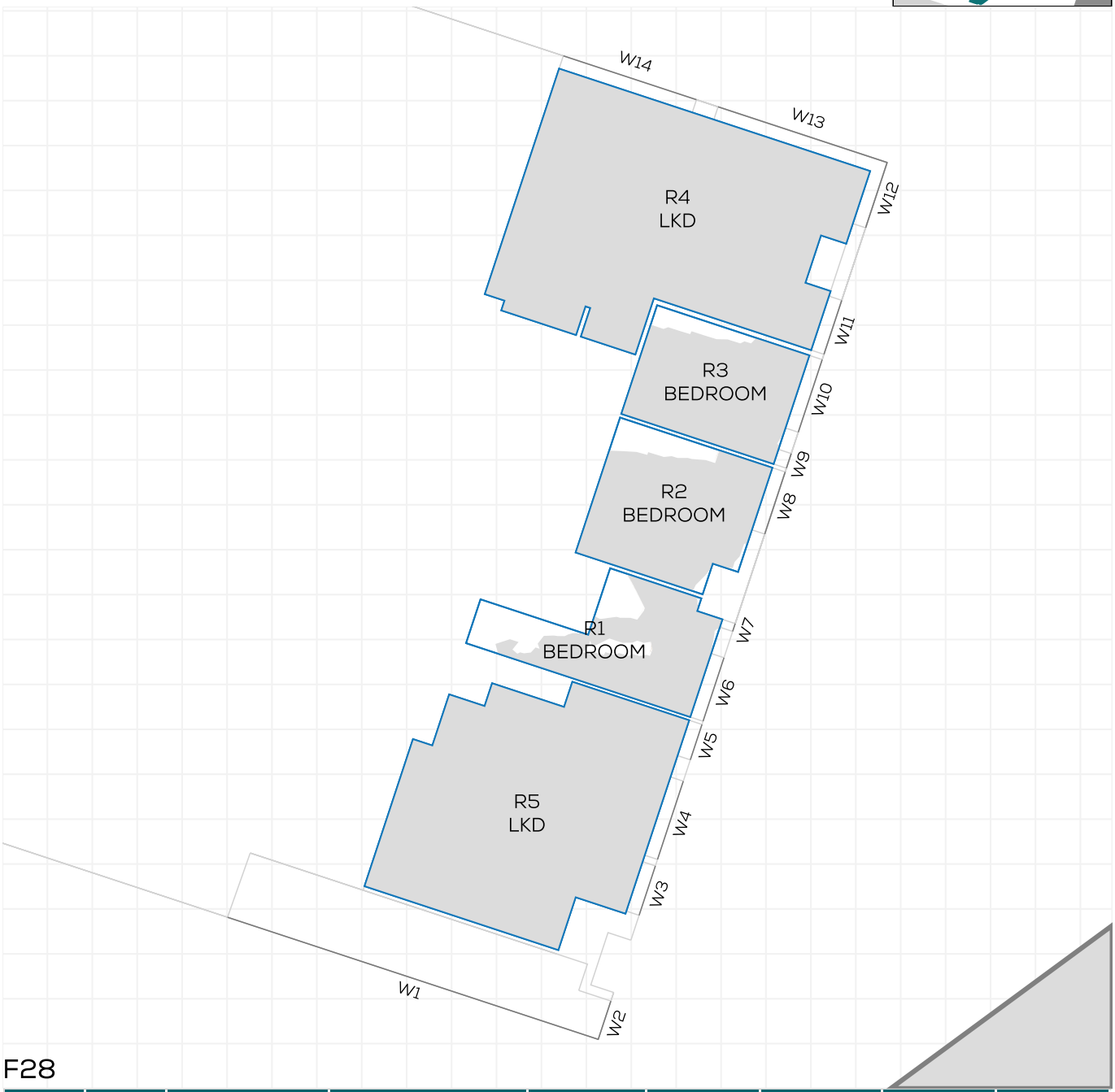
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	BEETHAM TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL144
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F28

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
BEETHAM TOWER								
F28	R1	RESIDENTIAL	BEDROOM	9.5	70.9	70.9	0.0	0
F28	R2	RESIDENTIAL	BEDROOM	10.9	87.7	87.7	0.0	0
F28	R3	RESIDENTIAL	BEDROOM	9.1	91.9	91.9	0.0	0
F28	R4	RESIDENTIAL	LKD	34.5	100	100	0.0	0
F28	R5	RESIDENTIAL	LKD	28.5	100	100	0.0	0

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	BEETHAM TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL145
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



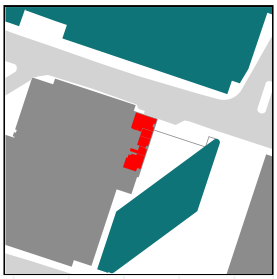
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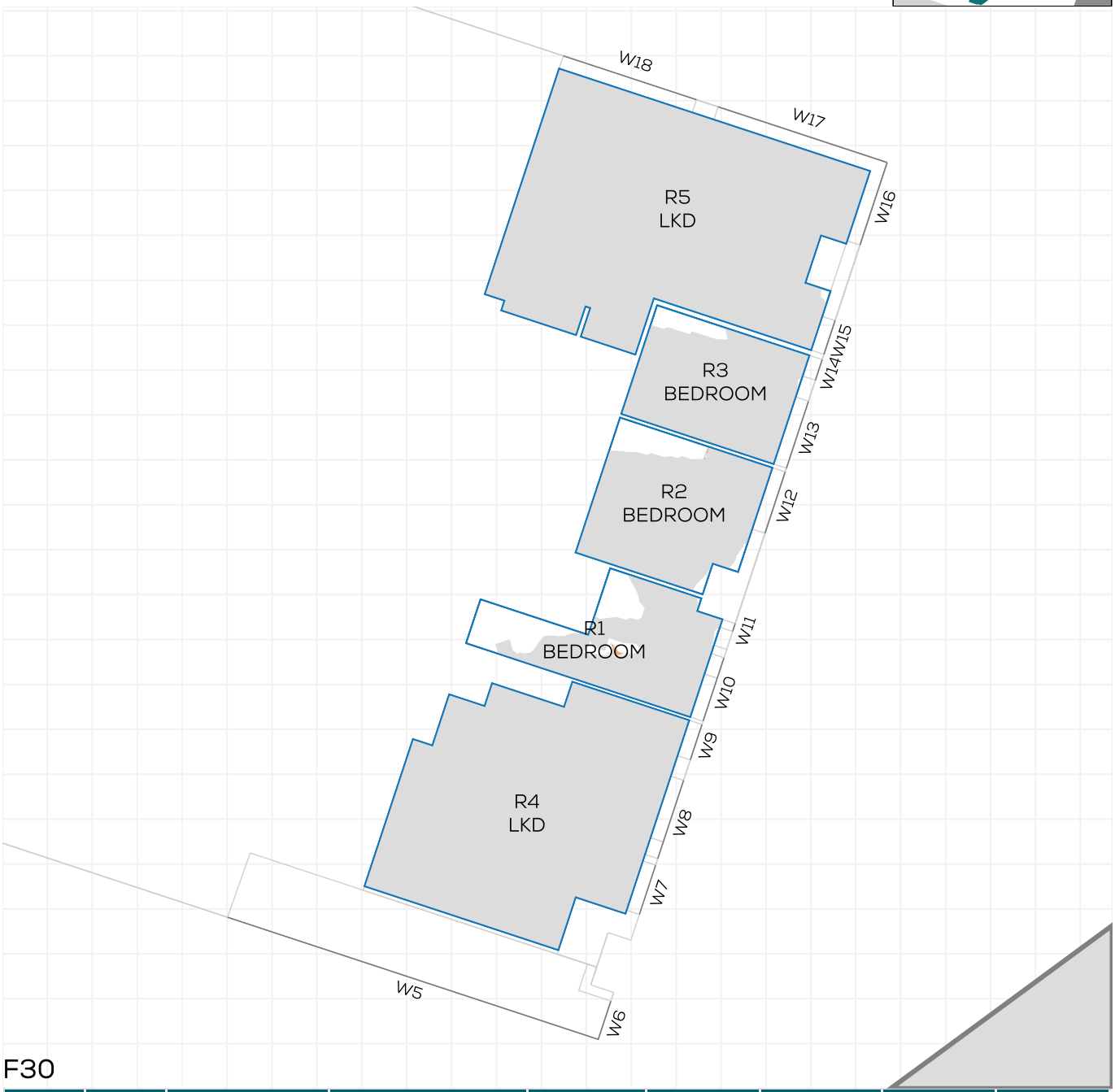
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
BEETHAM TOWER								
F29	R2	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F29	R3	RESIDENTIAL	LKD	34.5	100	100	0.0	0
F29	R4	RESIDENTIAL	BEDROOM	9.5	70.8	70.8	0.0	0
F29	R5	RESIDENTIAL	BEDROOM	10.9	88.1	88	0.0	0
F29	R6	RESIDENTIAL	BEDROOM	9.1	92.1	92.1	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL146
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





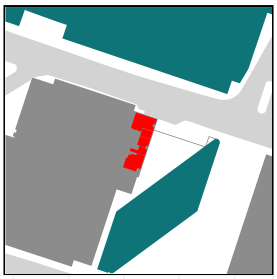
F30

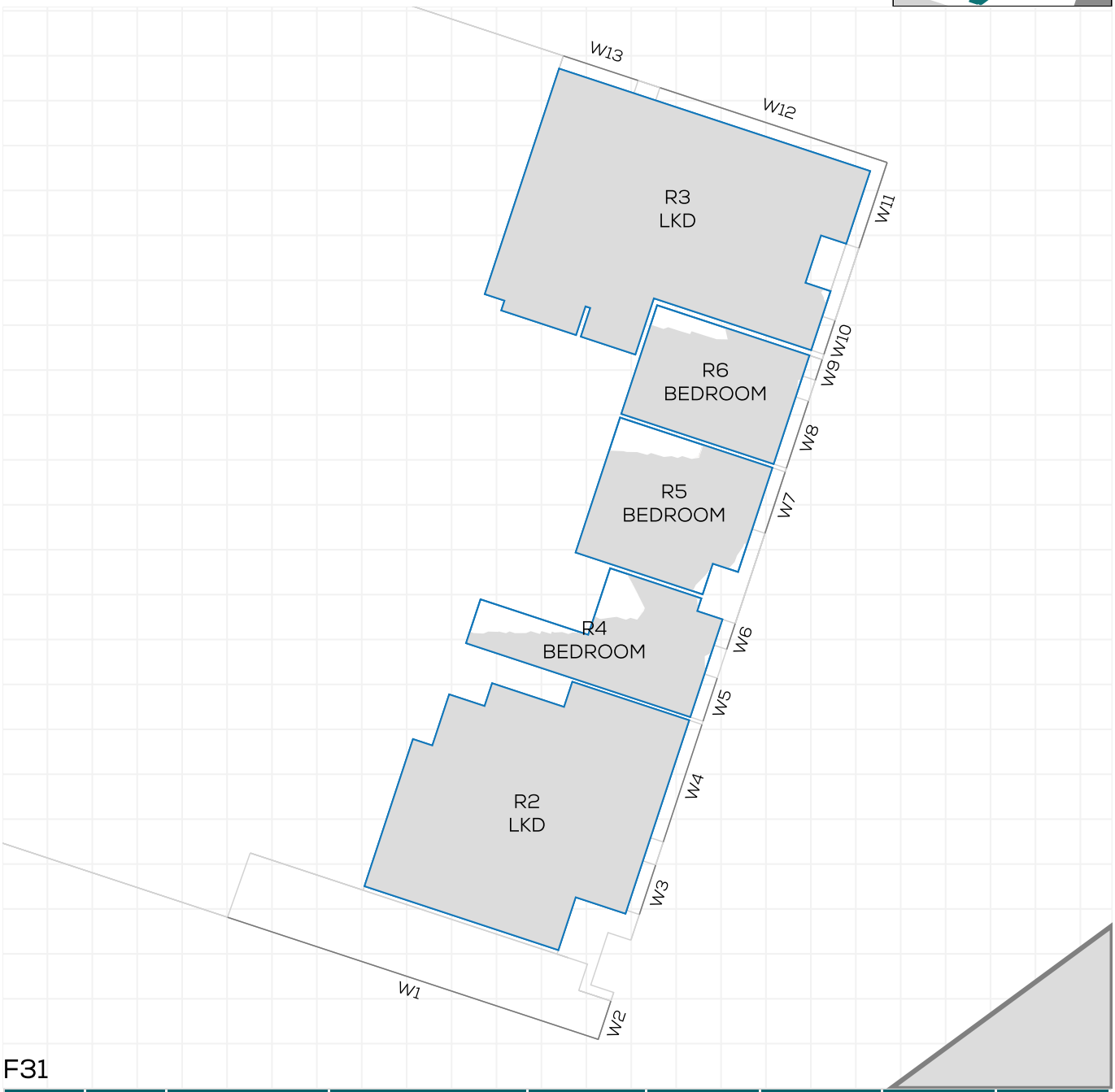
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
BEETHAM TOWER								
F30	R1	RESIDENTIAL	BEDROOM	9.5	72.2	71.9	0.0	0.4
F30	R2	RESIDENTIAL	BEDROOM	10.9	88.3	88.2	0.0	0.1
F30	R3	RESIDENTIAL	BEDROOM	9.1	93.2	93.2	0.0	0
F30	R4	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F30	R5	RESIDENTIAL	LKD	34.5	99.9	99.9	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL147
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





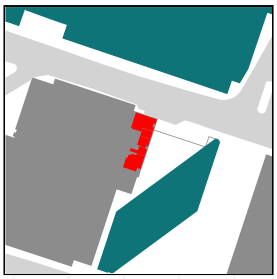
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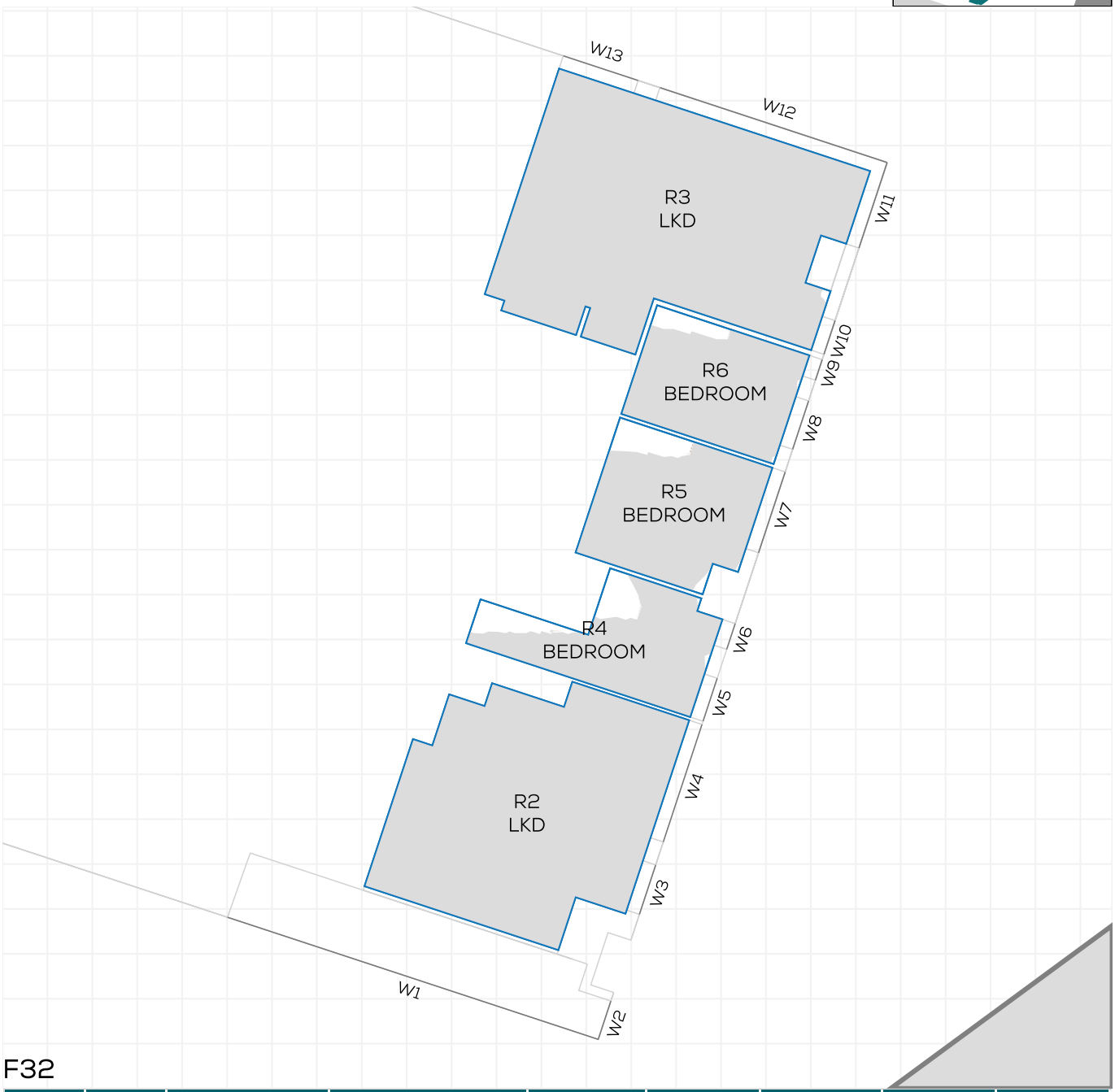
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
BEETHAM TOWER								
F31	R2	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F31	R3	RESIDENTIAL	LKD	34.5	99.9	99.9	0.0	0
F31	R4	RESIDENTIAL	BEDROOM	9.5	81.1	81.1	0.0	0
F31	R5	RESIDENTIAL	BEDROOM	10.9	88.7	88.6	0.0	0
F31	R6	RESIDENTIAL	BEDROOM	9.1	93.3	93.3	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL148
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





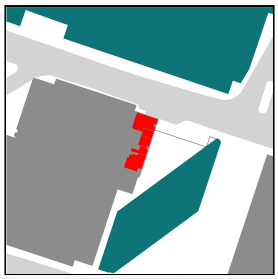
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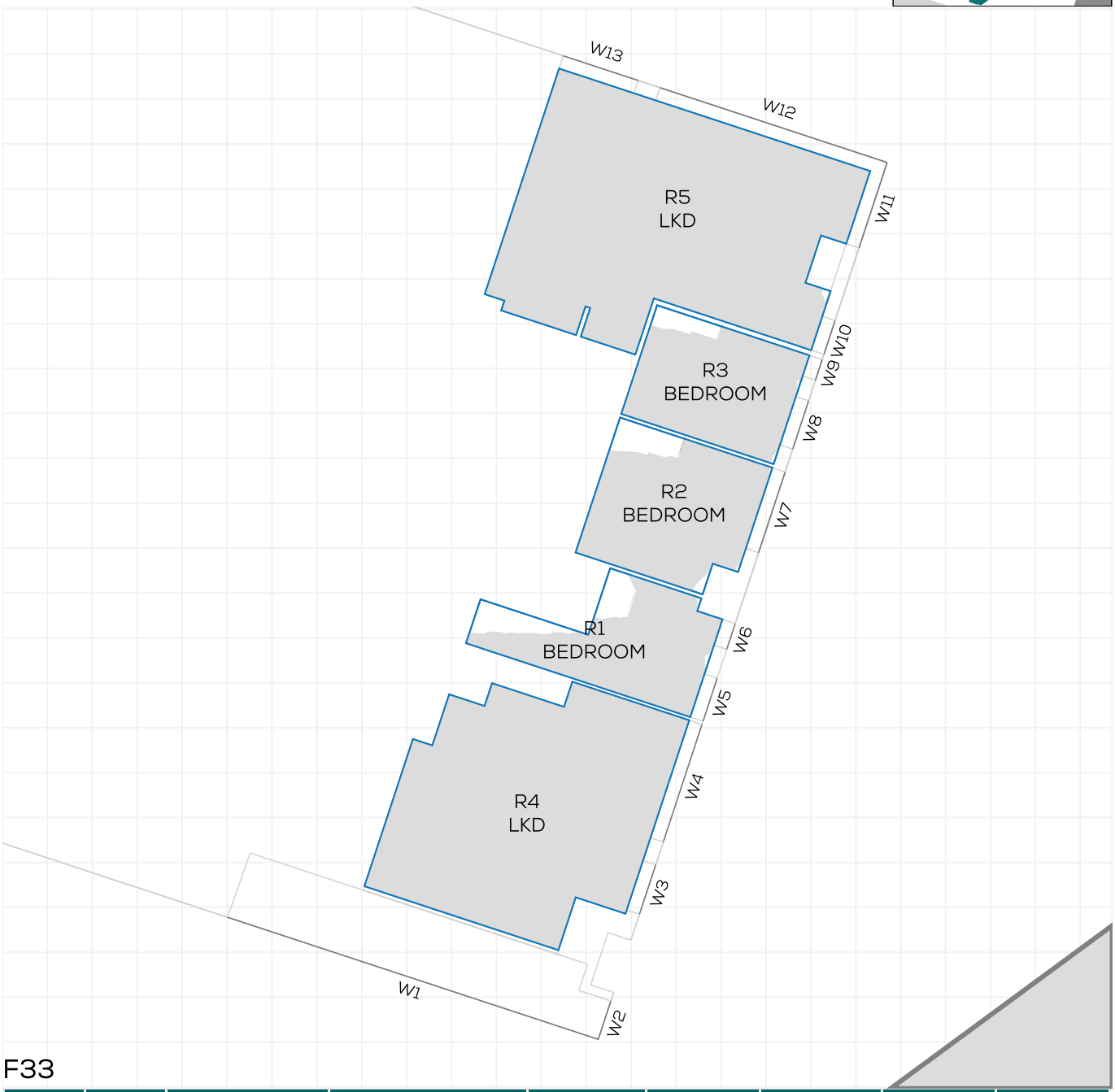
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
BEETHAM TOWER								
F32	R2	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F32	R3	RESIDENTIAL	LKD	34.5	99.9	99.9	0.0	0
F32	R4	RESIDENTIAL	BEDROOM	9.5	81.4	81.4	0.0	0
F32	R5	RESIDENTIAL	BEDROOM	10.9	90.1	90.1	0.0	0
F32	R6	RESIDENTIAL	BEDROOM	9.1	92.9	92.9	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL149
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F33

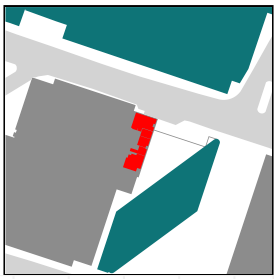
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
BEETHAM TOWER								
F33	R1	RESIDENTIAL	BEDROOM	9.5	82.4	82.4	0.0	0
F33	R2	RESIDENTIAL	BEDROOM	10.9	90.9	90.8	0.0	0.1
F33	R3	RESIDENTIAL	BEDROOM	9.1	93.4	93.4	0.0	0
F33	R4	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F33	R5	RESIDENTIAL	LKD	34.5	99.9	99.9	0.0	0

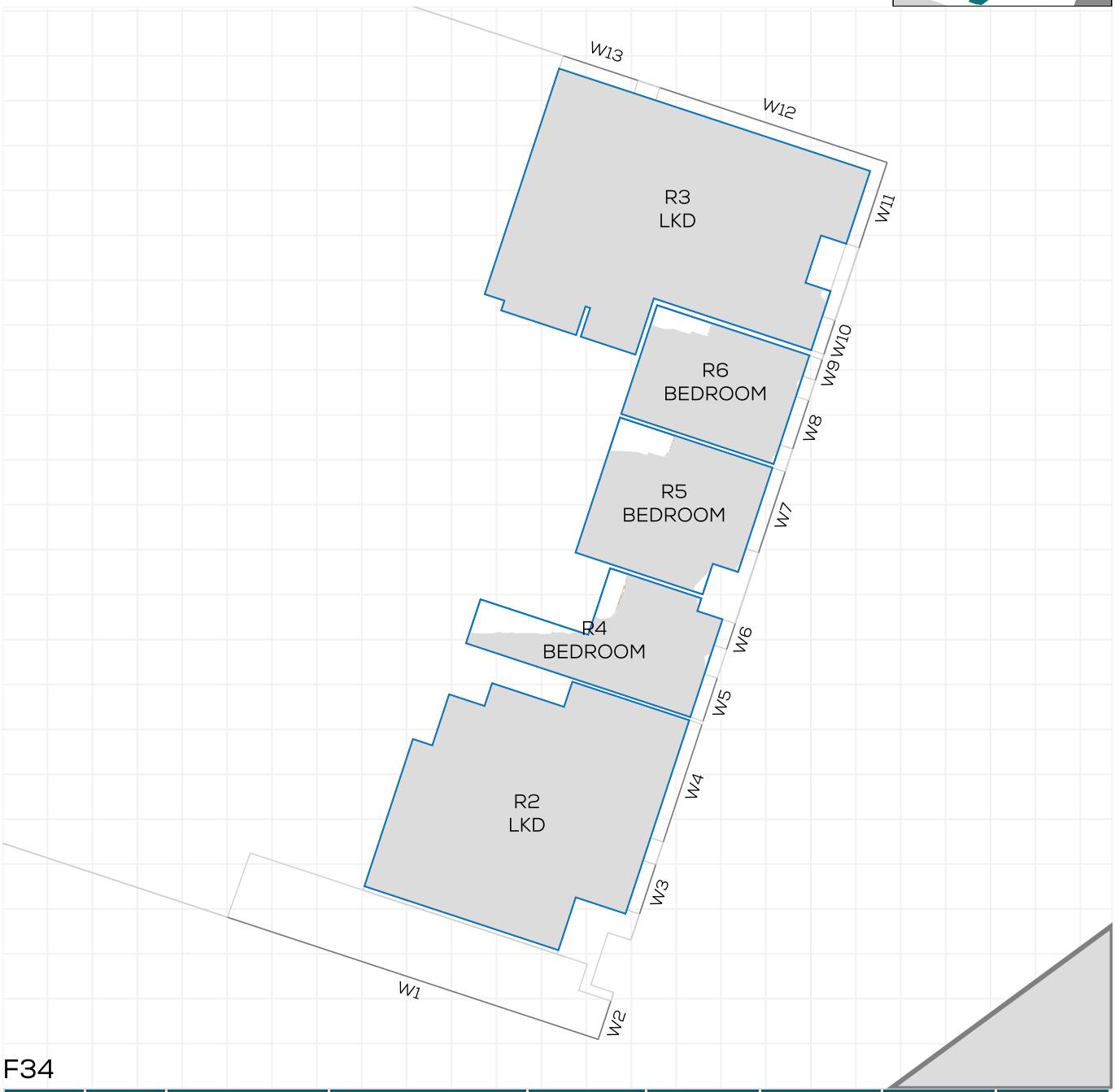
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	BEETHAM TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL150
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





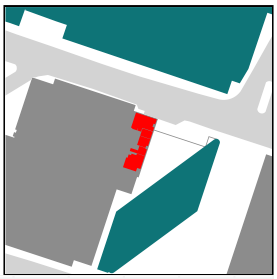
F34

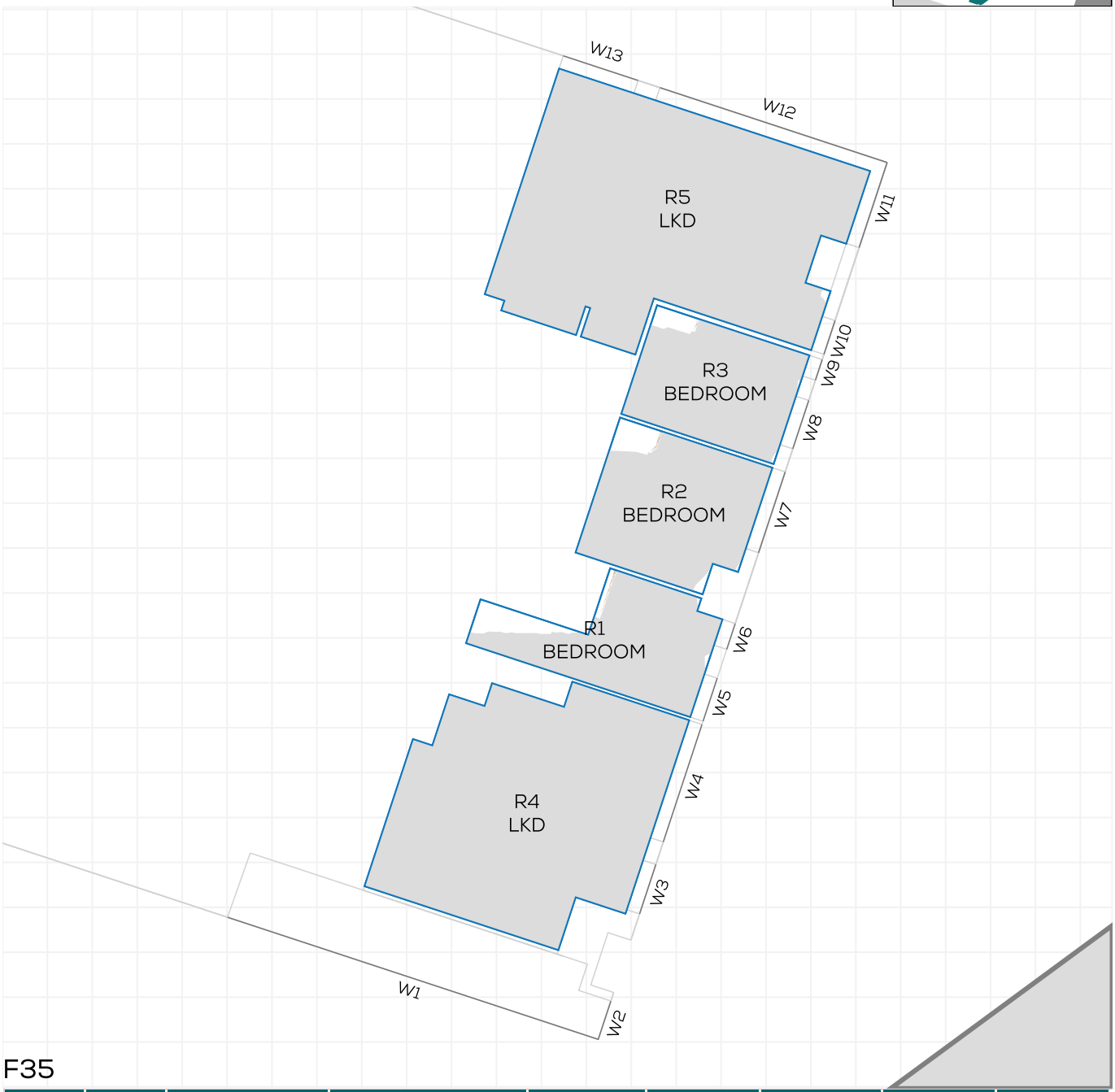
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
BEETHAM TOWER								
F34	R2	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F34	R3	RESIDENTIAL	LKD	34.5	99.9	99.9	0.0	0
F34	R4	RESIDENTIAL	BEDROOM	9.5	84.7	84.5	0.0	0.2
F34	R5	RESIDENTIAL	BEDROOM	10.9	91.9	91.8	0.0	0.1
F34	R6	RESIDENTIAL	BEDROOM	9.1	94.3	94.2	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL151
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F35

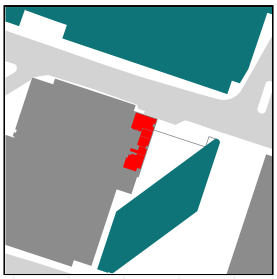
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
BEETHAM TOWER								
F35	R1	RESIDENTIAL	BEDROOM	9.5	88	87.9	0.0	0.2
F35	R2	RESIDENTIAL	BEDROOM	10.9	93.4	93.3	0.0	0.1
F35	R3	RESIDENTIAL	BEDROOM	9.1	95.3	95.3	0.0	0
F35	R4	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F35	R5	RESIDENTIAL	LKD	34.5	99.9	99.9	0.0	0

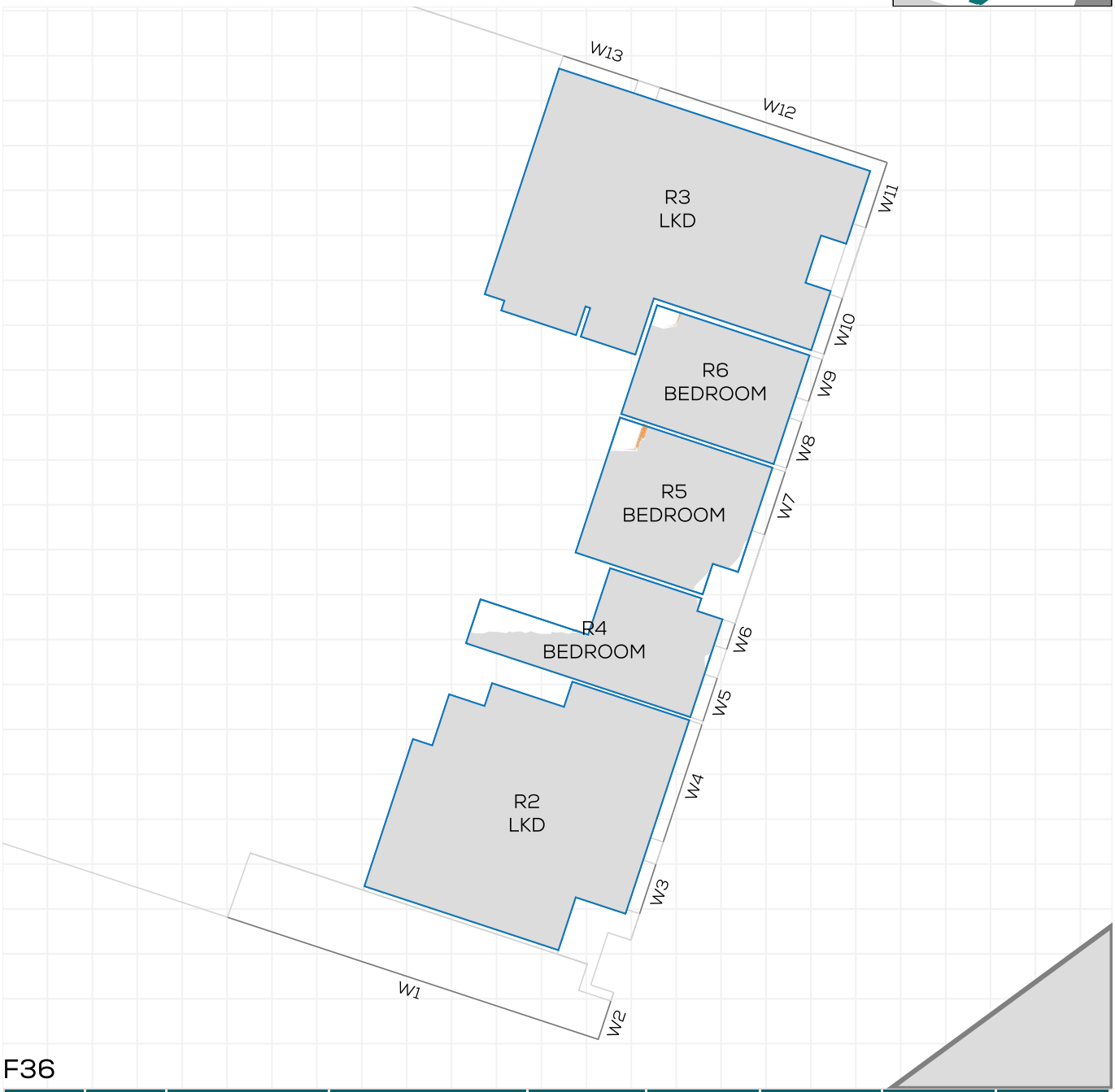
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	BEETHAM TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL152
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F36

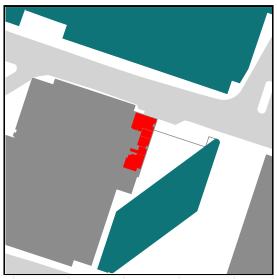
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
BEETHAM TOWER								
F36	R2	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F36	R3	RESIDENTIAL	LKD	34.5	100	100	0.0	0
F36	R4	RESIDENTIAL	BEDROOM	9.5	89.9	89.8	0.0	0.1
F36	R5	RESIDENTIAL	BEDROOM	10.9	95.1	94.6	0.1	0.5
F36	R6	RESIDENTIAL	BEDROOM	9.1	97.5	97.3	0.0	0.1

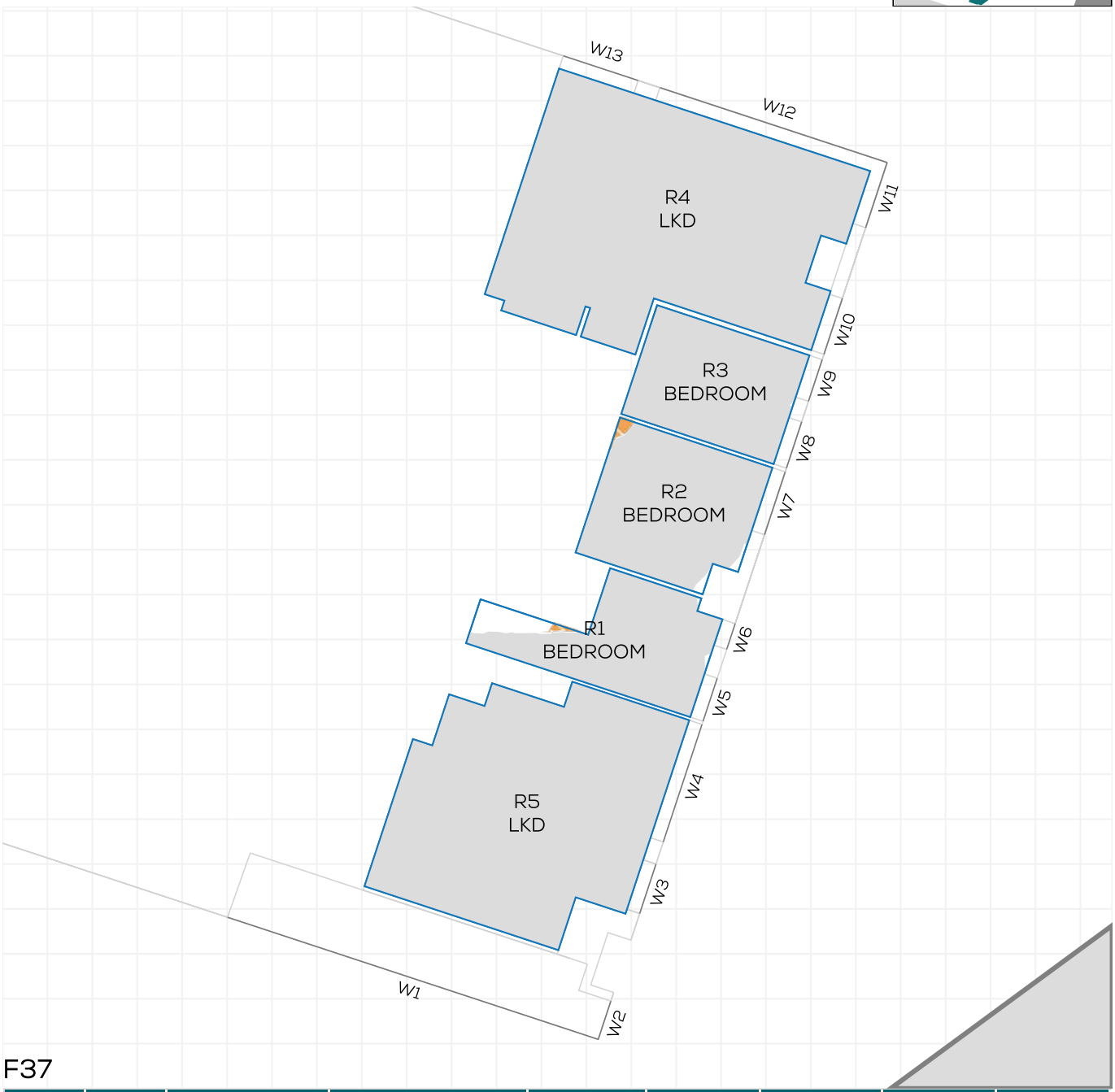
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	BEETHAM TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL153
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F37

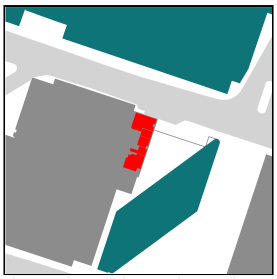
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
BEETHAM TOWER								
F37	R1	RESIDENTIAL	BEDROOM	9.5	90.5	89.7	0.1	0.8
F37	R2	RESIDENTIAL	BEDROOM	10.9	98.6	97.4	0.1	1.3
F37	R3	RESIDENTIAL	BEDROOM	9.1	99.9	99.8	0.0	0.1
F37	R4	RESIDENTIAL	LKD	34.5	100	100	0.0	0
F37	R5	RESIDENTIAL	LKD	28.5	100	100	0.0	0

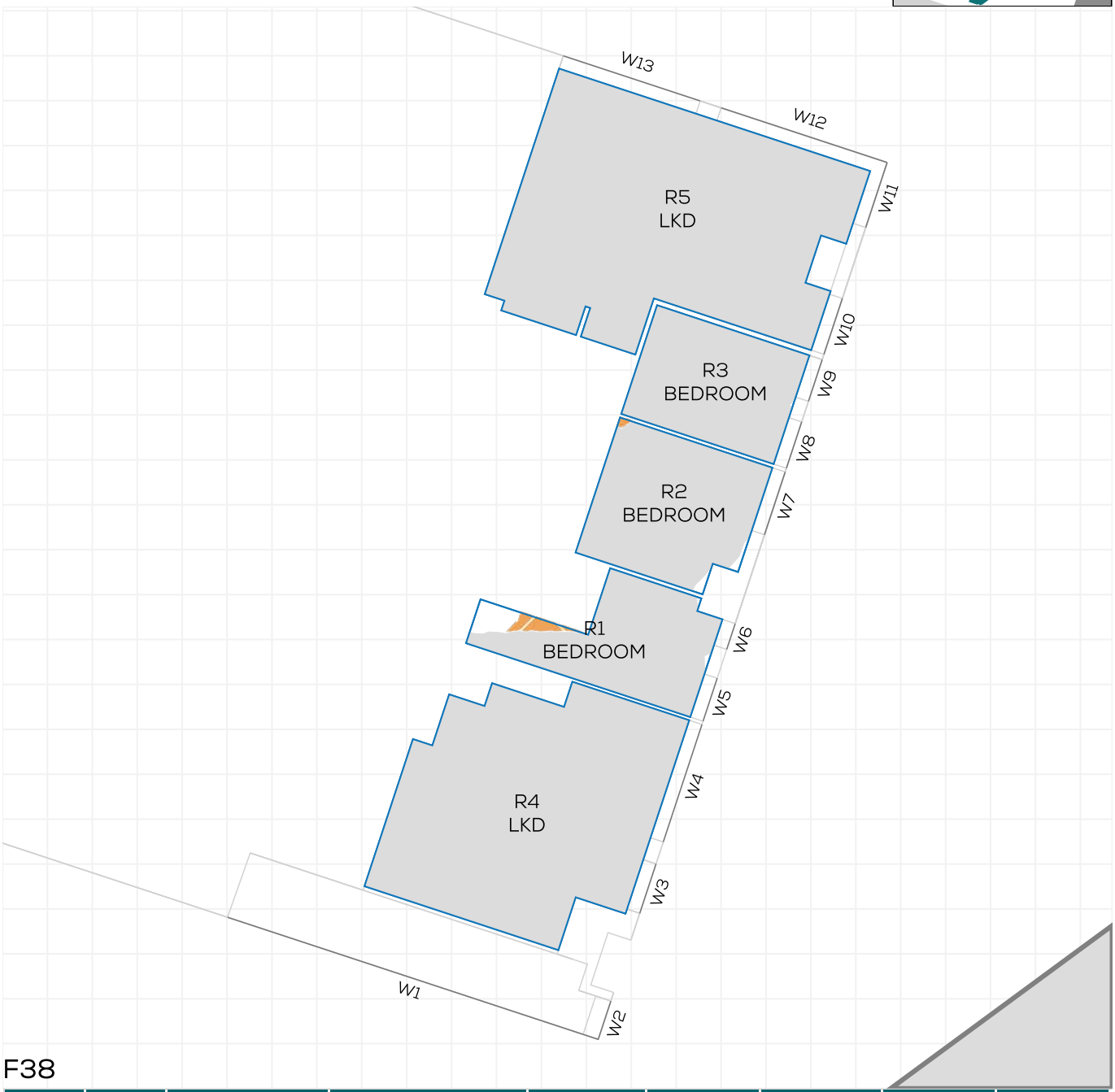
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	BEETHAM TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL154
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F38

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
BEETHAM TOWER								
F38	R1	RESIDENTIAL	BEDROOM	9.5	93.6	90.1	0.3	3.8
F38	R2	RESIDENTIAL	BEDROOM	10.9	98.5	98.1	0.0	0.4
F38	R3	RESIDENTIAL	BEDROOM	9.1	99.9	99.9	0.0	0
F38	R4	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F38	R5	RESIDENTIAL	LKD	34.5	100	100	0.0	0

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	BEETHAM TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL155
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



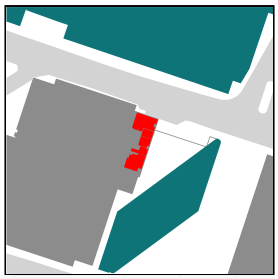
F39

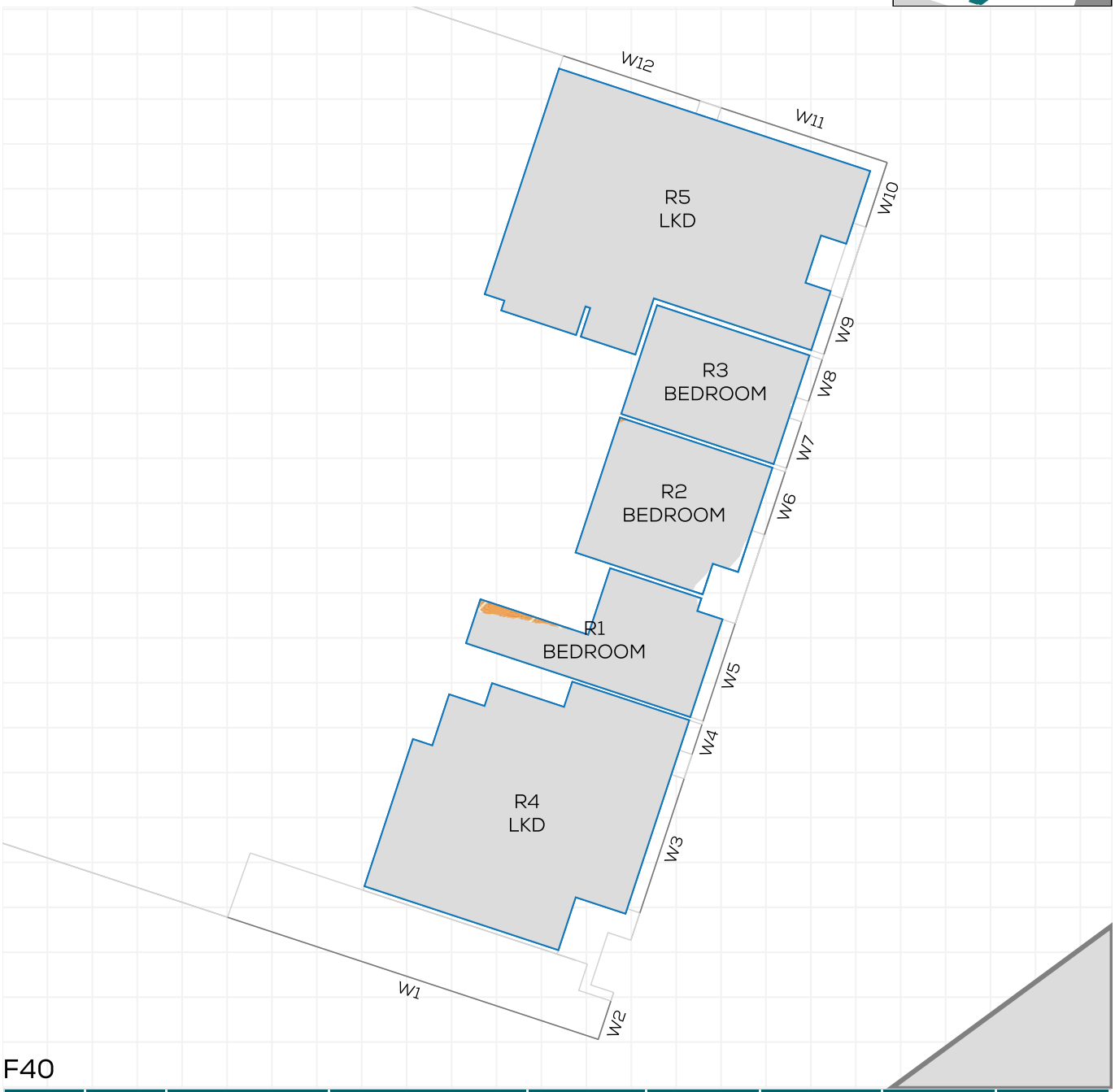
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
BEETHAM TOWER								
F39	R2	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F39	R3	RESIDENTIAL	LKD	34.5	100	100	0.0	0
F39	R4	RESIDENTIAL	BEDROOM	9.5	99.6	90.6	0.9	9
F39	R5	RESIDENTIAL	BEDROOM	10.9	98.5	98.4	0.0	0.2
F39	R6	RESIDENTIAL	BEDROOM	9.1	100	100	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL156
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F40

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
BEETHAM TOWER								
F40	R1	RESIDENTIAL	BEDROOM	9.5	99.9	96.5	0.3	3.4
F40	R2	RESIDENTIAL	BEDROOM	10.9	98.5	98.4	0.0	0.1
F40	R3	RESIDENTIAL	BEDROOM	9.1	99.9	99.9	0.0	0
F40	R4	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F40	R5	RESIDENTIAL	LKD	34.5	100	100	0.0	0

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	BEETHAM TOWER
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL157
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



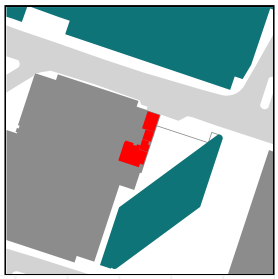
F41

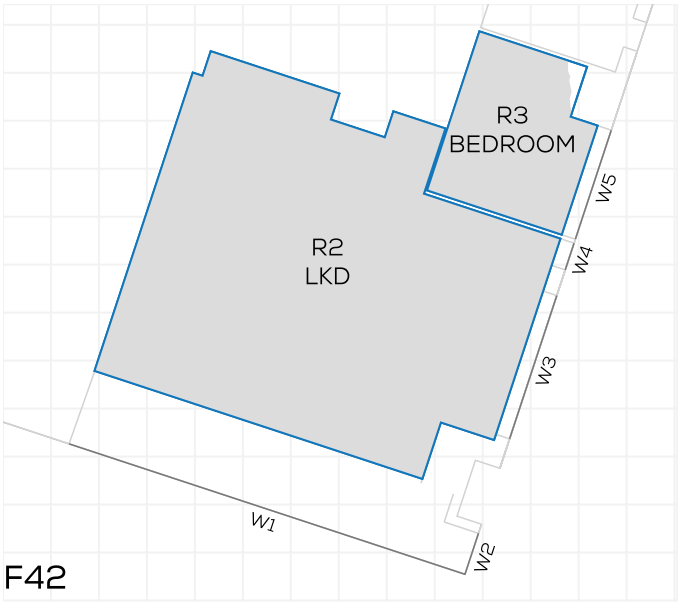
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
BEETHAM TOWER								
F41	R2	RESIDENTIAL	LKD	28.5	100	100	0.0	0
F41	R3	RESIDENTIAL	LKD	34.5	100	100	0.0	0
F41	R4	RESIDENTIAL	BEDROOM	9.5	99.9	96.7	0.3	3.2
F41	R5	RESIDENTIAL	BEDROOM	10.9	98.5	98.4	0.0	0.1
F41	R6	RESIDENTIAL	BEDROOM	9.1	99.9	99.9	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL158
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID

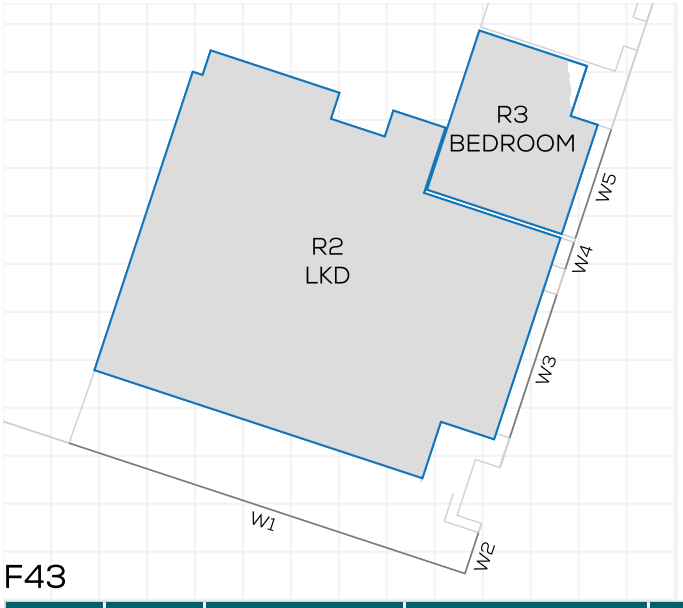




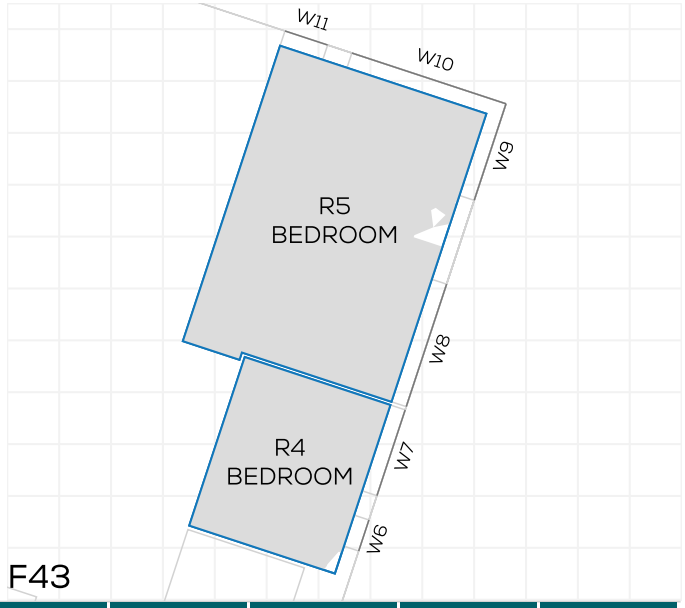
F42



F42



F43



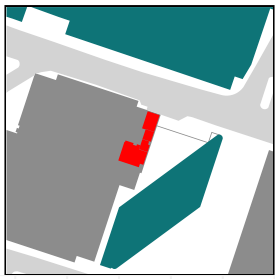
F43

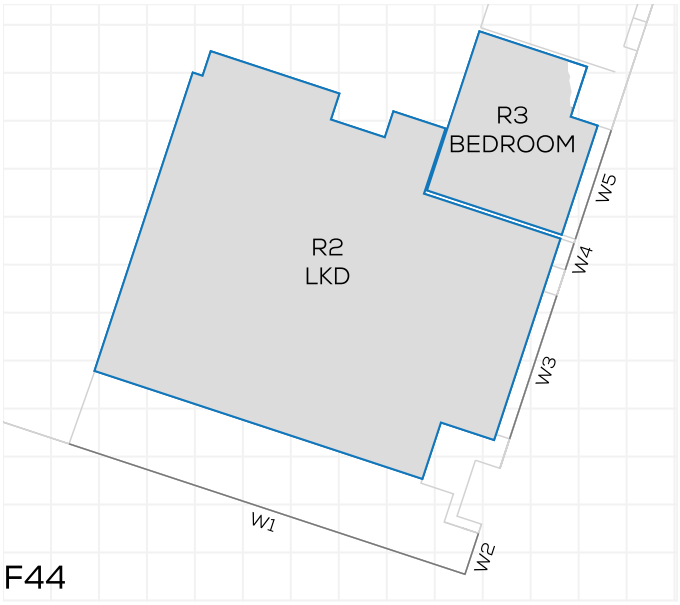
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
BEETHAM TOWER								
F42	R2	RESIDENTIAL	LKD	52.8	100	100	0.0	0
F42	R3	RESIDENTIAL	BEDROOM	9.7	97.8	97.8	0.0	0
F42	R4	RESIDENTIAL	BEDROOM	10.1	99.4	99.4	0.0	0
F42	R5	RESIDENTIAL	BEDROOM	24.6	98.5	98.5	0.0	0
F43	R2	RESIDENTIAL	LKD	52.8	100	100	0.0	0
F43	R3	RESIDENTIAL	BEDROOM	9.7	97.8	97.8	0.0	0
F43	R4	RESIDENTIAL	BEDROOM	10.1	99.4	99.4	0.0	0
F43	R5	RESIDENTIAL	BEDROOM	24.6	99.1	99.1	0.0	0

NSL CONTOURS

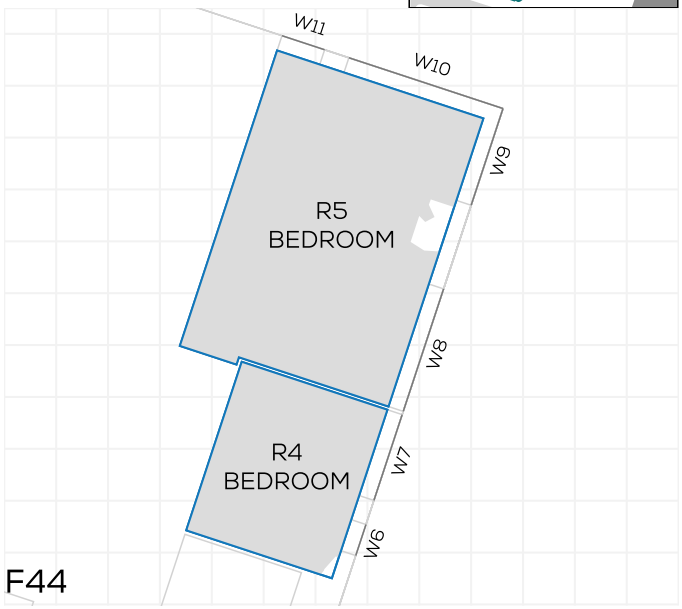
PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL159
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





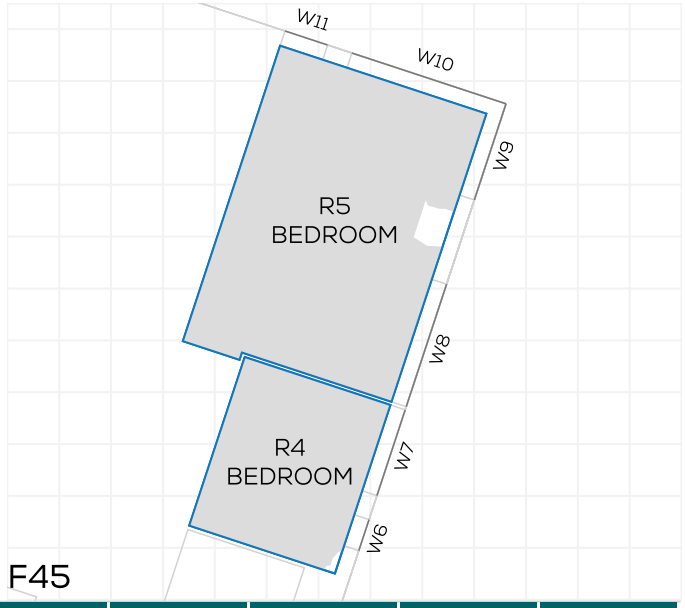
F44



F44



F45



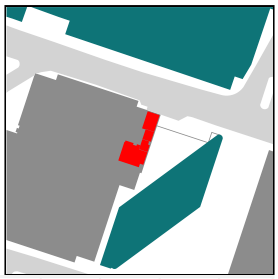
F45

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
BEETHAM TOWER								
F44	R2	RESIDENTIAL	LKD	52.8	100	100	0.0	0
F44	R3	RESIDENTIAL	BEDROOM	9.7	97.8	97.8	0.0	0
F44	R4	RESIDENTIAL	BEDROOM	10.1	99.4	99.4	0.0	0
F44	R5	RESIDENTIAL	BEDROOM	24.6	98.1	98.1	0.0	0
F45	R2	RESIDENTIAL	LKD	52.8	100	100	0.0	0
F45	R3	RESIDENTIAL	BEDROOM	9.7	97.8	97.8	0.0	0
F45	R4	RESIDENTIAL	BEDROOM	10.1	99.4	99.4	0.0	0
F45	R5	RESIDENTIAL	BEDROOM	24.6	98.3	98.3	0.0	0

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: BEETHAM TOWER
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL160
SCHEME IR: IR17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F46

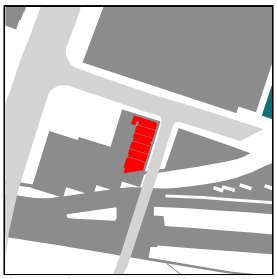
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
BEETHAM TOWER								
F46	R2	RESIDENTIAL	LKD	52.8	100	100	0.0	0
F46	R3	RESIDENTIAL	BEDROOM	9.7	97.8	97.8	0.0	0
F46	R4	RESIDENTIAL	BEDROOM	10.1	99.4	99.4	0.0	0
F46	R5	RESIDENTIAL	BEDROOM	24.6	99	99	0.0	0

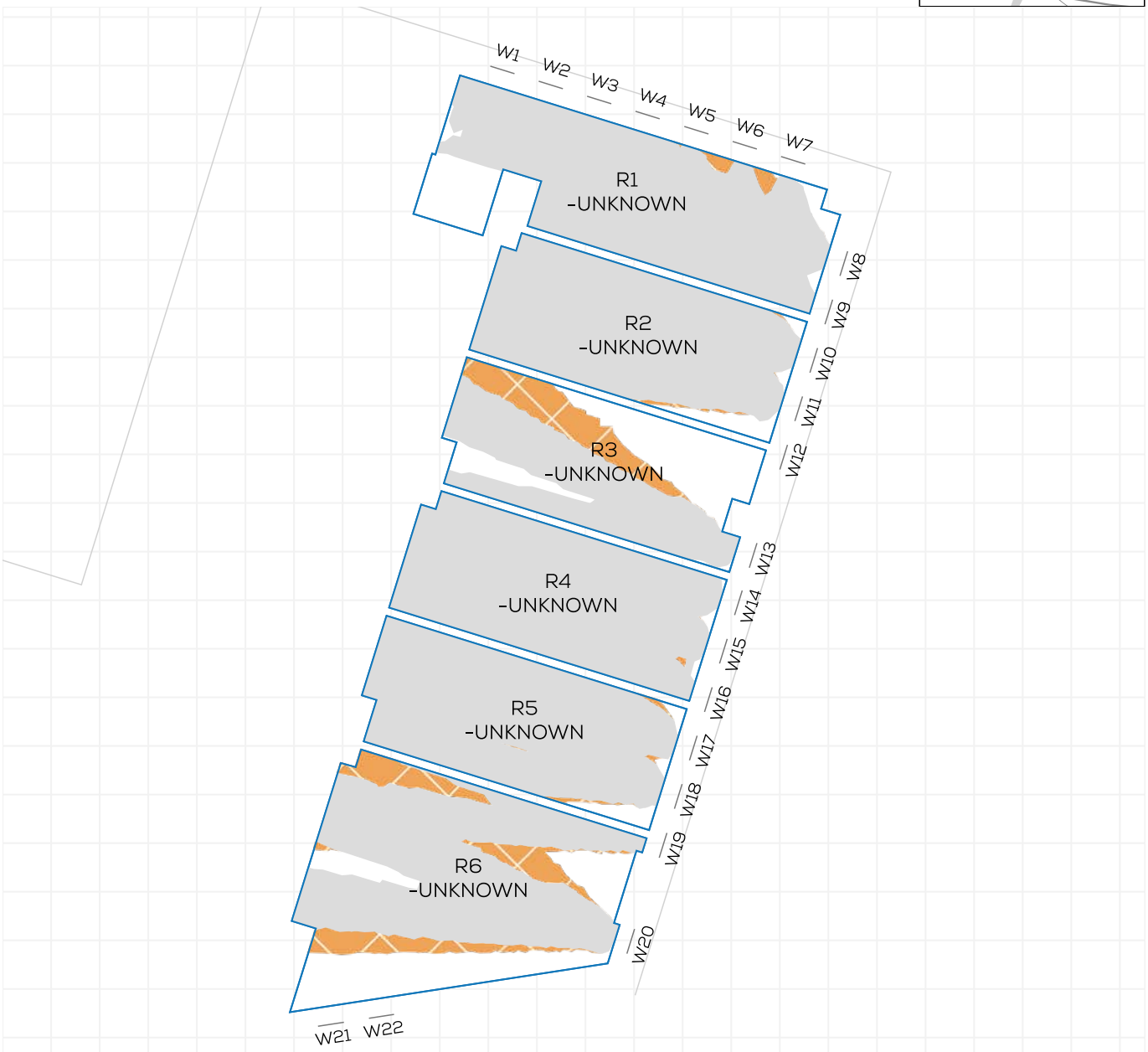
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	325 DEANSGATE STAYCITY APARTHOTE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL161
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F01

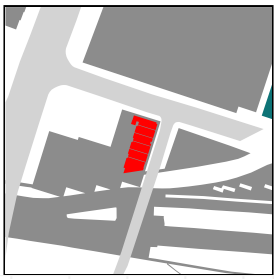
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
325 DEANSGATE STAYCITY APARTHOTEL								
F01	R1	RESIDENTIAL	-UNKNOWN	21.0	87.3	85.7	0.3	1.8
F01	R2	RESIDENTIAL	-UNKNOWN	16.8	94.6	93.7	0.2	1
F01	R3	RESIDENTIAL	-UNKNOWN	16.3	67.9	51	2.8	24.9
F01	R4	RESIDENTIAL	-UNKNOWN	16.8	99.1	98.9	0.0	0.2
F01	R5	RESIDENTIAL	-UNKNOWN	16.6	95.8	94.5	0.2	1.3
F01	R6	RESIDENTIAL	-UNKNOWN	26.3	75	60.6	3.8	19.2

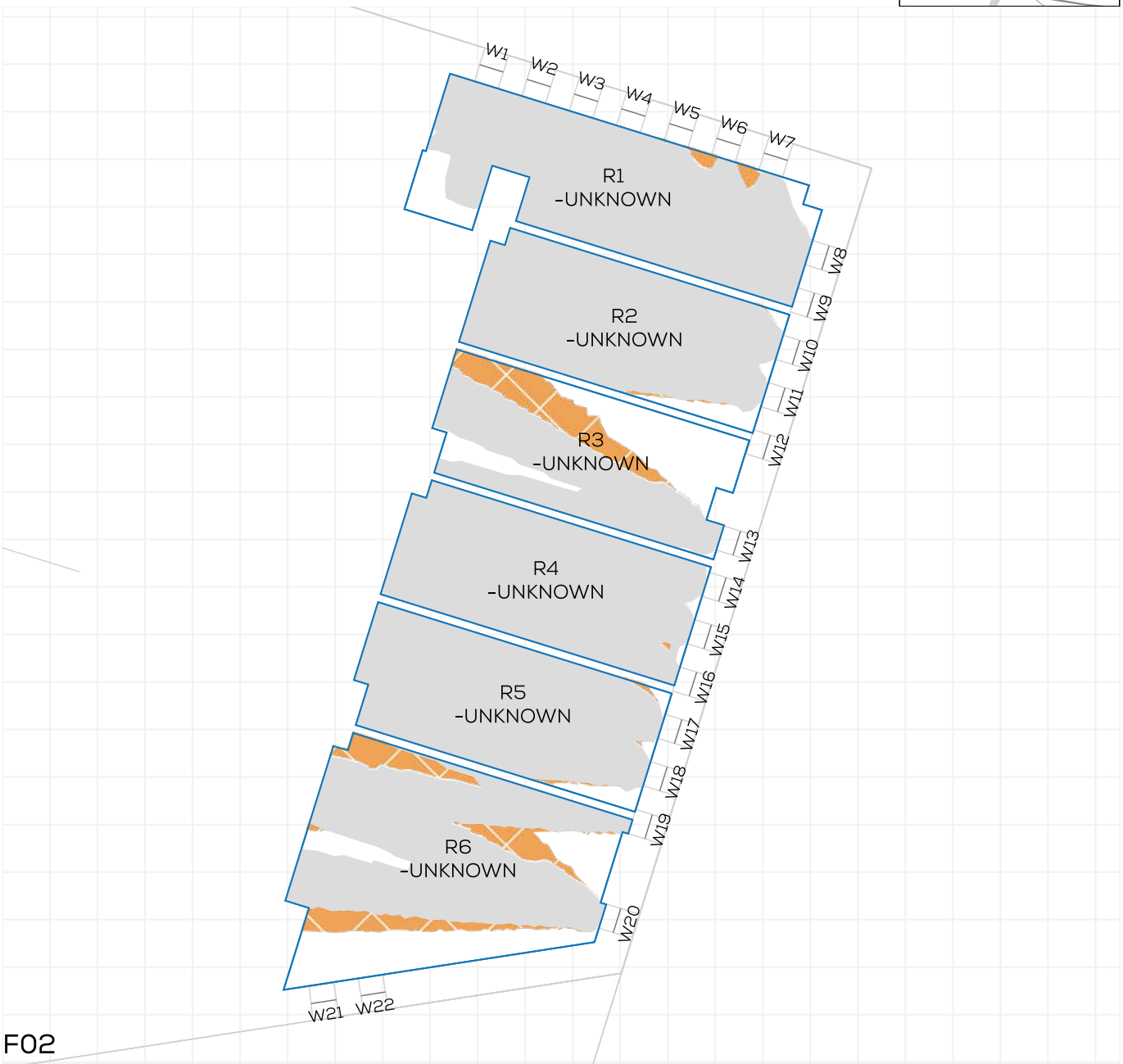
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	325 DEANSGATE STAYCITY APARTHOTE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL162
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F02

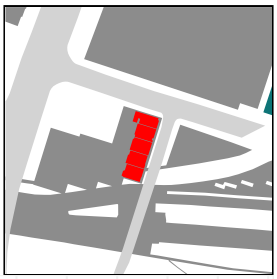
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
325 DEANSGATE STAYCITY APARTHOTEL								
F02	R1	RESIDENTIAL	-UNKNOWN	21.0	91.9	90.3	0.3	1.7
F02	R2	RESIDENTIAL	-UNKNOWN	16.8	94.7	93.8	0.1	0.9
F02	R3	RESIDENTIAL	-UNKNOWN	16.3	68.1	51.5	2.7	24.4
F02	R4	RESIDENTIAL	-UNKNOWN	16.8	99.1	98.9	0.0	0.2
F02	R5	RESIDENTIAL	-UNKNOWN	16.6	95.8	94.7	0.2	1.2
F02	R6	RESIDENTIAL	-UNKNOWN	26.3	75	60.7	3.8	19

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	325 DEANSGATE STAYCITY APARTHOTE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL163
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F03

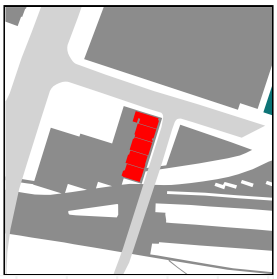
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
325 DEANSGATE STAYCITY APARTHOTEL								
F03	R1	RESIDENTIAL	-UNKNOWN	28.5	96.2	94.3	0.6	2
F03	R2	RESIDENTIAL	-UNKNOWN	28.8	89.3	85.5	1.1	4.3
F03	R3	RESIDENTIAL	-UNKNOWN	28.5	97.8	97.4	0.1	0.4
F03	R4	RESIDENTIAL	-UNKNOWN	28.1	94.7	90.7	1.1	4.2
F03	R5	RESIDENTIAL	-UNKNOWN	27.5	98.5	97.8	0.2	0.8

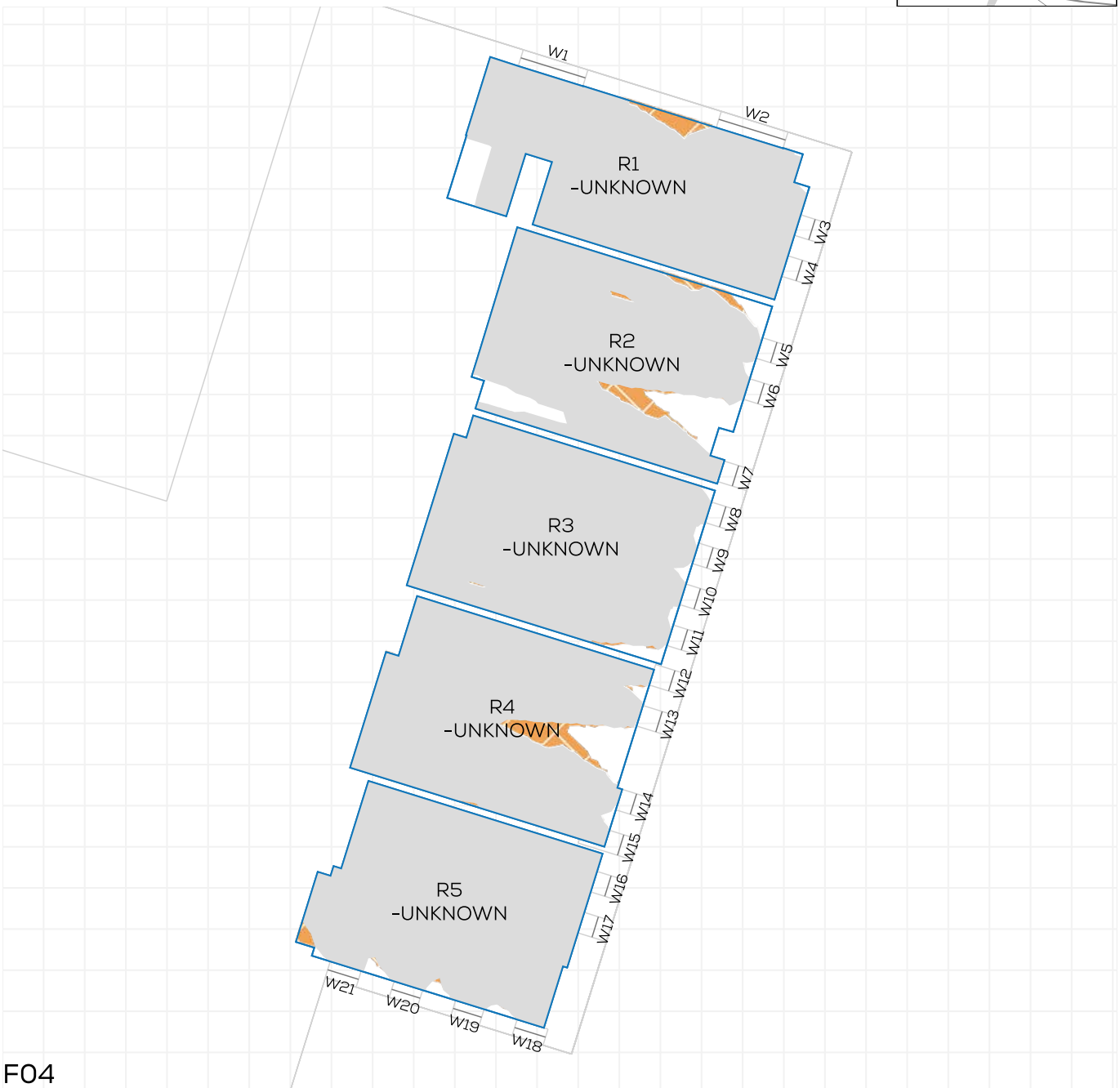
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	325 DEANSGATE STAYCITY APARTHOTE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL164
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F04

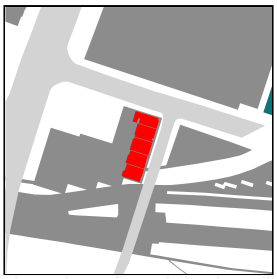
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
325 DEANSGATE STAYCITY APARTHOTEL								
F04	R1	RESIDENTIAL	-UNKNOWN	28.5	96.3	94.4	0.5	2
F04	R2	RESIDENTIAL	-UNKNOWN	28.8	89.3	85.8	1.0	3.9
F04	R3	RESIDENTIAL	-UNKNOWN	28.5	97.8	97.5	0.1	0.4
F04	R4	RESIDENTIAL	-UNKNOWN	28.1	94.7	90.9	1.1	4
F04	R5	RESIDENTIAL	-UNKNOWN	27.5	98.6	97.8	0.2	0.8

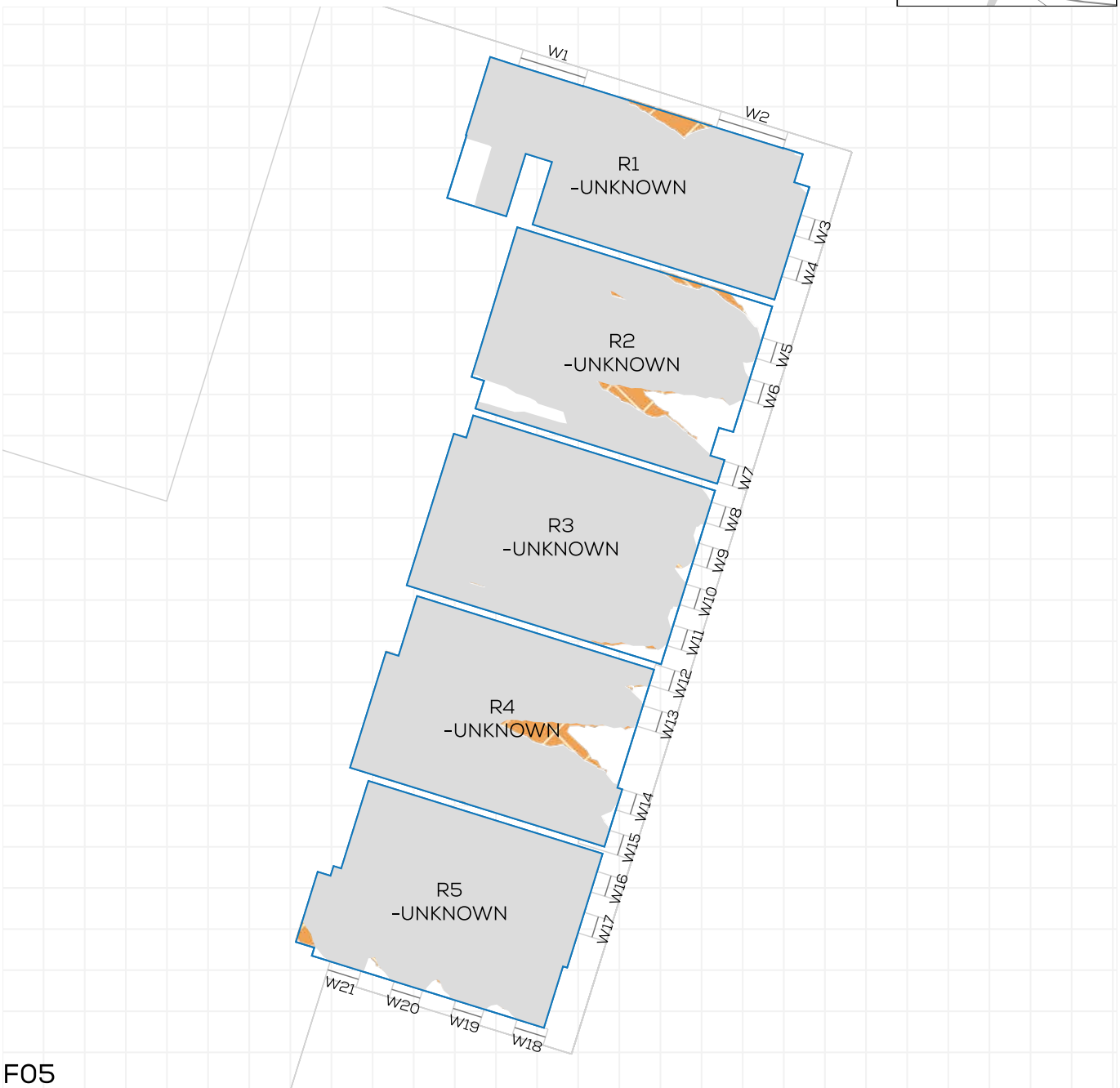
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	325 DEANSGATE STAYCITY APARTHOTE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL165
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F05

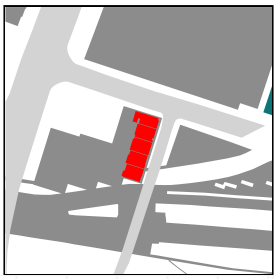
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
325 DEANSGATE STAYCITY APARTHOTEL								
F05	R1	RESIDENTIAL	-UNKNOWN	28.5	96.3	94.4	0.5	1.9
F05	R2	RESIDENTIAL	-UNKNOWN	28.8	89.3	86	0.9	3.7
F05	R3	RESIDENTIAL	-UNKNOWN	28.5	97.8	97.4	0.1	0.4
F05	R4	RESIDENTIAL	-UNKNOWN	28.1	94.8	91.1	1.0	3.9
F05	R5	RESIDENTIAL	-UNKNOWN	27.5	98.5	97.8	0.2	0.7

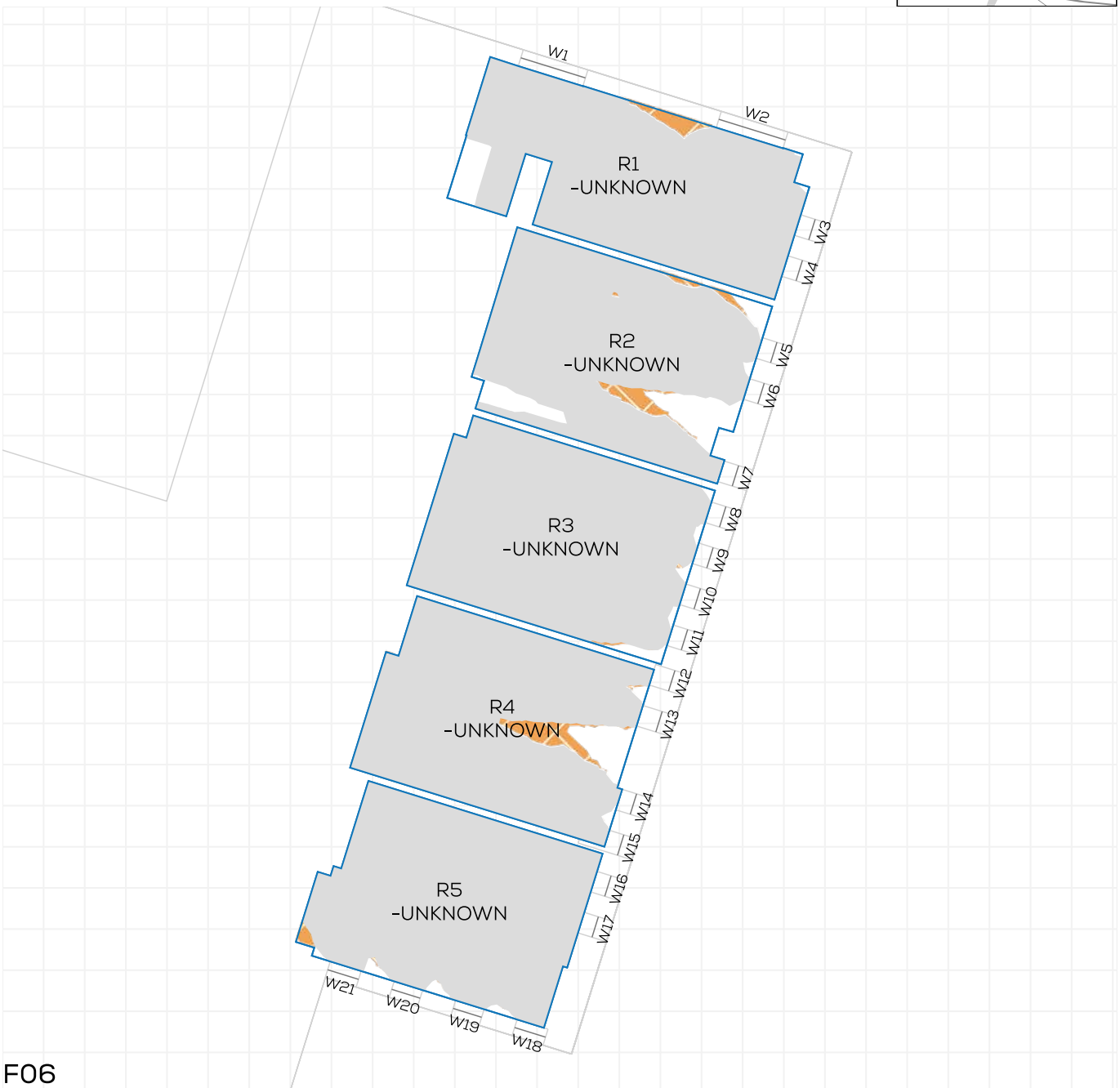
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	325 DEANSGATE STAYCITY APARTHOTE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL166
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F06

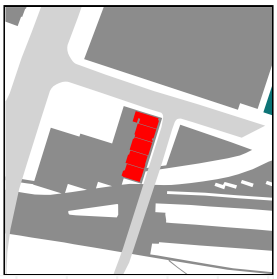
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
325 DEANSGATE STAYCITY APARTHOTEL								
F06	R1	RESIDENTIAL	-UNKNOWN	28.5	96.3	94.4	0.5	1.9
F06	R2	RESIDENTIAL	-UNKNOWN	28.8	89.3	86.3	0.9	3.4
F06	R3	RESIDENTIAL	-UNKNOWN	28.5	97.9	97.6	0.1	0.3
F06	R4	RESIDENTIAL	-UNKNOWN	28.1	94.8	91.1	1.0	3.9
F06	R5	RESIDENTIAL	-UNKNOWN	27.5	98.5	97.9	0.2	0.7

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	325 DEANSGATE STAYCITY APARTHOTE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL167
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F07

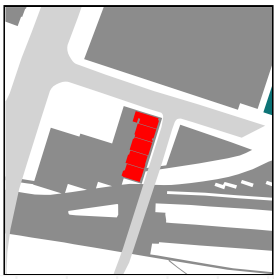
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
325 DEANSGATE STAYCITY APARTHOTEL								
F07	R1	RESIDENTIAL	-UNKNOWN	28.5	96.3	94.4	0.5	1.9
F07	R2	RESIDENTIAL	-UNKNOWN	28.8	89.4	86.4	0.9	3.3
F07	R3	RESIDENTIAL	-UNKNOWN	28.5	97.9	97.6	0.1	0.3
F07	R4	RESIDENTIAL	-UNKNOWN	28.1	94.8	91.3	1.0	3.7
F07	R5	RESIDENTIAL	-UNKNOWN	27.5	98.5	97.9	0.2	0.6

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	325 DEANSGATE STAYCITY APARTHOTE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL168
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F08

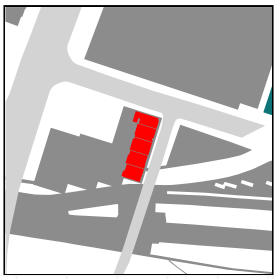
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
325 DEANSGATE STAYCITY APARTHOTEL								
F08	R1	RESIDENTIAL	-UNKNOWN	28.5	96.3	94.5	0.5	1.9
F08	R2	RESIDENTIAL	-UNKNOWN	28.8	89.7	87.1	0.8	2.9
F08	R3	RESIDENTIAL	-UNKNOWN	28.5	98	97.7	0.1	0.3
F08	R4	RESIDENTIAL	-UNKNOWN	28.1	94.9	91.5	0.9	3.5
F08	R5	RESIDENTIAL	-UNKNOWN	27.5	98.6	98	0.2	0.6

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	325 DEANSGATE STAYCITY APARTHOTE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL169
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F09

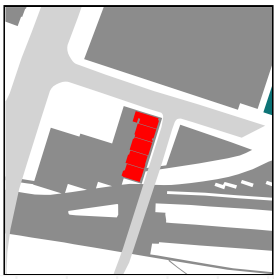
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
325 DEANSGATE STAYCITY APARTHOTEL								
F09	R1	RESIDENTIAL	-UNKNOWN	28.5	96.3	94.5	0.5	1.9
F09	R2	RESIDENTIAL	-UNKNOWN	28.8	89.9	87.7	0.7	2.5
F09	R3	RESIDENTIAL	-UNKNOWN	28.5	98	97.7	0.1	0.2
F09	R4	RESIDENTIAL	-UNKNOWN	28.1	94.9	91.7	0.9	3.4
F09	R5	RESIDENTIAL	-UNKNOWN	27.5	98.5	98	0.1	0.5

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	325 DEANSGATE STAYCITY APARTHOTE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL170
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F10

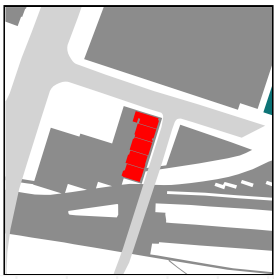
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
325 DEANSGATE STAYCITY APARTHOTEL								
F10	R1	RESIDENTIAL	-UNKNOWN	28.5	96.3	94.5	0.5	1.8
F10	R2	RESIDENTIAL	-UNKNOWN	28.8	90.1	88.1	0.6	2.3
F10	R3	RESIDENTIAL	-UNKNOWN	28.5	98	97.7	0.1	0.3
F10	R4	RESIDENTIAL	-UNKNOWN	28.1	94.8	91.9	0.8	3.1
F10	R5	RESIDENTIAL	-UNKNOWN	27.5	98.6	98.1	0.1	0.5

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	325 DEANSGATE STAYCITY APARTHOTE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL171
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F11

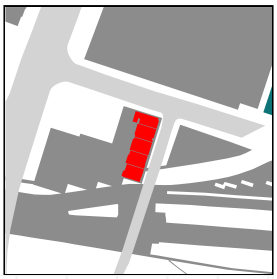
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
325 DEANSGATE STAYCITY APARTHOTEL								
F11	R1	RESIDENTIAL	-UNKNOWN	28.5	96.3	94.5	0.5	1.8
F11	R2	RESIDENTIAL	-UNKNOWN	28.8	90.5	88.7	0.5	2
F11	R3	RESIDENTIAL	-UNKNOWN	28.5	98	97.8	0.1	0.3
F11	R4	RESIDENTIAL	-UNKNOWN	28.1	94.9	92.4	0.7	2.6
F11	R5	RESIDENTIAL	-UNKNOWN	27.5	98.6	98.1	0.1	0.5

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	325 DEANSGATE STAYCITY APARTHOTE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL172
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F12

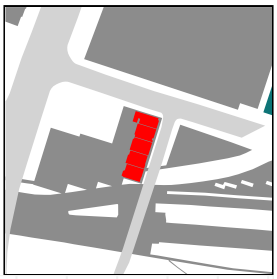
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
325 DEANSGATE STAYCITY APARTHOTEL								
F12	R1	RESIDENTIAL	-UNKNOWN	28.5	96.3	94.5	0.5	1.8
F12	R2	RESIDENTIAL	-UNKNOWN	28.8	91.1	89.4	0.5	1.8
F12	R3	RESIDENTIAL	-UNKNOWN	28.5	98.1	97.8	0.1	0.3
F12	R4	RESIDENTIAL	-UNKNOWN	28.1	94.9	92.8	0.6	2.2
F12	R5	RESIDENTIAL	-UNKNOWN	27.5	98.5	98.1	0.1	0.4

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	325 DEANSGATE STAYCITY APARTHOTE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL173
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F13

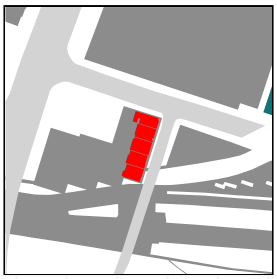
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
325 DEANSGATE STAYCITY APARTHOTEL								
F13	R1	RESIDENTIAL	-UNKNOWN	28.5	96.3	94.5	0.5	1.8
F13	R2	RESIDENTIAL	-UNKNOWN	28.8	91.9	90.7	0.3	1.3
F13	R3	RESIDENTIAL	-UNKNOWN	28.5	98.1	97.7	0.1	0.4
F13	R4	RESIDENTIAL	-UNKNOWN	28.1	95	93.1	0.5	2
F13	R5	RESIDENTIAL	-UNKNOWN	27.5	98.6	98.2	0.1	0.4

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	325 DEANSGATE STAYCITY APARTHOTE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL174
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F14

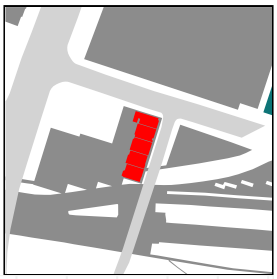
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
325 DEANSGATE STAYCITY APARTHOTEL								
F14	R1	RESIDENTIAL	-UNKNOWN	28.5	96.3	94.6	0.5	1.8
F14	R2	RESIDENTIAL	-UNKNOWN	28.8	92.7	91.7	0.3	1.1
F14	R3	RESIDENTIAL	-UNKNOWN	28.5	98.2	97.8	0.1	0.4
F14	R4	RESIDENTIAL	-UNKNOWN	28.1	95	93.3	0.5	1.8
F14	R5	RESIDENTIAL	-UNKNOWN	27.5	98.6	98.2	0.1	0.4

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	325 DEANSGATE STAYCITY APARTHOTE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL175
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F15

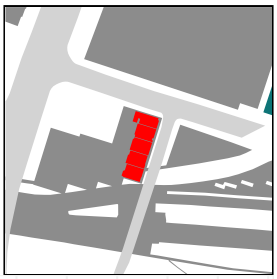
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
325 DEANSGATE STAYCITY APARTHOTEL								
F15	R1	RESIDENTIAL	-UNKNOWN	28.5	96.3	94.6	0.5	1.7
F15	R2	RESIDENTIAL	-UNKNOWN	28.8	92.8	92	0.2	0.8
F15	R3	RESIDENTIAL	-UNKNOWN	28.5	98.3	97.8	0.2	0.6
F15	R4	RESIDENTIAL	-UNKNOWN	28.1	95.1	93.4	0.5	1.8
F15	R5	RESIDENTIAL	-UNKNOWN	27.5	98.6	98.2	0.1	0.3

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	325 DEANSGATE STAYCITY APARTHOTE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL176
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





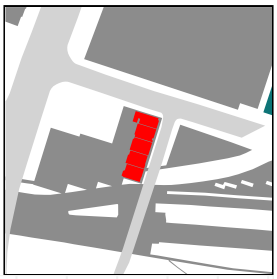
F16

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
325 DEANSGATE STAYCITY APARTHOTEL								
F16	R1	RESIDENTIAL	-UNKNOWN	28.5	96.3	94.9	0.4	1.4
F16	R2	RESIDENTIAL	-UNKNOWN	28.8	92.8	92.4	0.1	0.5
F16	R3	RESIDENTIAL	-UNKNOWN	28.5	98.3	97.8	0.2	0.6
F16	R4	RESIDENTIAL	-UNKNOWN	28.1	95	93.5	0.4	1.7
F16	R5	RESIDENTIAL	-UNKNOWN	27.5	98.6	98.2	0.1	0.3

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: 325 DEANSGATE STAYCITY APARTHOTE
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL177
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F17

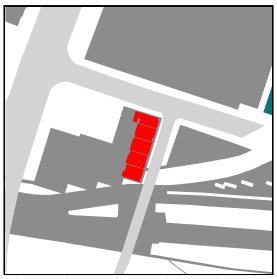
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
325 DEANSGATE STAYCITY APARTHOTEL								
F17	R1	RESIDENTIAL	-UNKNOWN	28.5	96.3	95	0.3	1.3
F17	R2	RESIDENTIAL	-UNKNOWN	28.8	93	92.5	0.1	0.5
F17	R3	RESIDENTIAL	-UNKNOWN	28.5	98.4	97.8	0.2	0.6
F17	R4	RESIDENTIAL	-UNKNOWN	28.1	95.1	93.5	0.4	1.6
F17	R5	RESIDENTIAL	-UNKNOWN	27.5	98.5	98.2	0.1	0.3

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	325 DEANSGATE STAYCITY APARTHOTE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL178
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F18

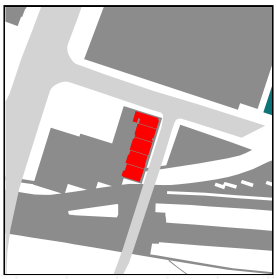
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
325 DEANSGATE STAYCITY APARTHOTEL								
F18	R1	RESIDENTIAL	-UNKNOWN	28.5	96.3	95.5	0.2	0.8
F18	R2	RESIDENTIAL	-UNKNOWN	28.8	93.1	92.6	0.1	0.5
F18	R3	RESIDENTIAL	-UNKNOWN	28.5	98.4	97.8	0.2	0.6
F18	R4	RESIDENTIAL	-UNKNOWN	28.1	95.1	93.7	0.4	1.5
F18	R5	RESIDENTIAL	-UNKNOWN	27.5	98.6	98.2	0.1	0.3

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	325 DEANSGATE STAYCITY APARTHOTE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL179
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F19

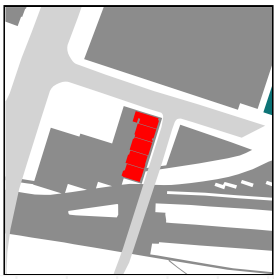
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
325 DEANSGATE STAYCITY APARTHOTEL								
F19	R1	RESIDENTIAL	-UNKNOWN	28.5	96.3	96	0.1	0.3
F19	R2	RESIDENTIAL	-UNKNOWN	28.8	93.3	92.5	0.2	0.8
F19	R3	RESIDENTIAL	-UNKNOWN	28.5	98.4	97.8	0.2	0.7
F19	R4	RESIDENTIAL	-UNKNOWN	28.1	95.3	93.8	0.4	1.6
F19	R5	RESIDENTIAL	-UNKNOWN	27.5	98.8	98.5	0.1	0.3

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	325 DEANSGATE STAYCITY APARTHOTE
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL180
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F20

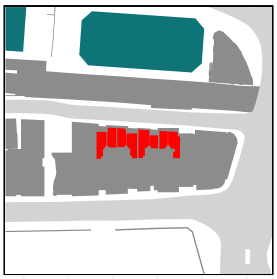
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
325 DEANSGATE STAYCITY APARTHOTEL								
F20	R1	RESIDENTIAL	-UNKNOWN	28.5	96.3	96.2	0.0	0.1
F20	R2	RESIDENTIAL	-UNKNOWN	28.8	93.5	92.7	0.2	0.8
F20	R3	RESIDENTIAL	-UNKNOWN	28.5	98.5	97.8	0.2	0.7
F20	R4	RESIDENTIAL	-UNKNOWN	28.1	95.3	94	0.4	1.4
F20	R5	RESIDENTIAL	-UNKNOWN	27.5	99	98.7	0.1	0.3

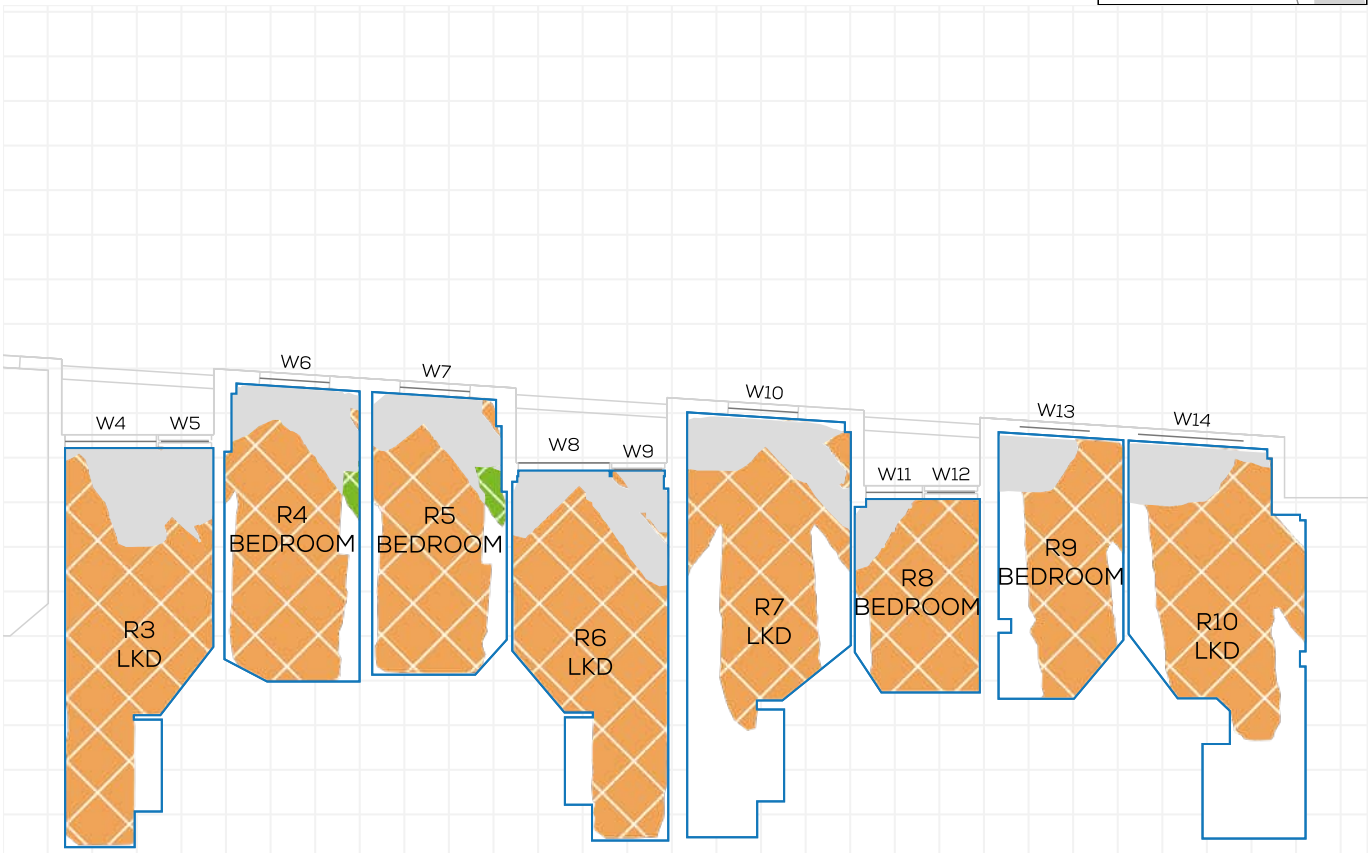
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	ROPEWORKS BLOCK A
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL181
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F00

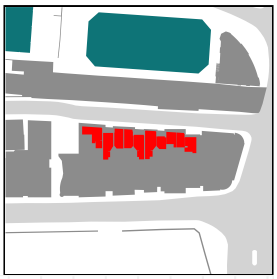
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
ROPEWORKS BLOCK A								
F00	R3	RESIDENTIAL	LKD	24.9	93.8	20.6	18.2	78
F00	R4	RESIDENTIAL	BEDROOM	19.5	86.4	20.5	12.9	76.3
F00	R5	RESIDENTIAL	BEDROOM	18.2	85	21.5	11.6	74.7
F00	R6	RESIDENTIAL	LKD	24.2	92.9	19.2	17.8	79.4
F00	R7	RESIDENTIAL	LKD	28.4	63	15.2	13.6	75.9
F00	R8	RESIDENTIAL	BEDROOM	11.8	95.7	10.3	10.1	89.3
F00	R9	RESIDENTIAL	BEDROOM	15.7	74.2	12	9.7	83.9
F00	R10	RESIDENTIAL	LKD	27.2	65.8	11	14.9	83.3

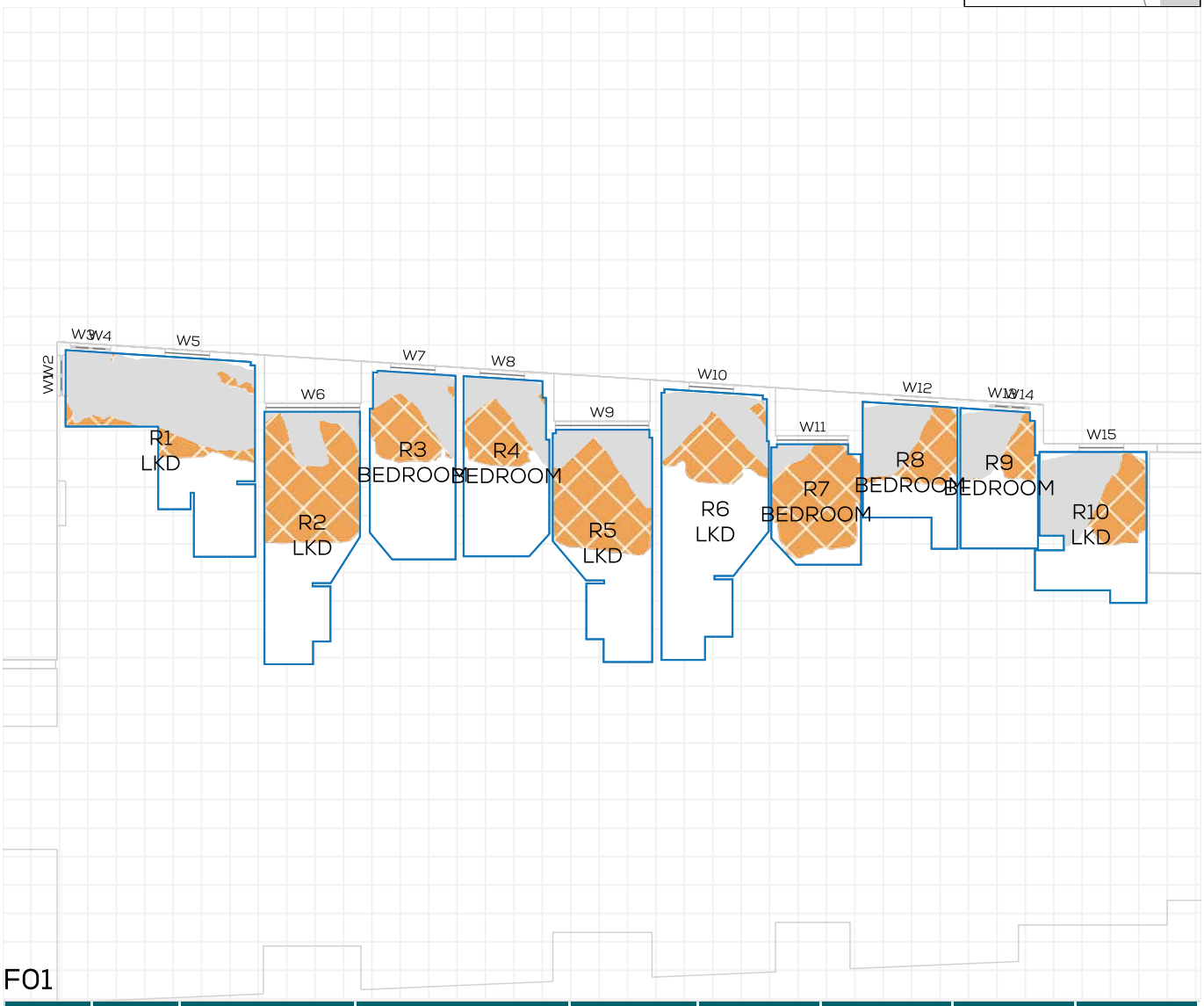
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	ROPEWORKS BLOCK A
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL182
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F01

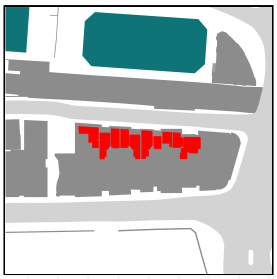
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
ROPEWORKS BLOCK A								
F01	R1	RESIDENTIAL	LKD	29.9	66.4	56.4	3.0	15.1
F01	R2	RESIDENTIAL	LKD	25.5	61.1	12.6	12.3	79.4
F01	R3	RESIDENTIAL	BEDROOM	19.2	46.1	22.2	4.6	51.9
F01	R4	RESIDENTIAL	BEDROOM	18.2	46.7	23.9	4.2	48.8
F01	R5	RESIDENTIAL	LKD	23.8	62.2	19.2	10.2	69.2
F01	R6	RESIDENTIAL	LKD	29.8	36.3	18.4	5.3	49.3
F01	R7	RESIDENTIAL	BEDROOM	12.8	87.3	8	10.1	90.9
F01	R8	RESIDENTIAL	BEDROOM	14.2	62	32.8	4.2	47.1
F01	R9	RESIDENTIAL	BEDROOM	13.0	46.1	29.7	2.1	35.7
F01	R10	RESIDENTIAL	LKD	18.7	59.6	34.3	4.7	42.4

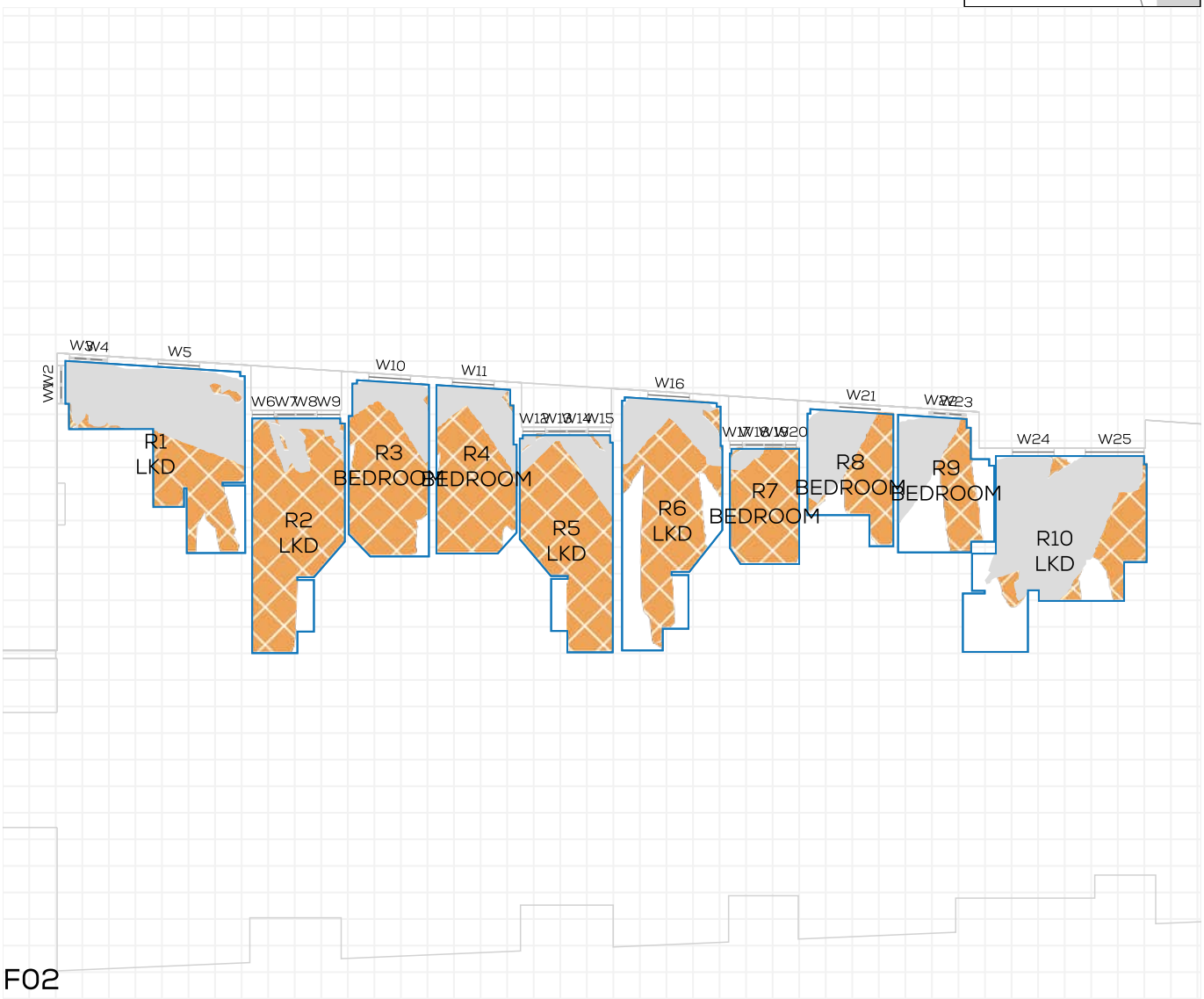
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	ROPEWORKS BLOCK A
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL183
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F02

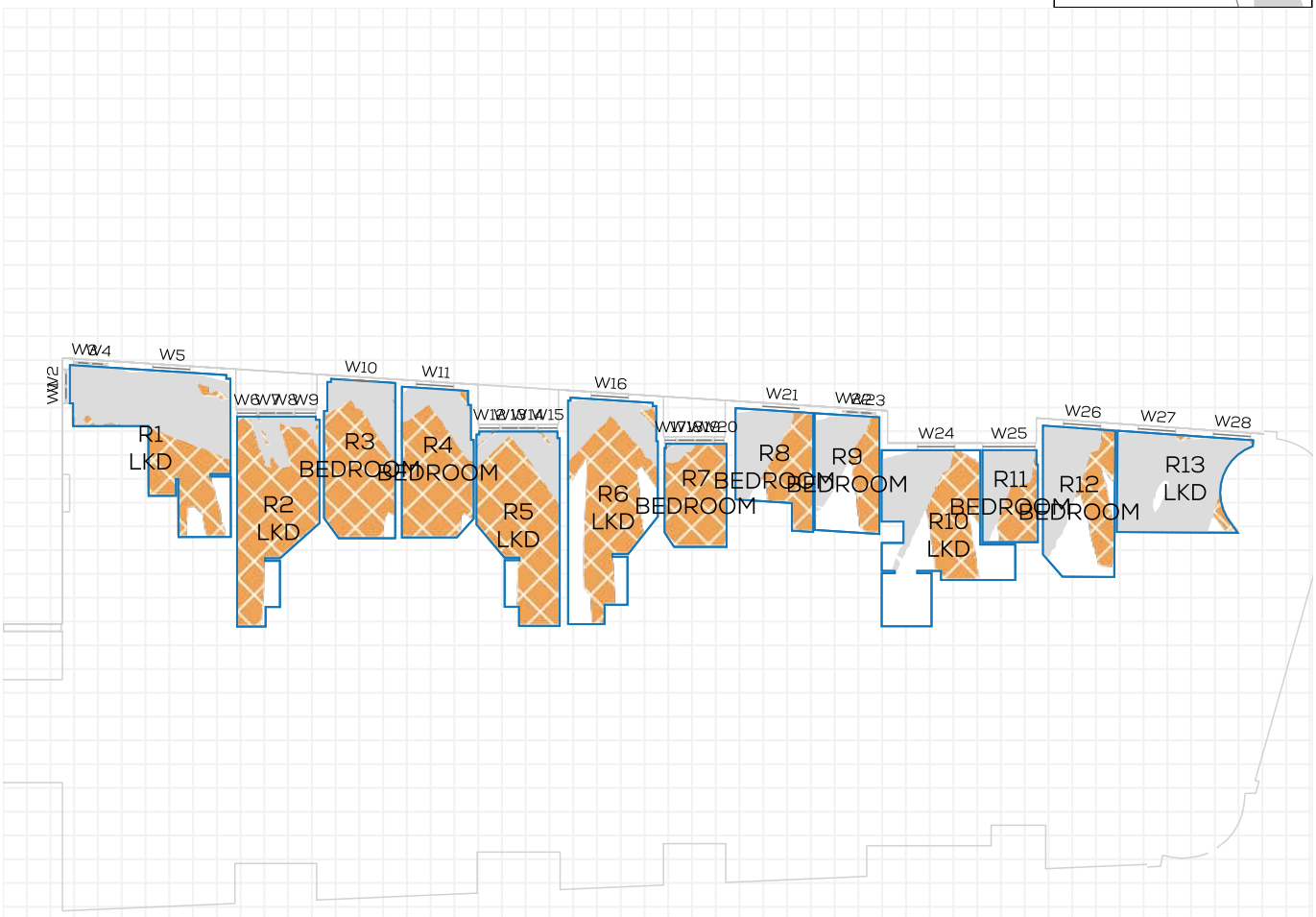
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
ROPEWORKS BLOCK A								
F02	R1	RESIDENTIAL	LKD	29.5	91	57.3	9.9	37.1
F02	R2	RESIDENTIAL	LKD	26.1	94.9	11.9	21.6	87.5
F02	R3	RESIDENTIAL	BEDROOM	19.2	94.8	22.2	14.0	76.6
F02	R4	RESIDENTIAL	BEDROOM	18.2	97.7	24.1	13.4	75.3
F02	R5	RESIDENTIAL	LKD	23.8	95.1	18	18.3	81
F02	R6	RESIDENTIAL	LKD	29.8	72.9	19	16.0	73.9
F02	R7	RESIDENTIAL	BEDROOM	11.2	99	6	10.4	94
F02	R8	RESIDENTIAL	BEDROOM	13.6	91.6	42.1	6.7	54
F02	R9	RESIDENTIAL	BEDROOM	16.6	63.8	31.5	5.4	50.7
F02	R10	RESIDENTIAL	LKD	35.9	77.6	58.9	6.7	24.1

NSL CONTOURS

PROJECT: 20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE: EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS: ROPEWORKS BLOCK A
DATE: 06/03/2026
DRAWING No.: 20231-REL05-IS02-NSL184
SCHEME IR: IR17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F03

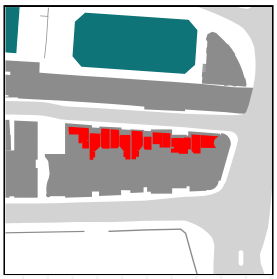
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
ROPEWORKS BLOCK A								
F03	R1	RESIDENTIAL	LKD	29.5	91.6	58	9.9	36.6
F03	R2	RESIDENTIAL	LKD	24.0	94.3	12.9	19.6	86.3
F03	R3	RESIDENTIAL	BEDROOM	19.4	96.8	24.3	14.0	74.9
F03	R4	RESIDENTIAL	BEDROOM	18.2	96.9	23.5	13.4	75.8
F03	R5	RESIDENTIAL	LKD	23.8	95.3	18.1	18.4	81
F03	R6	RESIDENTIAL	LKD	29.8	73.9	18.8	16.4	74.5
F03	R7	RESIDENTIAL	BEDROOM	11.2	99.1	-5.7	11.7	105.7
F03	R8	RESIDENTIAL	BEDROOM	13.6	93.7	42.9	6.9	54.2
F03	R9	RESIDENTIAL	BEDROOM	13.4	73.9	40.4	4.5	45.4
F03	R10	RESIDENTIAL	LKD	27.8	59.5	26.6	9.2	55.3
F03	R11	RESIDENTIAL	BEDROOM	8.9	97.8	54.4	3.9	44.4
F03	R12	RESIDENTIAL	BEDROOM	18.5	72.6	42.2	5.6	41.9
F03	R13	RESIDENTIAL	LKD	19.4	94.7	90.7	0.8	4.2

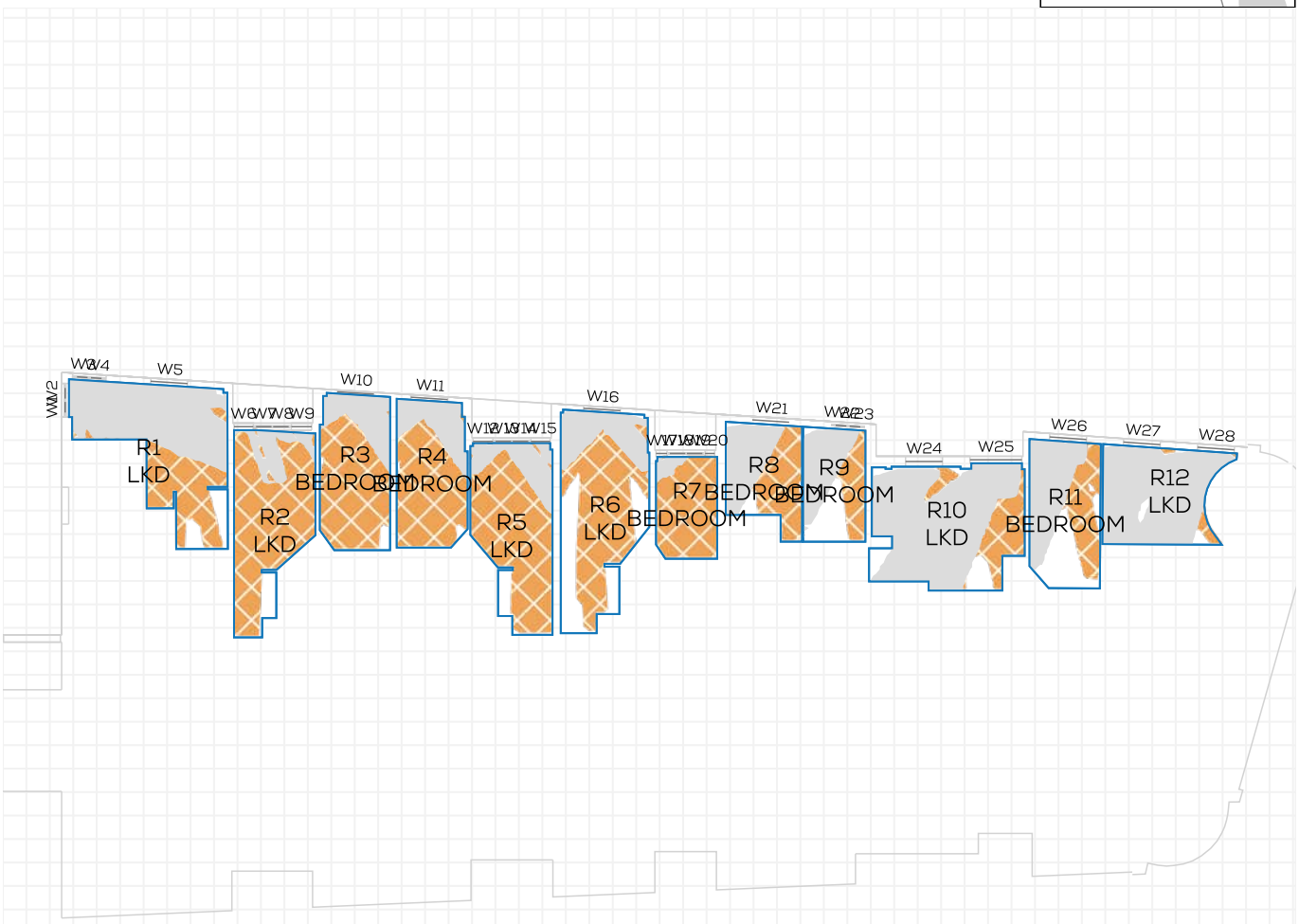
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	ROPEWORKS BLOCK A
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL185
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
ROPEWORKS BLOCK A								
F04	R1	RESIDENTIAL	LKD	29.5	92.8	60	9.7	35.3
F04	R2	RESIDENTIAL	LKD	23.9	94.4	13	19.4	86.2
F04	R3	RESIDENTIAL	BEDROOM	19.4	96.8	24.2	14.0	75
F04	R4	RESIDENTIAL	BEDROOM	18.2	98.2	25.9	13.2	73.7
F04	R5	RESIDENTIAL	LKD	23.8	94.7	19	18.0	79.9
F04	R6	RESIDENTIAL	LKD	29.8	74.6	20.1	16.2	73
F04	R7	RESIDENTIAL	BEDROOM	11.2	99.7	7.3	10.3	92.7
F04	R8	RESIDENTIAL	BEDROOM	13.6	93.2	43.4	6.8	53.4
F04	R9	RESIDENTIAL	BEDROOM	12.8	74.8	44.3	3.9	40.8
F04	R10	RESIDENTIAL	LKD	32.0	91.7	73.2	5.9	20.2
F04	R11	RESIDENTIAL	BEDROOM	18.5	74	43	5.7	41.8
F04	R12	RESIDENTIAL	LKD	19.4	95.7	91.7	0.8	4.2

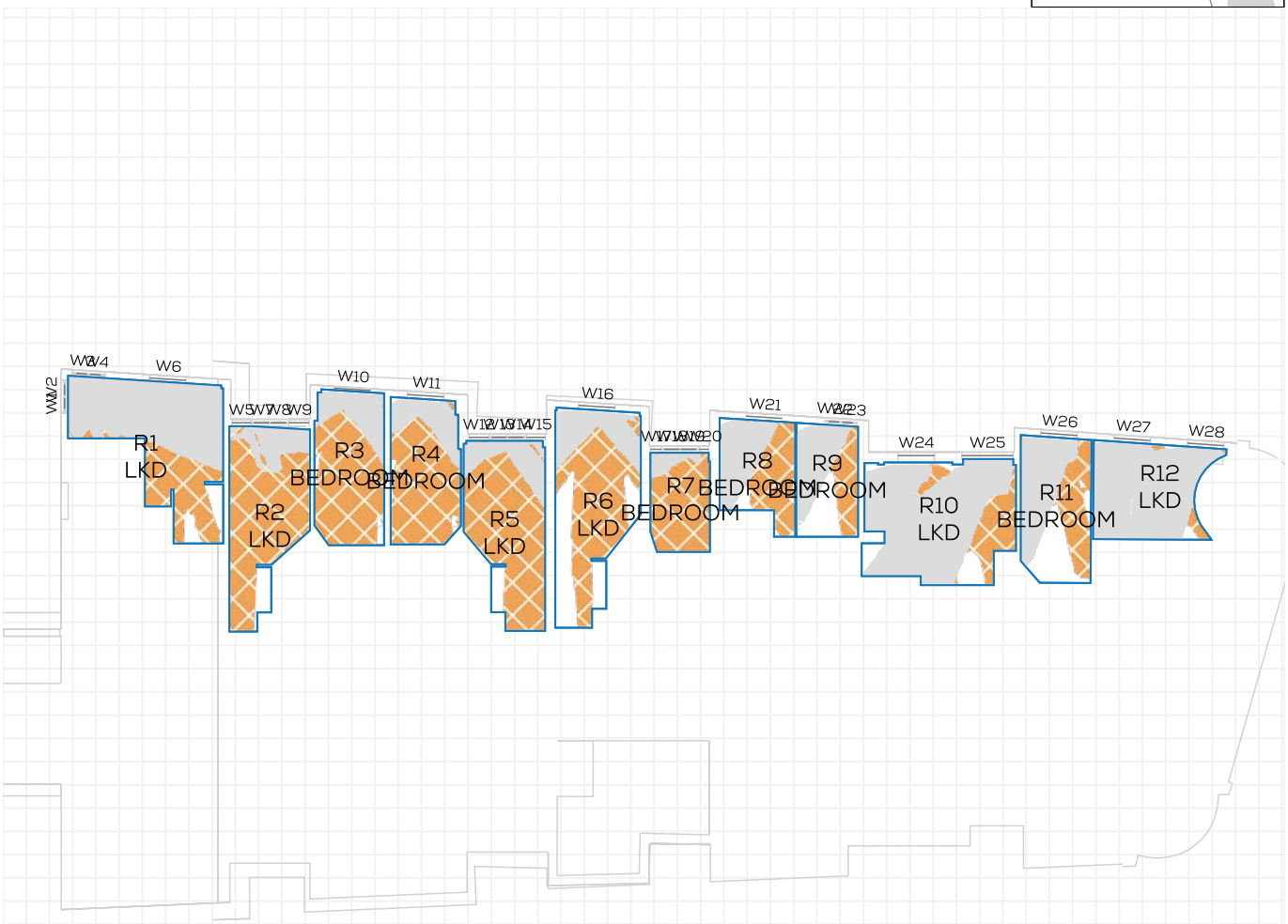
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	ROPEWORKS BLOCK A
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL186
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F05

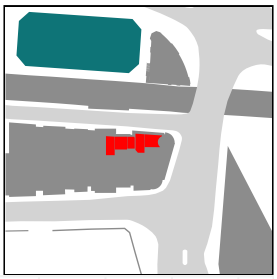
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
ROPEWORKS BLOCK A								
F05	R1	RESIDENTIAL	LKD	29.6	94	63.4	9.1	32.6
F05	R2	RESIDENTIAL	LKD	23.9	94.4	15.7	18.8	83.4
F05	R3	RESIDENTIAL	BEDROOM	19.4	96.3	22.9	14.2	76.2
F05	R4	RESIDENTIAL	BEDROOM	18.2	95.5	22.2	13.4	76.7
F05	R5	RESIDENTIAL	LKD	23.8	95.4	18.2	18.3	80.9
F05	R6	RESIDENTIAL	LKD	28.0	72.9	19.6	14.9	73.1
F05	R7	RESIDENTIAL	BEDROOM	10.7	100	12.5	9.4	87.5
F05	R8	RESIDENTIAL	BEDROOM	13.6	93.5	43.8	6.7	53.1
F05	R9	RESIDENTIAL	BEDROOM	12.8	75.1	44.4	3.9	40.8
F05	R10	RESIDENTIAL	LKD	32.0	91.8	73.8	5.8	19.7
F05	R11	RESIDENTIAL	BEDROOM	18.5	74	42.5	5.8	42.5
F05	R12	RESIDENTIAL	LKD	19.4	96.9	92.9	0.8	4.1

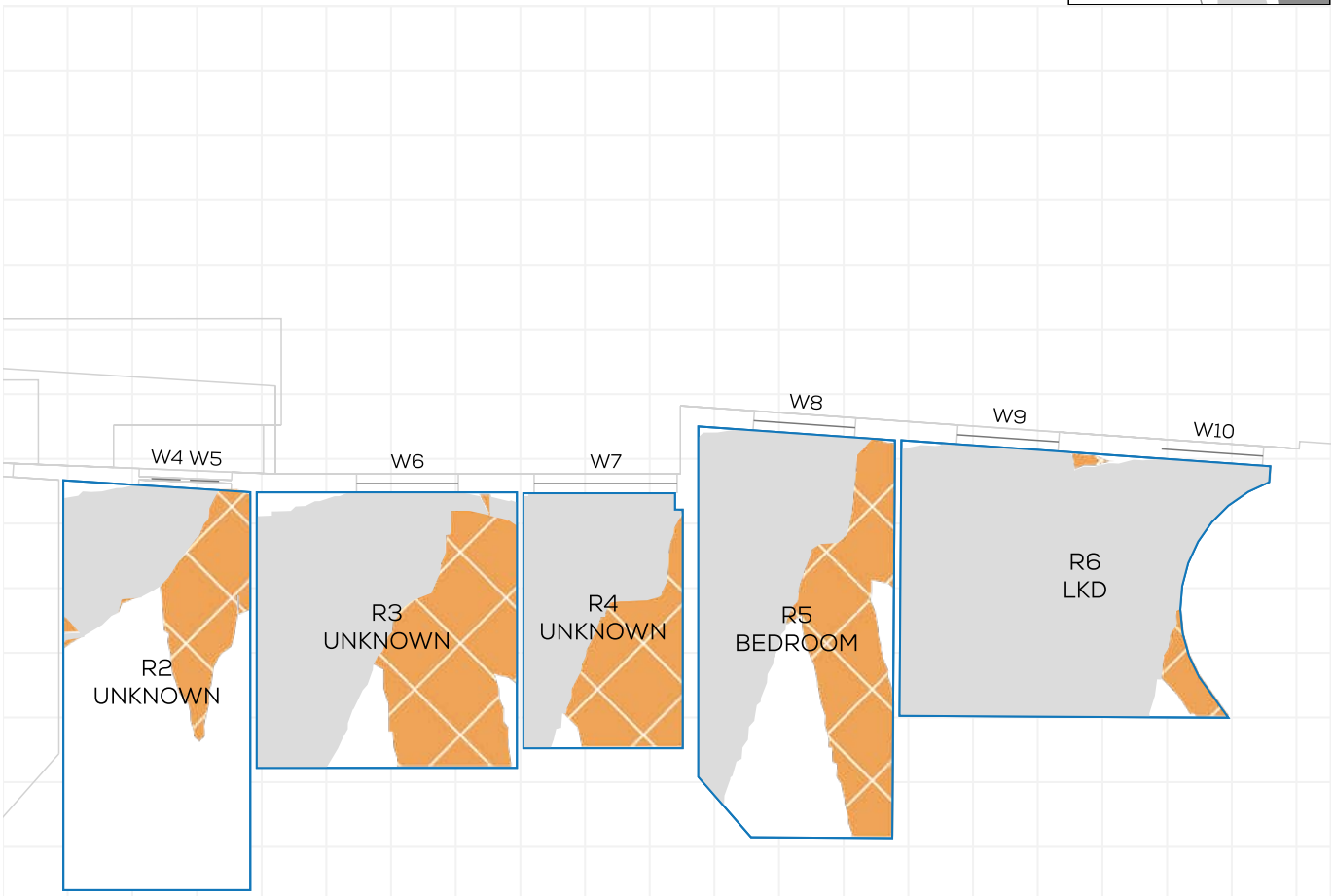
NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	ROPEWORKS BLOCK A
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL187
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F06

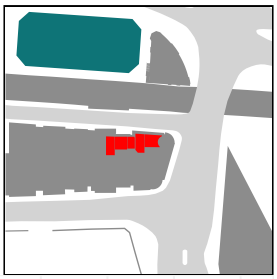
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
ROPEWORKS BLOCK A								
F06	R2	RESIDENTIAL	UNKNOWN	18.1	37.7	20.2	3.2	46.4
F06	R3	RESIDENTIAL	UNKNOWN	17.1	91	53.6	6.4	41.1
F06	R4	RESIDENTIAL	UNKNOWN	9.7	98.4	59.3	3.8	39.7
F06	R5	RESIDENTIAL	BEDROOM	18.5	76.9	45.6	5.8	40.7
F06	R6	RESIDENTIAL	LKD	19.4	98.2	94.4	0.7	3.8

NSL CONTOURS

PROJECT:	20231 - 10-12 WHITWORTH STREET, MA
REPORT TITLE:	EXISTING (EX) VS. FUTURE BASELINE (FB)
ADDRESS:	ROPEWORKS BLOCK A
DATE:	06/03/2026
DRAWING No.:	20231-REL05-IS02-NSL188
SCHEME IR:	IR17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F07

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EX	FB	LOSS-sqm	LOSS %
ROPEWORKS BLOCK A								
F07	R2	RESIDENTIAL	UNKNOWN	18.0	79.9	40.5	7.1	49.4
F07	R3	RESIDENTIAL	UNKNOWN	17.1	90.4	52	6.6	42.5
F07	R4	RESIDENTIAL	UNKNOWN	9.7	97.2	48	4.8	50.6
F07	R5	RESIDENTIAL	BEDROOM	18.5	76.8	45.5	5.8	40.8
F07	R6	RESIDENTIAL	LKD	19.4	98.4	95.1	0.6	3.3

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
HILL QUAYS																	
F00	R1	Residential	Bedroom	W1/F00	9.3	7.5	1.8	19.4	95	94	1.2	3	0	3	0	0	0
	R2	Residential	Kitchen	W2/F00	4.4	3.6	0.8	18.2	88	86	2.8						
				W3/F00	13	12	1.2	9.3									
	R3	Residential	Reception	W4/F00	1.6	1.4	0.2	12.5	N.A.	N.A.	N.A.	1	1	1	1	0	0
				W5/F00	16	14	2.1	13				0	0	0	0	0	0
				W10/F00	0.1	0.1	0	0				0	0	0	0	0	0
F01	R1	Residential	LKD	W1/F01	10	10	0.2	1.9	84	71	15.9	26	1	24	1	7.7	0
				W2/F01	4.4	2.2	2.2	50				0	0	0	0	0	0
				W25/F01	27	24	2.8	10.6				26	0	23	0	11.5	0
	R2	Residential	LKD	W3/F01	31	27	4.1	13.3	86	75	12.5	38	6	34	5	10.5	16.7
				W4/F01	3.5	1.4	2.1	60				1	0	1	0	0	0
	R3	Residential	LKD	W5/F01	3.1	0.7	2.4	77.4	80	21	73.6						
	R4	Residential	LKD	W6/F01	16	14	1.5	9.6	68	68	0.6	27	13	25	11	7.4	15.4
				W7/F01	14	8.4	5.8	40.8				1	0	1	0	0	0
	R5	Residential	Bedroom	W8/F01	10	7.6	2.5	24.8	35	29	17.8	1	0	1	0	0	0
				W9/F01	15	10	4.6	31.3				3	0	3	0	0	0
				W10/F01	4.9	4.9	0	0				0	0	0	0	0	0
	R7	Residential	Bedroom	W12/F01	10	8	2.4	23.1	76	72	5.9	3	0	3	0	0	0
	R8	Residential	LKD	W13/F01	5.4	4.4	1	18.5	88	86	2.4	0	0	0	0	0	0
				W14/F01	12	11	0.7	6				5	0	5	0	0	0
				W15/F01	26	24	1.5	5.8				31	3	28	1	9.7	66.7
				W16/F01	8.3	7.3	1	12				23	2	20	0	13	100
	R9	Residential	LKD	W17/F01	2.6	2.2	0.4	15.4	77	74	3.8	0	0	0	0	0	0
				W18/F01	23	21	2.5	10.7				1	0	1	0	0	0
	R10	Residential	LKD	W19/F01	5.5	4.6	0.9	16.4	68	63	7.3	0	0	0	0	0	0
				W20/F01	26	23	3.2	12.3				0	0	0	0	0	0
	R11	Residential	LKD	W21/F01	7.9	6.5	1.4	17.7	70	66	5.7	0	0	0	0	0	0
				W22/F01	27	23	3.5	13.2				0	0	0	0	0	0
	R12	Residential	LKD	W23/F01	19	16	3.5	18	68	68	0						
	R13	Residential	LKD	W24/F01	14	12	1.7	12.1	82	73	11.4	0	0	0	0	0	0
F02	R1	Residential	LKD	W1/F02	12	12	0.2	1.7	89	73	18.1	29	1	26	1	10.3	0
				W2/F02	28	25	3.2	11.5				30	0	25	0	16.7	0
				W3/F02	4.8	2.3	2.5	52.1				0	0	0	0	0	0
	R2	Residential	LKD	W4/F02	32	27	4.2	13.3	88	76	13.4	39	7	36	6	7.7	14.3
				W5/F02	3.9	1.6	2.3	59				1	0	1	0	0	0
	R3	Residential	LKD	W6/F02	3.6	0.8	2.8	77.8	86	24	72.2						
	R4	Residential	LKD	W7/F02	17	16	1.2	7.1	72	71	0.9	42	14	40	12	4.8	14.3
				W8/F02	30	26	4	13.3				44	13	42	11	4.5	15.4
				W9/F02	16	9.7	6.5	40.1				5	0	5	0	0	0
	R5	Residential	Bedroom	W10/F02	11	8.2	3.1	27.4	44	36	19	1	0	1	0	0	0
				W11/F02	18	12	6.2	33.9				3	0	3	0	0	0
				W12/F02	6.1	6	0.1	1.6				0	0	0	0	0	0
	R7	Residential	Bedroom	W14/F02	12	8.5	3.1	26.7	81	74	9	3	0	3	0	0	0
	R8	Residential	LKD	W15/F02	6.6	5.1	1.5	22.7	91	88	4	0	0	0	0	0	0
				W16/F02	13	12	0.9	7				5	0	5	0	0	0
				W17/F02	27	26	1.6	5.8				31	3	28	1	9.7	66.7
				W18/F02	8.7	7.5	1.2	13.8				23	2	20	0	13	100
	R9	Residential	LKD	W19/F02	3.3	2.8	0.5	15.2	79	75	4.7	0	0	0	0	0	0
				W20/F02	25	22	2.8	11.4				1	0	1	0	0	0

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R10	Residential	LKD	W21/F02	6.4	5.3	1.1	17.2	70	66	6.4	0	0	0	0	0	0
				W22/F02	28	24	3.6	13				1	0	1	0	0	0
	R11	Residential	LKD	W23/F02	8.8	7.3	1.5	17	72	69	4.4	0	0	0	0	0	0
				W24/F02	28	24	3.8	13.6				0	0	0	0	0	0
	R12	Residential	LKD	W25/F02	20	17	3.7	18.3	69	69	0						
	R13	Residential	LKD	W26/F02	15	14	1.9	12.3	87	79	8.3	1	0	1	0	0	0
F03	R1	Residential	LKD	W1/F03	14	14	0.4	2.8	92	76	16.7	33	3	31	3	6.1	0
				W2/F03	30	26	3.7	12.5				35	3	31	3	11.4	0
				W3/F03	4.9	2.4	2.5	51				0	0	0	0	0	0
	R2	Residential	LKD	W4/F03	33	28	4.3	13.2	89	76	13.8	40	8	37	7	7.5	12.5
				W5/F03	4.2	1.7	2.5	59.5				1	0	1	0	0	0
	R3	Residential	LKD	W6/F03	4	0.9	3.1	77.5	87	28	68.2						
	R4	Residential	LKD	W7/F03	18	16	1.2	6.9	75	74	1.8	42	14	40	12	4.8	14.3
				W8/F03	31	27	4.5	14.4				44	13	42	11	4.5	15.4
				W9/F03	19	11	7.7	40.3				6	0	6	0	0	0
	R5	Residential	Bedroom	W10/F03	12	8.7	3.7	29.8	64	46	28	1	0	1	0	0	0
				W11/F03	22	14	7.7	35.2				3	0	3	0	0	0
				W12/F03	7.4	7.3	0.1	1.4				0	0	0	0	0	0
	R7	Residential	Bedroom	W14/F03	13	9	3.7	29.1	85	76	11	4	0	4	0	0	0
	R8	Residential	LKD	W15/F03	7.6	5.8	1.8	23.7	93	90	3.7	0	0	0	0	0	0
				W16/F03	14	13	1.1	7.9				6	0	6	0	0	0
				W17/F03	29	27	1.6	5.6				32	3	29	1	9.4	66.7
				W18/F03	8.9	7.7	1.2	13.5				23	2	20	0	13	100
	R9	Residential	LKD	W19/F03	4.2	3.6	0.6	14.3	80	76	4.7	0	0	0	0	0	0
				W20/F03	26	23	3.1	11.9				1	0	1	0	0	0
	R10	Residential	LKD	W21/F03	7.5	6.2	1.3	17.3	72	67	6.5	0	0	0	0	0	0
				W22/F03	29	25	3.9	13.5				1	0	1	0	0	0
	R11	Residential	LKD	W23/F03	9.8	8.2	1.6	16.3	74	72	2.6	0	0	0	0	0	0
				W24/F03	29	25	4.1	14				0	0	0	0	0	0
	R12	Residential	LKD	W25/F03	21	17	3.9	18.6	69	69	0						
	R13	Residential	LKD	W26/F03	17	15	2	11.8	87	80	7.4	3	0	3	0	0	0
F04	R1	Residential	LKD	W1/F04	16	16	0.6	3.7	93	79	15.9	38	6	35	6	7.9	0
				W2/F04	31	27	4.1	13.1				36	4	32	4	11.1	0
				W3/F04	5.1	2.5	2.6	51				0	0	0	0	0	0
	R2	Residential	LKD	W4/F04	33	29	4.5	13.5	89	77	13.4	42	10	39	9	7.1	10
				W5/F04	4.4	1.7	2.7	61.4				1	0	1	0	0	0
	R3	Residential	LKD	W6/F04	4.7	1	3.7	78.7	87	33	62						
	R4	Residential	LKD	W7/F04	18	17	1.2	6.7	97	79	18.1	42	14	40	12	4.8	14.3
				W8/F04	33	28	5	15.4				45	13	43	11	4.4	15.4
				W9/F04	22	13	9.2	41.4				6	0	6	0	0	0
	R5	Residential	Bedroom	W10/F04	13	9	4.4	32.8	91	59	34.6	2	0	2	0	0	0
				W11/F04	26	16	9.4	36.7				4	0	4	0	0	0
				W12/F04	8.6	8.5	0.1	1.2				0	0	0	0	0	0
	R7	Residential	Bedroom	W14/F04	14	9.3	4.5	32.6	89	79	11.2	4	0	4	0	0	0
	R8	Residential	LKD	W15/F04	8.8	6.5	2.3	26.1	94	91	3.5	0	0	0	0	0	0
				W16/F04	15	14	1.3	8.5				6	0	6	0	0	0
				W17/F04	30	28	1.7	5.7				32	3	29	1	9.4	66.7
				W18/F04	9.1	7.8	1.3	14.3				23	2	20	0	13	100
	R9	Residential	LKD	W19/F04	5.5	4.8	0.7	12.7	81	78	3.8	0	0	0	0	0	0
				W20/F04	28	24	3.5	12.7				1	0	1	0	0	0
	R10	Residential	LKD	W21/F04	8.7	7.3	1.4	16.1	74	70	5.8	0	0	0	0	0	0

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W22/F04	30	26	4.2	13.9				1	0	1	0	0	0
	R11	Residential	LKD	W23/F04	11	9.1	1.7	15.7	79	77	2.5	0	0	0	0	0	0
				W24/F04	30	26	4.2	13.9				1	0	1	0	0	0
	R12	Residential	LKD	W25/F04	22	18	4	18.3	69	69	0						
	R13	Residential	LKD	W26/F04	19	17	2	10.6	87	80	7.5	3	0	3	0	0	0
F05	R1	Residential	LKD	W1/F05	19	18	0.7	3.7	96	80	16	42	9	40	9	4.8	0
				W2/F05	33	28	4.5	13.8				41	8	36	7	12.2	12.5
				W3/F05	5.4	2.7	2.7	50				0	0	0	0	0	0
	R2	Residential	LKD	W4/F05	34	30	4.4	12.9	89	79	11.3	43	10	40	9	7	10
				W5/F05	5.7	2.1	3.6	63.2				1	0	1	0	0	0
	R3	Residential	LKD	W6/F05	5.8	1.2	4.6	79.3	89	39	56.4						
	R4	Residential	LKD	W7/F05	19	17	1.2	6.5	99	90	9	43	14	41	12	4.7	14.3
				W8/F05	33	28	5.3	15.9				45	13	43	11	4.4	15.4
				W9/F05	24	14	10.4	42.8				7	0	7	0	0	0
	R5	Residential	Bedroom	W10/F05	14	9.2	4.8	34.3	93	60	35.2	2	0	2	0	0	0
				W11/F05	28	18	10.9	38.4				5	0	5	0	0	0
				W12/F05	9.7	9.6	0.1	1				0	0	0	0	0	0
	R7	Residential	Bedroom	W14/F05	14	9.4	5	34.7	89	79	11.2	5	0	5	0	0	0
	R8	Residential	LKD	W15/F05	9.8	7	2.8	28.6	96	93	3.3	0	0	0	0	0	0
				W16/F05	17	15	1.6	9.6				6	0	6	0	0	0
				W17/F05	31	29	1.7	5.5				33	3	30	1	9.1	66.7
				W18/F05	9.3	8.1	1.2	12.9				23	2	20	0	13	100
	R9	Residential	LKD	W19/F05	7.4	6.4	1	13.5	82	80	2.5	0	0	0	0	0	0
				W20/F05	29	25	4.1	14				1	0	1	0	0	0
	R10	Residential	LKD	W21/F05	10	8.6	1.6	15.7	79	76	3.8	0	0	0	0	0	0
				W22/F05	32	27	4.4	14				1	0	1	0	0	0
	R11	Residential	LKD	W23/F05	12	10	1.8	15	83	83	0	0	0	0	0	0	0
				W24/F05	31	27	4.3	13.7				2	0	2	0	0	0
	R12	Residential	LKD	W25/F05	23	19	4.1	18.1	69	69	0						
	R13	Residential	LKD	W26/F05	21	19	2	9.5	87	80	7.5	7	0	7	0	0	0
F06	R1	Residential	LKD	W1/F06	21	20	0.9	4.4	96	82	15	46	12	43	11	6.5	8.3
				W2/F06	34	29	4.8	14.1				43	10	37	8	14	20
				W3/F06	6.8	3.1	3.7	54.4				0	0	0	0	0	0
	R2	Residential	LKD	W4/F06	35	30	4.4	12.6	93	85	8.9	45	11	43	10	4.4	9.1
				W5/F06	7.1	2.5	4.6	64.8				1	0	1	0	0	0
	R3	Residential	LKD	W6/F06	6.9	1.7	5.2	75.4	92	50	45.3						
	R4	Residential	LKD	W7/F06	19	18	1.1	5.7	100	91	8.5	44	15	42	13	4.5	13.3
				W8/F06	34	28	5.3	15.8				47	14	45	12	4.3	14.3
				W9/F06	25	14	10.7	43.5				0	0	0	0	0	0
	R5	Residential	Bedroom	W10/F06	14	8.7	5	36.5	93	60	35.2	2	0	2	0	0	0
				W11/F06	30	18	11.5	38.7				5	0	5	0	0	0
				W12/F06	11	11	0.1	0.9				0	0	0	0	0	0
	R7	Residential	Bedroom	W14/F06	14	9.3	5.1	35.4	90	80	11.1	8	0	7	0	12.5	0
	R8	Residential	LKD	W15/F06	10	7.4	3	28.8	96	93	3.2	0	0	0	0	0	0
				W16/F06	18	16	1.7	9.7				0	0	0	0	0	0
				W17/F06	32	30	1.7	5.4				33	3	30	1	9.1	66.7
				W18/F06	10	9	1.2	11.8				24	2	21	0	12.5	100
	R9	Residential	LKD	W19/F06	9.7	8.4	1.3	13.4	84	81	2.7	0	0	0	0	0	0
				W20/F06	31	27	4.5	14.5				1	0	1	0	0	0
	R10	Residential	LKD	W21/F06	12	10	1.7	14.3	85	85	0	0	0	0	0	0	0
				W22/F06	33	28	4.5	13.8				0	0	0	0	0	0

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R11	Residential	LKD	W23/F06	13	11	1.9	14.3	88	88	0	1	0	1	0	0	0
				W24/F06	33	28	4.4	13.5				4	0	4	0	0	0
	R12	Residential	LKD	W25/F06	24	19	4.2	17.9	69	69	0						
	R13	Residential	LKD	W26/F06	24	22	2.3	9.4	87	80	7.4	12	0	12	0	0	0
F07	R1	Residential	LKD	W1/F07	22	21	1	4.5	96	82	14.8	47	13	44	12	6.4	7.7
				W2/F07	35	30	4.9	14				45	11	38	9	15.6	18.2
				W3/F07	8.1	3.8	4.3	53.1				0	0	0	0	0	0
	R2	Residential	LKD	W5/F07	35	31	4.3	12.1	100	99	1	45	11	44	10	2.2	9.1
				W6/F07	8.6	3.1	5.5	64				1	0	1	0	0	0
				W100/F07	32	29	3.4	10.6				29	4	28	3	3.4	25
	R3	Residential	LKD	W7/F07	35	31	4.3	12.2	100	100	0	45	13	43	11	4.4	15.4
				W8/F07	9.9	4.1	5.8	58.6				1	0	1	0	0	0
	R4	Residential	Bedroom	W9/F07	20	19	1.2	5.9	100	100	0	45	16	43	14	4.4	12.5
				W10/F07	26	22	4.2	15.9				35	13	33	11	5.7	15.4
				W11/F07	20	10	9.6	48				9	0	9	0	0	0
	R5	Residential	Bedroom	W12/F07	11	6.2	5	44.6	92	61	33.5	2	0	2	0	0	0
				W13/F07	28	16	11.6	41.7				4	0	4	0	0	0
				W14/F07	11	11	0.1	0.9				0	0	0	0	0	0
	R7	Residential	Bedroom	W16/F07	14	8.5	5.2	38	92	88	4.7	9	1	8	1	11.1	0
	R8	Residential	LKD	W17/F07	12	11	1.1	9	93	92	1.2						
	R9	Residential	LKD	W18/F07	0.1	0	0.1	100	90	90	0.2	0	0	0	0	0	0
				W19/F07	2.8	1.9	0.9	32.1				0	0	0	0	0	0
	R10	Residential	LKD	W20/F07	3.2	2.1	1.1	34.4	90	90	0						
	R11	Residential	LKD	W21/F07	3.2	2.2	1	31.3	89	89	0						
	R12	Residential	LKD	W22/F07	25	20	4.2	17.1	70	70	0						
	R13	Residential	LKD	W23/F07	29	27	2.6	8.9	87	80	7.4	27	0	27	0	0	0
F08	R1	Residential	LKD	W1/F08	24	23	0.9	3.7	96	83	13.4	49	13	46	12	6.1	7.7
				W2/F08	36	31	4.7	13.1				47	12	40	10	14.9	16.7
				W3/F08	10	5.6	4.7	45.6				1	0	1	0	0	0
	R2	Residential	LKD	W5/F08	36	32	4.2	11.7	96	87	9.9	46	11	45	10	2.2	9.1
				W6/F08	11	4.7	5.8	55.2				1	0	1	0	0	0
				W100/F08	33	30	3.3	9.9				32	4	31	3	3.1	25
	R3	Residential	Unknown	W8/F08	34	26	7.7	22.9	N.A.	N.A.	N.A.	13	0	13	0	0	0
				W15/F08	34	30	3.5	10.4				41	6	40	5	2.4	16.7
	R4	Residential	Unknown	W9/F08	33	28	5.2	15.6	N.A.	N.A.	N.A.	38	6	37	5	2.6	16.7
				W10/F08	32	20	11.9	37.2				14	0	14	0	0	0
	R5	Residential	Bedroom	W11/F08	33	26	7.1	21.7	99	98	1.6						
				W13/F08	29	28	1.4	4.8									
	R6**	Residential	Bedroom	W12/F08	33	26	7.4	22.3	100	77	22.8						
	R7	Residential	LKD	W14/F08	33	29	3.3	10.1	87	81	7.2	34	2	33	2	2.9	0
F09	R1	Residential	LKD	W2/F09	35	32	3.3	9.5	87	80	7.3	39	7	38	7	2.6	0

RIVERSIDE MEWS																	
F00	R1	Residential	LKD	W1/F00	9.5	8.6	0.9	9.5	100	100	0	17	0	16	0	5.9	0
				W2/F00	11	9.5	1	9.5				16	0	15	0	6.2	0
				W3/F00	28	23	4.5	16.3				19	1	19	1	0	0
				W4/F00	28	23	4.5	16.3				19	1	19	1	0	0
				W5/F00	28	23	4.4	16				19	1	19	1	0	0
				W6/F00	28	23	4.4	16				19	1	19	1	0	0
	R2	Residential	Unknown	W7/F00	24	20	3.4	14.3	N.A.	N.A.	N.A.						
	R3	Residential	Unknown	W8/F00	23	21	2.6	11.2	N.A.	N.A.	N.A.						

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R4	Residential	Unknown	W9/F00	12	12	0.1	0.8	N.A.	N.A.	N.A.						
	R5	Residential	Unknown	W10/F00	7.2	7.1	0.1	1.4	N.A.	N.A.	N.A.						
	R6	Residential	Unknown	W11/F00	4.1	4.1	0	0	N.A.	N.A.	N.A.						
	R7	Residential	Unknown	W12/F00	2.5	2.5	0	0	N.A.	N.A.	N.A.						
	R8	Residential	Unknown	W13/F00	1.7	1.7	0	0	N.A.	N.A.	N.A.						
F01	R1	Residential	Bedroom	W1/F01	14	11	3	21.1	100	100	0	22	1	18	0	18.2	100
				W2/F01	29	24	5	17.3				20	3	19	2	5	33.3
				W3/F01	29	24	5	17.3				20	2	19	1	5	50
	R2	Residential	Bedroom	W4/F01	29	24	4.9	17	99	99	0						
	R3	Residential	Bedroom	W5/F01	29	24	4.9	17	99	99	0						
				W6/F01	29	24	4.9	17									
	R4	Residential	Bedroom	W7/F01	28	24	4.4	15.8	91	90	1.8						
				W8/F01	23	22	1	4.3									
	R5	Residential	Bedroom	W9/F01	22	21	1	4.5	100	100	0						
	R6	Residential	LKD	W10/F01	21	20	0.9	4.3	88	87	1.2						
				W11/F01	20	19	0.8	4.1									
	R7	Residential	Unknown	W12/F01	26	22	4	15.4	N.A.	N.A.	N.A.						
	R8	Residential	Unknown	W13/F01	28	24	4	14.5	N.A.	N.A.	N.A.						
				W14/F01	27	23	4	14.8									
	R9**	Residential	Unknown	W15/F01	26	23	3.7	14.1	N.A.	N.A.	N.A.						
				W16/F01	26	22	3.4	13.3									
	R10	Residential	Unknown	W17/F01	24	21	3.2	13.3	N.A.	N.A.	N.A.						
	R11	Residential	Unknown	W18/F01	22	19	3.3	14.7	N.A.	N.A.	N.A.						
	R12	Residential	Unknown	W19/F01	16	15	1	6.1	N.A.	N.A.	N.A.						
	R13	Residential	Unknown	W20/F01	8.9	8.8	0.1	1.1	N.A.	N.A.	N.A.						
	R14	Residential	Unknown	W21/F01	4.8	4.7	0.1	2.1	N.A.	N.A.	N.A.						
	R15	Residential	Unknown	W22/F01	2.9	2.9	0	0	N.A.	N.A.	N.A.						
	R16	Residential	Unknown	W23/F01	2	2	0	0	N.A.	N.A.	N.A.						
F02	R1	Residential	Unknown	W1/F02	30	25	4.4	14.9	N.A.	N.A.	N.A.						
	R2	Residential	Unknown	W2/F02	29	25	4.5	15.4	N.A.	N.A.	N.A.						
	R3	Residential	Unknown	W3/F02	29	24	4.5	15.7	N.A.	N.A.	N.A.						
	R4	Residential	Unknown	W4/F02	26	22	4.3	16.3	N.A.	N.A.	N.A.						
	R5	Residential	Unknown	W5/F02	19	17	1.5	7.9	N.A.	N.A.	N.A.						
	R6	Residential	Unknown	W6/F02	10	10	0.2	2	N.A.	N.A.	N.A.						
	R7	Residential	Unknown	W7/F02	5.8	5.6	0.2	3.4	N.A.	N.A.	N.A.						
	R8	Residential	Unknown	W8/F02	3.8	3.8	0	0	N.A.	N.A.	N.A.						
	R9	Residential	Unknown	W9/F02	2.8	2.8	0	0	N.A.	N.A.	N.A.						
THE RHINE																	
B01	R1	Residential	Unknown	W1/B01	27	23	3.6	13.5	N.A.	N.A.	N.A.						
	R2	Residential	Unknown	W2/B01	26	23	3.4	13	N.A.	N.A.	N.A.						
	R3	Residential	Unknown	W3/B01	24	21	3	12.5	N.A.	N.A.	N.A.						
	R4	Residential	Unknown	W4/B01	23	20	3	12.9	N.A.	N.A.	N.A.						
	R5	Residential	Unknown	W5/B01	22	19	2.9	13.3	N.A.	N.A.	N.A.						
	R6	Residential	Unknown	W6/B01	20	17	2.9	14.3	N.A.	N.A.	N.A.						
F00	R1	Residential	LKD	W1/F00	27	23	3.5	13	95	95	0	3	0	3	0	0	0
				W2/F00	5.3	4.9	0.4	7.5				1	0	0	0	100	0
	R2	Residential	Bedroom	W3/F00	9	6.5	2.5	27.8	82	74	9.7						
	R3	Residential	LKD	W4/F00	25	22	3.2	12.9	73	70	4.7	1	0	0	0	100	0
				W5/F00	5	4.6	0.4	8				1	0	0	0	100	0
	R4	Residential	Bedroom	W6/F00	6.6	4.9	1.7	25.8	73	63	13.5						

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R5	Residential	Bedroom	W7/F00	21	18	3	14.1	89	86	4.1						
	R6	Residential	Bedroom	W8/F00	22	19	2.9	13.5	75	75	0.4						
	R7	Residential	Bedroom	W9/F00	7.7	5.2	2.5	32.5	58	57	1.5						
	R8	Residential	LKD	W10/F00	10	8.3	1.8	17.8	88	84	4						
				W11/F00	22	19	3	14									
F01	R1	Residential	LKD	W1/F01	28	24	3.6	12.9	100	100	0	6	0	3	0	50	0
				W2/F01	5.9	5.5	0.4	6.8				2	0	1	0	50	0
	R2	Residential	Bedroom	W3/F01	9.9	7.3	2.6	26.3	90	82	8.7						
	R3	Residential	LKD	W4/F01	26	23	3.1	11.9	80	79	1.7	1	0	0	0	100	0
				W5/F01	5.6	5.2	0.4	7.1				1	0	0	0	100	0
	R4	Residential	Bedroom	W6/F01	8.8	7	1.8	20.5	80	70	12.3						
	R5	Residential	Bedroom	W7/F01	23	20	3.1	13.7	91	87	3.9						
	R6	Residential	Bedroom	W8/F01	23	20	3	13.2	78	78	0.5						
	R7	Residential	LKD	W9/F01	11	8.8	1.9	17.8	93	91	1.5						
				W11/F01	23	20	3	13.1									
	R8	Residential	Bedroom	W10/F01	10	7.2	2.8	28	65	64	1.2						
F02	R1	Residential	LKD	W1/F02	29	25	3.7	12.8	100	100	0	6	0	3	0	50	0
				W2/F02	6.6	6.1	0.5	7.6				4	0	2	0	50	0
	R2	Residential	Bedroom	W3/F02	11	8.2	2.7	24.8	94	86	8.4						
	R3	Residential	LKD	W4/F02	27	24	3.2	11.8	85	85	0.6	1	0	0	0	100	0
				W5/F02	6.2	5.8	0.4	6.5				2	0	1	0	50	0
	R4	Residential	Bedroom	W6/F02	9.9	8	1.9	19.2	88	78	10.9						
	R5	Residential	Bedroom	W7/F02	24	21	3.1	13	94	91	3.6						
	R6	Residential	Bedroom	W8/F02	24	21	3	12.6	85	84	0.4						
	R7	Residential	LKD	W9/F02	11	9.1	1.9	17.3	95	95	0						
				W11/F02	25	21	3.1	12.7									
	R8	Residential	Bedroom	W10/F02	11	8.3	2.8	25.2	73	72	1						
F03	R1	Residential	LKD	W1/F03	30	26	3.7	12.3	100	100	0	7	0	4	0	42.9	0
				W2/F03	7.2	6.7	0.5	6.9				5	0	2	0	60	0
	R2	Residential	Bedroom	W3/F03	12	9.2	2.7	22.7	95	87	8.2						
	R3	Residential	LKD	W4/F03	28	25	3.2	11.3	92	92	0.3	4	0	2	0	50	0
				W5/F03	6.9	6.5	0.4	5.8				4	0	2	0	50	0
	R4	Residential	Bedroom	W6/F03	11	9.1	1.9	17.3	93	84	10.1						
	R5	Residential	Bedroom	W7/F03	25	22	3	12.1	98	94	3.5						
	R6	Residential	Bedroom	W8/F03	25	22	3	12	94	94	0.3						
	R7	Residential	LKD	W9/F03	11	9.4	1.8	16.1	98	98	0						
				W11/F03	26	23	3.1	11.9									
	R8	Residential	Bedroom	W10/F03	12	9.4	2.8	23	86	85	0.9						
F04	R1	Residential	LKD	W1/F04	31	27	3.7	11.9	100	100	0	7	0	4	0	42.9	0
				W2/F04	7.9	7.3	0.6	7.6				5	0	2	0	60	0
	R2	Residential	Bedroom	W3/F04	13	10	2.7	21.1	95	88	7.8						
	R3	Residential	LKD	W4/F04	30	26	3.3	11.1	98	98	0.3	4	0	2	0	50	0
				W5/F04	7.6	7.2	0.4	5.3				4	0	2	0	50	0
	R4	Residential	Bedroom	W6/F04	12	10	1.8	15	94	85	9.6						
	R5	Residential	Bedroom	W7/F04	25	22	3	12	98	95	3.4						
	R6	Residential	Bedroom	W8/F04	25	22	3	11.9	98	98	0.3						
	R7	Residential	LKD	W9/F04	12	9.7	1.9	16.4	100	100	0						
				W11/F04	28	25	3.1	11.2									
	R8	Residential	Bedroom	W10/F04	13	10	2.9	21.8	93	92	0.8						
F05	R1	Residential	LKD	W1/F05	32	28	3.7	11.6	100	100	0.1	8	0	5	0	37.5	0
				W2/F05	8.5	7.9	0.6	7.1				5	0	2	0	60	0

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R2	Residential	Bedroom	W3/F05	14	11	2.7	19.9	95	88	7.7						
	R3	Residential	LKD	W4/F05	31	28	3.2	10.4	98	98	0.3	4	0	2	0	50	0
				W5/F05	7.3	7.1	0.2	2.7				3	0	2	0	33.3	0
	R4	Residential	Bedroom	W6/F05	10	8.4	1.6	16	93	84	10.3						
	R5	Residential	Bedroom	W7/F05	12	9.6	2.7	22	98	95	3.4						
	R6	Residential	Bedroom	W8/F05	12	9.4	2.7	22.3	98	97	0.4						
	R7	Residential	LKD	W9/F05	11	8.6	1.9	18.1	100	100	0						
				W11/F05	30	26	3.1	10.5									
	R8	Residential	Bedroom	W10/F05	10	7.9	2.5	24	95	94	0.8						
F06	R1	Residential	LKD	W1/F06	33	29	3.7	11.3	100	100	0.1	8	0	5	0	37.5	0
				W2/F06	13	13	0.7	5.3				9	0	5	0	44.4	0
	R2	Residential	Bedroom	W3/F06	25	23	2.7	10.6	97	91	6.2						
	R3	Residential	LKD	W4/F06	32	29	3.2	10	98	98	0.3	5	0	3	0	40	0
				W5/F06	9.5	9.2	0.3	3.2				3	0	2	0	33.3	0
	R4	Residential	Bedroom	W6/F06	20	19	1.7	8.3	95	87	8.1						
	R5	Residential	Bedroom	W7/F06	25	22	3.1	12.3	98	95	3.3						
	R6	Residential	Bedroom	W8/F06	25	22	3.1	12.3	98	98	0.6						
	R7	Residential	LKD	W9/F06	13	11	1.9	15.1	100	100	0						
				W11/F06	31	28	3	9.7									
	R8	Residential	Bedroom	W10/F06	22	19	2.9	13.5	96	96	0.4						

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B01	R1	Residential	Unknown	W1/B01	18	16	1.9	10.4	N.A.	N.A.	N.A.						
	R2	Residential	Unknown	W2/B01	20	18	1.9	9.5	N.A.	N.A.	N.A.						
	R3	Residential	Unknown	W3/B01	22	20	2	9.3	N.A.	N.A.	N.A.						
				W4/B01	23	21	2.1	9.3									
	R4	Residential	Unknown	W5/B01	24	21	2.4	10.1	N.A.	N.A.	N.A.						
	R5	Residential	Unknown	W6/B01	24	22	2.4	9.9	N.A.	N.A.	N.A.						
	R6	Residential	Unknown	W7/B01	25	22	2.7	10.8	N.A.	N.A.	N.A.						
F00	R1	Residential	LKD	W1/F00	30	8.2	21.6	72.5	100	99	1.4	49	13	9	1	81.6	92.3
				W2/F00	30	7.7	22.3	74.3				50	13	11	2	78	84.6
				W3/F00	28	22	5.3	19.1				9	0	1	0	88.9	0
				W4/F00	17	13	3.6	21.6				0	0	0	0	0	0
	R3**	Residential	LKD	W8/F00	25	23	2.6	10.3	81	81	0						
	R4	Residential	Bedroom	W9/F00	7.8	7.6	0.2	2.6	86	85	0.6						
	R5	Residential	Bedroom	W10/F00	21	20	1.2	5.7	97	96	2						
	R6	Residential	Bedroom	W11/F00	21	19	2	9.5	92	91	0.5						
	R7	Residential	Bedroom	W12/F00	8.7	7.1	1.6	18.4	78	77	1.4						
	R8	Residential	LKD	W13/F00	7.3	4.7	2.6	35.6	98	98	0						
				W14/F00	20	18	1.9	9.4									
	R9	Residential	Unknown	W15/F00	17	15	2.1	12.2	N.A.	N.A.	N.A.						
	R10	Residential	Bedroom	W16/F00	12	10	1.8	15.1	39	38	1.4						
	R11	Residential	LKD	W17/F00	5.7	3.3	2.4	42.1	52	42	19.4						
				W19/F00	11	11	0.8	7.1									
	R12	Residential	Bedroom	W18/F00	2.3	0.9	1.4	60.9	36	27	25.7						
	R13	Residential	Bedroom	W20/F00	3	2.9	0.1	3.3	17	17	1.4						
	R14	Residential	Bedroom	W21/F00	8.5	8.4	0.1	1.2	26	26	0.2						
	R15	Residential	Bedroom	W22/F00	11	11	0	0	25	25	0						
F01	R1	Residential	LKD	W1/F01	31	8.6	22	71.9	100	99	1.4	50	13	10	1	80	92.3
				W2/F01	31	8	22.8	74				53	15	13	3	75.5	80
				W3/F01	28	23	5.5	19.4				5	0	1	0	80	0

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W4/F01	19	15	4	21.4				8	0	8	0	0	0
	R3	Residential	LKD	W8/F01	26	23	2.6	10	90	90	0	12	0	10	0	16.7	0
				W9/F01	4.2	4.1	0.1	2.4				6	0	5	0	16.7	0
	R4	Residential	Bedroom	W10/F01	8.4	8.2	0.2	2.4	86	86	0.5						
	R5	Residential	Bedroom	W11/F01	22	21	1.3	5.9	97	96	1.9						
	R6	Residential	Bedroom	W12/F01	22	20	2.1	9.5	93	93	0.5						
	R7	Residential	LKD	W13/F01	9.8	6.6	3.2	32.7	99	99	0						
				W15/F01	21	19	2	9.4									
	R8	Residential	Bedroom	W14/F01	9.3	7.6	1.7	18.3	79	78	1.4						
	R9	Residential	Unknown	W16/F01	18	16	2.1	11.5	N.A.	N.A.	N.A.						
	R10	Residential	Bedroom	W17/F01	13	11	1.8	13.6	43	41	5.5						
	R11	Residential	LKD	W18/F01	6.2	3.7	2.5	40.3	56	48	13.3	0	0	0	0	0	0
				W20/F01	13	12	0.9	6.9				3	0	3	0	0	0
				W21/F01	2.1	2	0.1	4.8				2	0	2	0	0	0
	R12	Residential	Bedroom	W19/F01	2.6	1.2	1.4	53.8	43	35	18.5						
	R13	Residential	Bedroom	W22/F01	4.2	4.1	0.1	2.4	23	23	0.7						
	R14	Residential	Bedroom	W23/F01	9.5	9.4	0.1	1.1	32	32	0						
	R15	Residential	Bedroom	W24/F01	13	13	0.1	0.8	32	32	0						
F02	R1	Residential	LKD	W1/F02	32	8.4	23.2	73.4	100	99	1.3	54	16	14	3	74.1	81.2
				W2/F02	31	9	22.4	71.3				50	13	11	1	78	92.3
				W3/F02	29	23	5.7	19.6				10	0	2	0	80	0
				W4/F02	19	15	4.1	21.1				8	0	8	0	0	0
	R3	Residential	LKD	W8/F02	27	24	2.7	10	96	96	0	12	0	11	0	8.3	0
				W9/F02	4.7	4.5	0.2	4.3				7	0	7	0	0	0
	R4	Residential	Bedroom	W10/F02	9	8.8	0.2	2.2	87	87	0.4						
	R5	Residential	Bedroom	W11/F02	23	22	1.3	5.7	97	96	1.8						
	R6	Residential	Bedroom	W12/F02	23	21	2.1	9.1	94	94	0.4						
	R7	Residential	LKD	W13/F02	10	6.8	3.3	32.7	100	100	0						
				W15/F02	23	21	1.9	8.4									
	R8	Residential	Bedroom	W14/F02	9.9	8.2	1.7	17.2	80	79	1.4						
	R9	Residential	Unknown	W16/F02	20	18	2.1	10.7	N.A.	N.A.	N.A.						
	R10	Residential	LKD	W17/F02	18	16	2	11.4	74	73	0.4	6	0	6	0	0	0
				W18/F02	2.8	2.8	0	0				3	0	3	0	0	0
	R11	Residential	Bedroom	W19/F02	1.8	1.7	0.1	5.6	48	47	1.3						
	R12	Residential	Bedroom	W20/F02	14	13	1.2	8.8	55	54	2.3						
	R13	Residential	Bedroom	W21/F02	15	13	1.8	12.1	48	48	0.6						
	R14	Residential	LKD	W22/F02	6.8	4.3	2.5	36.8	61	55	10.3	0	0	0	0	0	0
				W24/F02	15	14	0.8	5.3				6	0	6	0	0	0
				W25/F02	2.3	2.3	0	0				3	0	3	0	0	0
	R15	Residential	Bedroom	W23/F02	3.3	1.8	1.5	45.5	51	44	12.8						
	R16	Residential	Bedroom	W26/F02	5.6	5.5	0.1	1.8	33	33	0						
	R17	Residential	Bedroom	W27/F02	11	11	0.1	0.9	41	41	0						
	R18	Residential	Bedroom	W28/F02	15	14	0.3	2.1	43	42	3.5						
F03	R1	Residential	LKD	W1/F03	32	9.4	22.8	70.8	100	99	1.3	50	13	11	1	78	92.3
				W2/F03	32	8.8	23.5	72.8				56	16	15	3	73.2	81.2
				W3/F03	30	24	5.7	19.2				11	0	9	0	72.7	0
				W4/F03	20	16	4.3	21.4				9	0	9	0	0	0
	R3	Residential	LKD	W8/F03	28	25	2.8	10.1	100	100	0	14	0	13	0	7.1	0
				W9/F03	5.1	4.9	0.2	3.9				9	0	8	0	11.1	0
	R4	Residential	Bedroom	W10/F03	9.8	9.5	0.3	3.1	88	88	0.6						
	R5	Residential	Bedroom	W11/F03	24	22	1.4	5.9	97	96	1.6						

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R6	Residential	Bedroom	W12/F03	24	22	2.2	9.1	96	96	0.4						
	R7	Residential	LKD	W13/F03	10	7	3.3	32	100	100	0						
				W15/F03	25	23	2	8.2									
	R8	Residential	Bedroom	W14/F03	11	9.1	1.7	15.7	82	81	1.3						
	R9	Residential	Unknown	W16/F03	22	19	2.2	10.2	N.A.	N.A.	N.A.						
	R10	Residential	LKD	W17/F03	20	18	2	10.2	75	75	0.3	7	0	7	0	0	0
				W18/F03	3.4	3.4	0	0				5	1	5	1	0	0
	R11	Residential	Bedroom	W19/F03	2.6	2.4	0.2	7.7	55	52	5.2						
	R12	Residential	Bedroom	W20/F03	16	14	1.2	7.7	61	60	0.9						
	R13	Residential	Bedroom	W21/F03	17	15	1.9	11.3	58	58	0						
	R14	Residential	LKD	W22/F03	7.6	5.1	2.5	32.9	69	65	6	0	0	0	0	0	0
				W24/F03	18	17	0.9	5.1				8	0	8	0	0	0
				W25/F03	2.6	2.5	0.1	3.8				4	0	4	0	0	0
	R15	Residential	Bedroom	W23/F03	4.5	3	1.5	33.3	65	59	9.1						
	R16	Residential	Bedroom	W26/F03	7.3	7.2	0.1	1.4	51	51	0						
	R17	Residential	Bedroom	W27/F03	12	12	0.1	0.8	57	57	0						
	R18	Residential	Bedroom	W28/F03	17	16	0.5	3	62	59	5						
F04	R1	Residential	LKD	W1/F04	33	9.9	23	69.9	100	99	1.2	52	13	11	1	78.8	92.3
				W2/F04	33	9.2	23.8	72.1				56	16	14	3	75	81.2
				W3/F04	30	25	5.9	19.4				12	0	3	0	75	0
				W4/F04	21	16	4.3	20.8				10	0	10	0	0	0
	R3	Residential	LKD	W8/F04	29	26	2.9	10.1	100	100	0	15	0	15	0	0	0
				W9/F04	5.5	5.3	0.2	3.6				11	1	10	1	9.1	0
	R4	Residential	Bedroom	W10/F04	24	22	2	8.2	98	96	1.5						
	R5	Residential	Bedroom	W11/F04	11	10	0.4	3.8	88	88	0.5						
	R6	Residential	Bedroom	W12/F04	25	22	2.3	9.4	98	98	0.4						
	R7	Residential	LKD	W13/F04	11	7.2	3.4	32.1	100	100	0						
				W15/F04	27	25	2	7.5									
	R8	Residential	Bedroom	W14/F04	12	9.8	1.8	15.5	88	87	1.2						
	R9	Residential	Unknown	W16/F04	24	22	2.2	9.2	N.A.	N.A.	N.A.						
	R10	Residential	LKD	W17/F04	22	20	2.1	9.5	78	77	1	8	0	8	0	0	0
				W18/F04	4	3.9	0.1	2.5				4	0	4	0	0	0
	R11	Residential	Bedroom	W19/F04	4.6	4.4	0.2	4.3	71	71	0.3						
	R12	Residential	Bedroom	W20/F04	17	16	1.2	7.1	71	70	0.8						
	R13	Residential	Bedroom	W21/F04	18	16	1.8	9.9	78	78	0						
	R14	Residential	LKD	W22/F04	8.7	6	2.7	31	77	76	1	0	0	0	0	0	0
				W24/F04	21	19	1.2	5.8				8	0	8	0	0	0
				W25/F04	2.8	2.8	0	0				5	0	5	0	0	0
	R15	Residential	Bedroom	W23/F04	6.9	5.3	1.6	23.2	86	85	1.2						
	R16	Residential	Bedroom	W26/F04	9.2	9.1	0.1	1.1	86	86	0						
	R17	Residential	Bedroom	W27/F04	13	13	0.1	0.8	79	79	0						
	R18	Residential	Bedroom	W28/F04	19	19	0.5	2.6	85	82	3.6						
F05	R1	Residential	LKD	W1/F05	34	10	23.2	69.3	100	99	1.1	51	13	11	1	78.4	92.3
				W2/F05	34	9.6	24	71.4				55	16	14	3	74.5	81.2
				W3/F05	31	25	5.9	19				12	0	3	0	75	0
				W4/F05	21	17	4.5	21				10	0	10	0	0	0
	R3	Residential	LKD	W8/F05	29	27	2.9	9.9	100	100	0	17	1	17	1	0	0
				W9/F05	5.3	5	0.3	5.7				12	1	12	1	0	0
	R4	Residential	Bedroom	W10/F05	11	10	0.4	3.7	87	87	0.4						
	R5	Residential	Bedroom	W11/F05	13	11	1.5	11.7	95	92	2.7						
	R6	Residential	Bedroom	W12/F05	17	15	1.9	11	98	96	1.6						

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R7	Residential	LKD	W13/F05	9.9	6.6	3.3	33.3	100	100	0						
				W15/F05	28	26	2.2	7.8									
	R8	Residential	Bedroom	W14/F05	11	10	1.1	9.7	89	86	3.4						
	R9	Residential	Unknown	W16/F05	26	24	2.3	8.7	N.A.	N.A.	N.A.						
	R10	Residential	LKD	W17/F05	25	23	2.2	8.8	88	88	0	9	0	9	0	0	0
				W18/F05	4.4	4.3	0.1	2.3				5	0	5	0	0	0
	R11	Residential	Bedroom	W19/F05	6.9	6.7	0.2	2.9	85	85	0.2						
	R12	Residential	Bedroom	W20/F05	8.6	7.5	1.1	12.8	95	94	1.2						
	R13	Residential	Bedroom	W21/F05	8.7	7.6	1.1	12.6	94	94	0.1						
	R14	Residential	LKD	W22/F05	9	6.1	2.9	32.2	100	100	0	0	0	0	0	0	0
				W24/F05	24	22	1.5	6.3				9	0	9	0	0	0
				W25/F05	3.1	3	0.1	3.2				7	0	6	0	14.3	0
	R15	Residential	Bedroom	W23/F05	8.5	7.6	0.9	10.6	90	90	1						
	R16	Residential	Bedroom	W26/F05	11	11	0.1	0.9	96	96	0						
	R17	Residential	Bedroom	W27/F05	15	15	0.2	1.4	84	84	-0.3						
	R18	Residential	Bedroom	W28/F05	22	21	0.6	2.8	95	92	2.5						
F06	R1	Residential	LKD	W1/F06	34	11	23.1	68.1	100	99	1.1	49	13	9	1	81.6	92.3
				W2/F06	32	7.8	23.8	75.3				47	13	6	0	87.2	100
				W3/F06	32	26	6	19				12	0	3	0	75	0
				W4/F06	22	18	4.4	20.1				11	0	11	0	0	0
	R3	Residential	LKD	W8/F06	30	27	3	9.9	100	100	0	18	2	18	2	0	0
				W9/F06	11	11	0.3	2.7				18	1	18	1	0	0
	R4	Residential	Bedroom	W10/F06	21	20	0.5	2.4	90	90	0						
	R5	Residential	Bedroom	W11/F06	26	23	2.5	9.7	97	96	0.5						
	R6	Residential	Bedroom	W12/F06	27	24	2.5	9.3	98	98	0.4						
	R7	Residential	LKD	W13/F06	16	12	3.5	22.3	100	100	0						
				W15/F06	29	27	2.3	7.9									
	R8	Residential	Bedroom	W14/F06	21	19	2.1	9.8	92	91	0.8						
	R9	Residential	Unknown	W16/F06	28	26	2.3	8.1	N.A.	N.A.	N.A.						
	R10	Residential	LKD	W17/F06	28	26	2.2	7.9	100	100	0	10	0	9	0	10	0
				W18/F06	14	14	0.1	0.7				19	2	18	2	5.3	0
	R11	Residential	Bedroom	W19/F06	21	21	0.2	1	90	90	0						
	R12	Residential	Bedroom	W20/F06	27	25	1.8	6.6	99	99	0						
	R13	Residential	Bedroom	W21/F06	27	26	1.9	6.9	98	98	0						
	R14	Residential	LKD	W22/F06	21	18	2.9	13.9	100	100	0	0	0	0	0	0	0
				W24/F06	27	25	1.6	6				12	1	11	1	8.3	0
				W25/F06	9.6	9.6	0	0				14	0	13	0	7.1	0
	R15	Residential	Bedroom	W23/F06	25	23	1.7	6.8	94	94	0						
	R16	Residential	Bedroom	W26/F06	20	20	0.1	0.5	97	97	0						
	R17	Residential	Bedroom	W27/F06	16	16	0.1	0.6	84	84	0						
	R18	Residential	Bedroom	W28/F06	24	23	0.8	3.3	95	93	2.4						
F07	R1	Residential	LKD	W1/F07	34	11	23.1	68.3	100	100	0.5	47	14	7	1	85.1	92.9
				W2/F07	32	8	23.9	74.9				48	15	8	2	83.3	86.7
				W3/F07	32	26	6	18.6				13	0	3	0	76.9	0
				W4/F07	33	29	4.7	14.1				12	0	12	0	0	0
	R3	Residential	Unknown	W8/F07	24	24	0.6	2.5	N.A.	N.A.	N.A.						
	R4	Residential	Unknown	W9/F07	24	22	2	8.3	N.A.	N.A.	N.A.						
	R5	Residential	Unknown	W10/F07	30	27	2.4	8.1	N.A.	N.A.	N.A.						
	R6	Residential	Unknown	W11/F07	24	24	0.2	0.8	N.A.	N.A.	N.A.						
	R7	Residential	Unknown	W12/F07	27	25	1.7	6.3	N.A.	N.A.	N.A.						
	R8	Residential	Bedroom	W13/F07	18	18	0.2	1.1	85	85	-0.1						

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R9	Residential	Bedroom	W14/F07	26	25	0.9	3.5	97	94	2.7						
30 CITY ROAD EAST																	
F01	R1	Residential	LKD	W1/F01	8.5	8.3	0.2	2.4	27	27	0						
	R2	Residential	Bedroom	W2/F01	15	15	0.3	1.9	33	32	0.3						
	R3	Residential	Bedroom	W3/F01	16	16	0.3	1.8	24	24	0						
	R4	Residential	Bedroom	W4/F01	8.6	7.4	1.2	14	38	27	28.1						
	R5	Residential	Bedroom	W5/F01	9.8	8.7	1.1	11.2	35	35	1.7						
F02	R1	Residential	LKD	W1/F02	11	10	0.7	6.3	36	36	0						
	R2	Residential	Bedroom	W2/F02	18	18	0.8	4.3	41	41	0.9						
	R3	Residential	Bedroom	W3/F02	19	19	0.8	4.1	32	32	0.7						
	R4	Residential	Bedroom	W4/F02	9.9	8.3	1.6	16.2	47	38	20.7						
	R5	Residential	Bedroom	W5/F02	11	9.9	1.5	13.2	47	47	0.3						
F03	R1	Residential	LKD	W1/F03	14	13	1.5	10.7	51	51	0.1						
	R2	Residential	Bedroom	W2/F03	22	20	1.6	7.3	58	57	1.3						
	R3	Residential	Bedroom	W3/F03	23	21	1.6	7	46	45	0.7						
	R4	Residential	Bedroom	W4/F03	11	9.4	1.7	15.3	66	56	15.3						
	R5	Residential	Bedroom	W5/F03	13	11	1.6	12.5	71	71	0.2						
F04	R1	Residential	LKD	W1/F04	17	15	1.8	10.9	69	69	0						
	R2	Residential	Bedroom	W2/F04	25	23	1.9	7.6	92	90	2.2						
	R3	Residential	Bedroom	W3/F04	26	24	1.9	7.3	73	72	1.2						
	R4	Residential	Bedroom	W4/F04	13	11	1.9	15.2	84	73	13.8						
	R5	Residential	Bedroom	W5/F04	15	13	1.9	13	85	85	0						
F05	R1	Residential	LKD	W1/F05	19	17	2.2	11.5	88	86	1.5						
	R2	Residential	Bedroom	W2/F05	28	26	2.2	7.9	99	95	3.2						
	R3	Residential	Bedroom	W3/F05	29	27	2.2	7.5	98	97	0.6						
	R4	Residential	Bedroom	W4/F05	14	12	2.1	15	87	78	10.8						
	R5	Residential	Bedroom	W5/F05	17	15	2.1	12.6	85	85	0						
F06	R1	Residential	LKD	W1/F06	21	19	2.3	10.7	92	89	2.9						
	R2	Residential	Bedroom	W2/F06	30	27	2.3	7.7	98	95	3.1						
	R3	Residential	Bedroom	W3/F06	31	29	2.4	7.8	98	98	0.5						
	R4	Residential	LKD	W4/F06	16	13	2.3	14.7	71	68	4.3						
				W5/F06	20	18	2.3	11.6									
F07	R1	Residential	LKD	W1/F07	25	23	2.3	9.3	92	89	3.2						
	R2	Residential	Bedroom	W2/F07	27	25	2.4	8.9	98	95	3.1						
	R3	Residential	Bedroom	W3/F07	28	26	2.6	9.2	99	99	0						
	R4	Residential	LKD	W4/F07	16	14	2.5	15.6	94	80	14.9						
				W5/F07	11	3.3	7.7	70									
				W6/F07	27	25	2.6	9.5									
14 ALBION STREET																	
F01	R1	Residential	Unknown	W1/F01	12	6.6	5.4	45	N.A.	N.A.	N.A.						
	R2	Residential	Unknown	W2/F01	28	5.3	22.3	80.8	N.A.	N.A.	N.A.						
	R3	Residential	Unknown	W3/F01	28	2.4	25.6	91.4	N.A.	N.A.	N.A.						
				W4/F01	28	1.6	26.5	94.3									
	R4	Residential	Unknown	W5/F01	18	7.9	9.6	54.9	N.A.	N.A.	N.A.						
F02	R1	Residential	Unknown	W1/F02	26	15	11.8	44.7	N.A.	N.A.	N.A.						
F03	R1	Residential	Unknown	W1/F03	18	8	9.8	55.1	N.A.	N.A.	N.A.						
THE HACIENDA																	
F01	R1	Residential	Unknown	W1/F01	4.5	4.4	0.1	2.2	N.A.	N.A.	N.A.	10	3	10	3	0	0

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R2	Residential	Unknown	W2/F01	19	13	5.3	28.3	N.A.	N.A.	N.A.						
				W3/F01	15	5.6	9.1	61.9									
				W4/F01	26	15	10.7	41.8									
	R3	Residential	Unknown	W5/F01	27	17	10	37.2	N.A.	N.A.	N.A.	44	9	32	8	27.3	11.1
	R4	Residential	Bedroom	W6/F01	28	19	8.6	30.9	95	86	9.3	48	9	36	8	25	11.1
	R5	Residential	Bedroom	W7/F01	29	21	7.4	25.9	93	86	7.6	53	10	41	9	22.6	10
	R6	Residential	LKD	W8/F01	29	23	6.1	21	100	100	0.4	58	12	48	11	17.2	8.3
				W9/F01	29	24	4.6	16				62	12	54	12	12.9	0
				W10/F01	29	25	4.1	14.3				64	13	57	13	10.9	0
				W11/F01	28	25	3.7	13				65	13	58	13	10.8	0
				W12/F01	18	18	0.2	1.1				43	14	43	14	0	0
				W14/F01	2.5	2.5	0	0				10	4	10	4	0	0
F02	R1	Residential	Unknown	W1/F02	4.9	4.8	0.1	2	N.A.	N.A.	N.A.	10	3	10	3	0	0
	R2	Residential	Unknown	W2/F02	22	16	6.2	27.7	N.A.	N.A.	N.A.						
				W3/F02	15	5.8	9.3	61.6									
				W4/F02	26	15	10.8	41.2									
	R3	Residential	Unknown	W5/F02	27	17	10.2	37.2	N.A.	N.A.	N.A.	44	9	32	8	27.3	11.1
	R4	Residential	Bedroom	W6/F02	28	20	8.8	31	95	86	9.2	49	10	37	9	24.5	10
	R5	Residential	Bedroom	W7/F02	29	22	7.6	25.9	92	85	7.6	54	11	42	10	22.2	9.1
	R6	Residential	LKD	W8/F02	30	24	6.3	21.1	100	100	0.3	59	13	49	12	16.9	7.7
				W9/F02	30	25	4.7	15.8				63	13	55	13	12.7	0
				W10/F02	30	25	4.3	14.5				65	14	58	14	10.8	0
				W11/F02	29	26	3.9	13.3				66	14	59	14	10.6	0
				W12/F02	19	19	0.3	1.6				44	14	44	14	0	0
				W14/F02	2.6	2.6	0	0				10	4	10	4	0	0
F03	R1	Residential	Unknown	W1/F03	5.3	5.2	0.1	1.9	N.A.	N.A.	N.A.	10	3	10	3	0	0
	R2	Residential	Unknown	W2/F03	26	19	7.2	27.8	N.A.	N.A.	N.A.						
				W3/F03	15	6.1	9.3	60.4									
				W4/F03	27	16	11	41.2									
	R3	Residential	Unknown	W5/F03	28	18	10.3	37.1	N.A.	N.A.	N.A.	45	10	33	9	26.7	10
	R4	Residential	Bedroom	W6/F03	29	20	9	31.1	95	87	9.1	49	10	37	9	24.5	10
	R5	Residential	Bedroom	W7/F03	30	22	7.6	25.5	93	86	7.3	55	12	43	11	21.8	8.3
	R6	Residential	LKD	W8/F03	31	24	6.5	21.3	100	100	0.2	60	14	50	13	16.7	7.1
				W9/F03	31	26	4.8	15.7				63	13	55	13	12.7	0
				W10/F03	30	26	4.3	14.1				65	14	58	14	10.8	0
				W11/F03	30	26	4	13.2				66	14	59	14	10.6	0
				W12/F03	20	20	0.4	2				45	15	45	15	0	0
				W14/F03	2.7	2.7	0	0				10	4	10	4	0	0
F04	R1	Residential	Unknown	W1/F04	5.7	5.6	0.1	1.8	N.A.	N.A.	N.A.	11	4	11	4	0	0
	R2	Residential	Unknown	W2/F04	30	21	8.4	28.5	N.A.	N.A.	N.A.						
				W3/F04	16	6.3	9.4	59.9									
				W4/F04	27	16	11	40.6									
	R3	Residential	Unknown	W5/F04	28	18	10.4	36.9	N.A.	N.A.	N.A.	45	10	33	9	26.7	10
	R4	Residential	Bedroom	W6/F04	29	20	9	30.7	95	87	9.2	50	11	38	10	24	9.1
	R5	Residential	Bedroom	W7/F04	30	23	7.8	25.7	93	86	7.3	55	12	43	11	21.8	8.3
	R6	Residential	LKD	W8/F04	31	25	6.5	20.9	100	100	0.2	60	14	50	13	16.7	7.1
				W9/F04	31	26	4.9	15.7				64	14	56	14	12.5	0
				W10/F04	31	27	4.5	14.4				65	14	58	14	10.8	0
				W11/F04	31	27	4	12.9				66	14	59	14	10.6	0
				W12/F04	21	20	0.4	1.9				45	15	45	15	0	0
				W14/F04	2.7	2.7	0	0				10	4	10	4	0	0

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
F05	R1	Residential	Unknown	W1/F05	6.1	6	0.1	1.6	N.A.	N.A.	N.A.	11	4	11	4	0	0
	R2	Residential	Unknown	W2/F05	32	22	9.3	29.3	N.A.	N.A.	N.A.						
				W3/F05	16	6.4	9.4	59.5									
				W4/F05	28	16	11.1	40.4									
	R3	Residential	Unknown	W5/F05	29	18	10.4	36.5	N.A.	N.A.	N.A.	46	11	35	11	23.9	0
	R4	Residential	Bedroom	W6/F05	30	21	9.2	30.9	96	87	9.3	50	11	38	10	24	9.1
	R5	Residential	Bedroom	W7/F05	31	23	7.7	25	93	86	7.2	56	13	44	12	21.4	7.7
	R6	Residential	LKD	W8/F05	32	25	6.6	20.8	100	100	0.2	61	15	52	15	14.8	0
				W9/F05	32	27	4.9	15.3				64	14	56	14	12.5	0
				W10/F05	32	28	4.5	14.1				66	15	59	15	10.6	0
				W11/F05	32	28	4.1	12.9				67	15	60	15	10.4	0
				W12/F05	22	21	0.4	1.8				46	16	46	16	0	0
				W14/F05	2.8	2.8	0	0				11	5	11	5	0	0
F06	R1	Residential	Unknown	W1/F06	6.7	6.6	0.1	1.5	N.A.	N.A.	N.A.	12	5	12	5	0	0
	R2	Residential	Unknown	W2/F06	33	23	9.4	28.8	N.A.	N.A.	N.A.						
				W3/F06	16	6.5	9.5	59.4									
				W4/F06	28	17	11.2	40.3									
	R3	Residential	Unknown	W5/F06	29	18	10.4	36.1	N.A.	N.A.	N.A.	46	11	35	11	23.9	0
	R4	Residential	Bedroom	W6/F06	30	21	9.1	30.2	95	87	9.1	51	12	40	12	21.6	0
	R5	Residential	Bedroom	W7/F06	31	24	7.7	24.7	93	86	7.4	57	14	46	14	19.3	0
	R6	Residential	LKD	W8/F06	32	26	6.5	20.2	100	100	0.2	61	15	52	15	14.8	0
				W9/F06	33	28	4.9	15				66	15	58	15	12.1	0
				W10/F06	33	28	4.5	13.7				69	17	62	17	10.1	0
				W11/F06	33	29	4.1	12.5				70	17	63	17	10	0
				W12/F06	23	22	0.4	1.8				47	17	47	17	0	0
				W14/F06	2.9	2.9	0	0				12	6	12	6	0	0
F07	R1	Residential	Unknown	W1/F07	7.4	7.4	0	0	N.A.	N.A.	N.A.	13	6	13	6	0	0
	R2	Residential	Unknown	W2/F07	33	24	9.4	28.3	N.A.	N.A.	N.A.						
				W3/F07	16	6.6	9.5	59									
				W4/F07	28	17	11.1	39.6									
	R3	Residential	Unknown	W5/F07	29	19	10.4	35.7	N.A.	N.A.	N.A.	47	12	36	12	23.4	0
	R4	Residential	Bedroom	W6/F07	30	21	9.1	29.9	95	87	9	53	13	42	13	20.8	0
	R5	Residential	Bedroom	W7/F07	32	24	7.7	24.4	93	86	7.1	58	14	47	14	19	0
	R6	Residential	LKD	W8/F07	33	26	6.5	19.9	100	100	0.2	63	16	54	16	14.3	0
				W9/F07	33	29	4.9	14.7				69	18	61	18	11.6	0
				W10/F07	34	29	4.5	13.4				71	19	64	19	9.9	0
				W11/F07	34	29	4.1	12.2				72	19	65	19	9.7	0
				W12/F07	24	23	0.4	1.7				50	20	50	20	0	0
				W14/F07	3	3	0	0				13	7	13	7	0	0
F08	R1	Residential	Unknown	W1/F08	9.1	9	0.1	1.1	N.A.	N.A.	N.A.	16	7	16	7	0	0
	R2	Residential	Unknown	W2/F08	34	24	9.4	27.9	N.A.	N.A.	N.A.						
				W3/F08	15	5.9	8.6	59.3									
				W4/F08	28	17	11.1	39.2									
	R3	Residential	Unknown	W5/F08	29	19	10.4	35.4	N.A.	N.A.	N.A.	47	12	36	12	23.4	0
	R4	Residential	Bedroom	W6/F08	31	22	9	29.3	94	87	7.8	54	14	43	14	20.4	0
	R5	Residential	Bedroom	W7/F08	32	24	7.6	23.8	93	86	7.2	60	16	49	16	18.3	0
	R6	Residential	LKD	W8/F08	33	27	6.5	19.6	100	100	0.2	66	19	57	19	13.6	0
				W9/F08	34	29	4.9	14.4				71	19	63	19	11.3	0
				W10/F08	34	30	4.5	13.2				73	20	66	20	9.6	0
				W11/F08	34	30	4	11.7				74	20	67	20	9.5	0
				W12/F08	26	25	0.4	1.6				55	21	55	21	0	0

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W14/F08	3.3	3.3	0	0				18	9	18	9	0	0
F09	R1	Residential	Unknown	W1/F09	34	25	9.5	27.8	N.A.	N.A.	N.A.						
				W2/F09	16	9.3	7	42.9									
	R2	Residential	Unknown	W3/F09	20	11	9.5	47.3	N.A.	N.A.	N.A.	27	6	15	5	44.4	16.7
				W4/F09	21	12	9.4	44.5				27	6	17	6	37	0
	R3	Residential	Unknown	W5/F09	23	15	7.2	32	N.A.	N.A.	N.A.	39	13	28	13	28.2	0
	R4	Residential	Unknown	W6/F09	24	18	6.3	26.1	N.A.	N.A.	N.A.	43	9	34	9	20.9	0
				W7/F09	32	30	1.6	5				67	20	58	20	13.4	0
				W8/F09	4.9	4.9	0	0				24	11	24	11	0	0
	R6	Residential	Unknown	W10/F09	19	19	0.1	0.5	N.A.	N.A.	N.A.	35	15	35	15	0	0
F10	R1	Residential	Unknown	W1/F10	32	23	9.1	28.7	N.A.	N.A.	N.A.						
				W2/F10	28	18	10.1	36.3									
	R2	Residential	Unknown	W3/F10	24	17	6.4	27.2	N.A.	N.A.	N.A.						
	R3	Residential	Unknown	W4/F10	24	18	6.3	26.5	N.A.	N.A.	N.A.	43	9	34	9	20.9	0
				W5/F10	32	30	1.7	5.3				68	21	59	21	13.2	0
				W6/F10	4.9	4.9	0	0				25	12	25	12	0	0
	R5	Residential	Unknown	W8/F10	19	19	0.1	0.5	N.A.	N.A.	N.A.	35	15	35	15	0	0
F11	R3	Residential	Unknown	W8/F11	20	20	0.2	1	N.A.	N.A.	N.A.	35	15	35	15	0	0
	R4	Residential	Unknown	W4/F11	20	14	6.1	31	N.A.	N.A.	N.A.	37	9	28	9	24.3	0
				W5/F11	28	27	1.1	3.9				67	21	59	21	11.9	0
				W6/F11	3.9	3.9	0	0				21	12	21	12	0	0
	R5	Residential	Unknown	W3/F11	24	16	8.3	34.6	N.A.	N.A.	N.A.						
	R18	Residential	Unknown	W1/F11	27	18	9.1	34	N.A.	N.A.	N.A.						
				W2/F11	15	8.7	6.7	43.5									
326-330 DEANSGATE																	
F00	R1	Residential	Educational	W3/F00	15	13	1.9	12.4	100	100	0	34	5	33	5	2.9	0
				W6/F00	8.8	8	0.8	9.1				24	5	24	5	0	0
				W7/F00	7.8	5.1	2.7	34.6				22	2	19	1	13.6	50
				W8/F00	16	13	2.9	18.7				33	4	30	3	9.1	25
				W22/F00	21	20	0.9	4.3				49	4	47	3	4.1	25
				W23/F00	21	20	1	4.9				49	5	47	4	4.1	20
				W24/F00	3.9	2.1	1.8	46.2				5	3	4	2	20	33.3
				W25/F00	13	11	2.1	15.9				30	4	28	3	6.7	25
				W26/F00	13	11	1.7	13.2				30	5	30	5	0	0
				W27/F00	17	12	5.2	29.9				20	2	19	2	5	0
				W28/F00	19	14	5	27				25	5	22	3	12	40
	R2	Residential	Unknown	W20/F00	5.5	5.5	0	0	N.A.	N.A.	N.A.	18	1	18	1	0	0
				W21/F00	22	21	0.9	4.1				53	5	51	4	3.8	20
F01	R1	Residential	Unknown	W1/F01	20	13	6.8	34	N.A.	N.A.	N.A.	20	4	16	2	20	50
				W2/F01	13	9.4	3.7	28.2				20	4	16	2	20	50
				W3/F01	17	15	1.9	11.4				35	8	33	6	5.7	25
				W4/F01	19	16	3.3	17.4				39	9	34	6	12.8	33.3
				W5/F01	25	24	1.4	5.6				53	10	52	9	1.9	10
				W7/F01	25	24	1.4	5.5				54	10	53	9	1.9	10
	R2**	Residential	Unknown	W6/F01	22	22	0.6	2.7	N.A.	N.A.	N.A.	45	8	44	7	2.2	12.5
				W8/F01	21	20	0.6	2.9				41	8	40	7	2.4	12.5
				W9/F01	26	24	1.2	4.7				55	11	53	9	3.6	18.2
THE ROPEWORKS																	
F01	R1	Residential	LKD	W1/F01	12	5.2	7	57.4	84	51	39.1	14	6	11	3	21.4	50

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W2/F01	16	8.7	6.9	44.2				17	6	14	3	17.6	50
				W3/F01	18	5.1	13.3	72.3				8	0	8	0	0	0
	R2	Residential	Bedroom	W4/F01	19	5.1	13.7	72.9	81	55	32.3	8	0	8	0	0	0
				W5/F01	8.2	4.3	3.9	47.6				4	0	4	0	0	0
F02	R1	Residential	LKD	W1/F02	14	6.4	7.8	54.9	98	74	24.5	14	6	11	3	21.4	50
				W2/F02	18	9.8	8	44.9				18	6	15	3	16.7	50
				W3/F02	23	6.1	16.8	73.4				10	0	10	0	0	0
	R2	Residential	Bedroom	W4/F02	24	6.2	17.4	73.7	99	97	2.6	10	0	10	0	0	0
				W5/F02	26	21	5.8	22.1				30	0	30	0	0	0
F03	R1	Residential	LKD	W1/F03	16	8.2	7.8	48.8	99	78	21.4	17	6	14	3	17.6	50
				W2/F03	20	11	8.4	42.9				21	6	17	3	19	50
				W3/F03	25	6.5	18.5	74				12	0	11	0	8.3	0
	R2	Residential	Bedroom	W4/F03	25	6.5	18.7	74.2	100	98	1.9	12	0	11	0	8.3	0
				W5/F03	30	23	6.6	22.2				37	2	36	1	2.7	50
F04	R1	Residential	LKD	W1/F04	17	10	7.3	42	98	78	20.8	18	6	14	3	22.2	50
				W2/F04	21	13	8.3	39.7				22	6	18	3	18.2	50
				W3/F04	25	5.9	18.8	76.1				9	0	8	0	11.1	0
	R2	Residential	Bedroom	W4/F04	23	5.2	18.2	77.8	98	95	2.8	11	0	10	0	9.1	0
				W5/F04	30	23	6.7	22.4				37	6	36	5	2.7	16.7
21 LITTLE PETER STREET																	
F01	R1	Residential	Unknown	W1/F01	13	9	3.6	28.6	N.A.	N.A.	N.A.	18	2	18	2	0	0
				W12/F01	21	20	1.5	7				49	7	44	3	10.2	57.1
	R2	Residential	Unknown	W2/F01	12	6.8	5.3	43.8	N.A.	N.A.	N.A.						
				W3/F01	14	6.7	7.7	53.5									
	R3	Residential	Unknown	W4/F01	18	9.6	8.6	47.3	N.A.	N.A.	N.A.						
				W5/F01	20	11	8.4	42.6									
	R4	Residential	Unknown	W6/F01	20	12	8.2	40.2	N.A.	N.A.	N.A.						
				W7/F01	22	13	8.5	39.5									
	R5	Residential	Unknown	W8/F01	20	14	5.5	27.8	N.A.	N.A.	N.A.						
	R6	Residential	Unknown	W9/F01	20	15	5.1	25.5	N.A.	N.A.	N.A.						
	R7	Residential	Unknown	W10/F01	20	15	4.8	24	N.A.	N.A.	N.A.						
				W11/F01	20	15	4.5	22.7									
F02	R1	Residential	Unknown	W1/F02	14	10	4	27.8	N.A.	N.A.	N.A.	20	2	20	2	0	0
				W16/F02	22	21	1.6	7.2				51	7	47	3	7.8	57.1
	R2	Residential	Unknown	W2/F02	14	8.2	5.7	41	N.A.	N.A.	N.A.						
				W3/F02	16	8.2	8.2	50									
	R3	Residential	Unknown	W4/F02	20	11	9.3	46	N.A.	N.A.	N.A.						
				W5/F02	22	13	9.5	42.8									
	R4	Residential	Unknown	W6/F02	24	15	9.7	39.8	N.A.	N.A.	N.A.						
				W7/F02	26	16	9.8	37.8									
	R5	Residential	Unknown	W8/F02	27	16	10.1	38.1	N.A.	N.A.	N.A.						
				W9/F02	27	17	9.8	36									
				W10/F02	23	16	6.4	28.2									
	R6	Residential	Unknown	W11/F02	23	17	5.7	25.3	N.A.	N.A.	N.A.						
	R7	Residential	Unknown	W12/F02	24	18	5.7	23.9	N.A.	N.A.	N.A.						
				W13/F02	24	18	5.5	23.2									
				W14/F02	24	18	5.3	22.5									
				W15/F02	23	18	5.2	22.4									
F03	R1	Residential	Unknown	W1/F03	18	12	5.1	29.1	N.A.	N.A.	N.A.	18	3	18	3	0	0
				W11/F03	24	23	1.6	6.6				56	11	52	7	7.1	36.4

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R2	Residential	Unknown	W2/F03	20	13	7.6	37.4	N.A.	N.A.	N.A.						
	R3	Residential	Unknown	W3/F03	25	15	9.9	39.9	N.A.	N.A.	N.A.						
	R4	Residential	Unknown	W4/F03	28	18	10.3	36.4	N.A.	N.A.	N.A.						
	R5	Residential	Unknown	W5/F03	26	19	7.6	28.9	N.A.	N.A.	N.A.						
				W6/F03	26	19	7.6	28.9									
	R6	Residential	Unknown	W7/F03	26	20	6.6	25.2	N.A.	N.A.	N.A.						
				W8/F03	26	20	6.8	25.8									
	R7	Residential	Unknown	W9/F03	27	21	6.4	23.6	N.A.	N.A.	N.A.						
				W10/F03	27	21	6.3	23.5									
F04	R1	Residential	Unknown	W1/F04	28	20	8.3	29.3	N.A.	N.A.	N.A.						
				W2/F04	25	17	8.2	32.4									
				W3/F04	27	21	5.6	21.1									
				W4/F04	29	21	7.3	25.6									
8-16 BRIDGEWATER ST																	
F00	R1	Residential	Living Room	W1/F00	8	7.9	0.1	1.3	79	78	0.2	21	6	21	6	0	0
				W2/F00	6.8	6.8	0	0				24	1	24	1	0	0
				W3/F00	0	0	0	0				0	0	0	0	0	0
				W4/F00	18	17	0.5	2.8				28	6	28	6	0	0
F01	R1	Residential	Living Room	W1/F01	24	24	0.2	0.8	92	88	4.4	56	8	56	8	0	0
				W2/F01	19	19	0.6	3.1				30	8	30	8	0	0
	R2	Residential	Bedroom	W3/F01	19	19	0.5	2.6	89	88	0.9	35	10	35	10	0	0
F02	R1	Residential	Living Room	W1/F02	28	28	0.5	1.8	97	94	2.7	66	14	64	12	3	14.3
				W2/F02	21	20	1	4.9				33	10	33	10	0	0
	R2	Residential	Bedroom	W3/F02	20	20	0.7	3.4	88	86	2.7	35	10	35	10	0	0
F03	R1	Residential	Living Room	W1/F03	25	25	0.7	2.8	87	86	0.8	53	18	51	16	3.8	11.1
	R2	Residential	Kitchen***	W2/F03	20	19	1.2	6	89	84	5.1	28	9	28	9	0	0
	R3	Residential	Bedroom	W3/F03	21	19	1.2	5.9	99	98	1.9	29	9	29	9	0	0
20 SOUTHERN ST																	
F00	R1	Residential	Unknown	W3/F00	17	17	0.5	2.9	N.A.	N.A.	N.A.	29	9	29	9	0	0
	R2	Residential	Unknown	W1/F00	17	17	0.6	3.4	N.A.	N.A.	N.A.	31	10	31	10	0	0
				W2/F00	18	17	0.5	2.8				32	9	32	9	0	0
F01	R1	Residential	Unknown	W1/F01	19	18	0.6	3.2	N.A.	N.A.	N.A.	33	10	33	10	0	0
	R2	Residential	Unknown	W2/F01	19	18	0.7	3.8	N.A.	N.A.	N.A.	30	10	30	10	0	0
F02	R1**	Residential	Unknown	W1/F02	20	20	0.7	3.5	N.A.	N.A.	N.A.	34	10	34	10	0	0
	R2**	Residential	Unknown	W2/F02	20	19	0.7	3.5	N.A.	N.A.	N.A.	30	10	30	10	0	0
F03	R1	Residential	Unknown	W1/F03*	81	79	1.8	2.2	N.A.	N.A.	N.A.	80	8	68	5	3.3	0
				W2/F03*	84	83	0.9	1.1				76	20	74	18	2.6	10
	R2	Residential	Unknown	W3/F03	19	18	1	5.4	N.A.	N.A.	N.A.	25	9	25	9	0	0
	R3	Residential	Unknown	W4/F03	19	17	1.1	5.9	N.A.	N.A.	N.A.	24	9	24	9	0	0
18-12 SOUTHERN ST																	
F01	R1**	Residential	Living Room	W1/F01	18	17	0.6	3.4	50	48	2.3	25	7	25	7	0	0
				W2/F01	17	17	0.5	2.9				29	7	29	7	0	0
	R2	Residential	Unknown	W4/F01	17	16	0.5	3	N.A.	N.A.	N.A.	29	7	29	7	0	0
	R3	Residential	Unknown	W3/F01	15	14	0.2	1.4	N.A.	N.A.	N.A.	24	6	24	6	0	0
F02	R1	Residential	Bedroom	W1/F02	20	19	0.8	4	50	46	6.4	29	7	29	7	0	0
	R2	Residential	Unknown	W2/F02	20	19	0.8	4.1	N.A.	N.A.	N.A.	31	7	31	7	0	0
				W5/F02	19	19	0.8	4.1				30	7	30	7	0	0
	R3	Residential	Unknown	W3/F02	18	18	0.8	4.3	N.A.	N.A.	N.A.	29	7	29	7	0	0

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
8-10 SOUTHERN ST																	
F01	R1	Residential	Bedroom	W1/F01	11	11	0.1	0.9	23	23	1.6	20	3	20	3	0	0
	R2**	Residential	Bedroom	W2/F01	13	13	0.1	0.8	44	44	0.1	23	6	23	6	0	0
F02	R1	Residential	Bedroom	W1/F02	15	14	0.3	2	45	45	1.1	26	4	26	4	0	0
	R2	Residential	Bedroom	W2/F02	17	17	0.5	2.9	66	66	0.1	29	7	29	7	0	0
F03	R1	Residential	LKD	W1/F03	19	18	0.6	3.2	99	99	0	33	9	33	9	0	0
				W4/F03	9.9	9.9	0	0				11	3	10	2	9.1	33.3
				W7/F03*	92	91	1.2	1.3				81	18	77	17	4.9	5.6
				W8/F03	34	33	0.6	1.8				74	17	73	16	1.4	5.9
	R2	Residential	LKD	W2/F03	20	19	1.1	5.6	97	96	1.3	32	9	32	9	0	0
				W3/F03	3.4	3.4	0	0				10	2	10	2	0	0
				W5/F03	32	30	2	6.3				7	0	6	0	71.4	0
				W6/F03*	91	89	2	2.2				79	14	73	14	7.6	0
DEANSGATE QUAY																	
B01	R1	Residential	Unknown	W1/B01	12	12	0.8	6.5	N.A.	N.A.	N.A.	18	0	18	0	0	0
				W2/B01	12	11	0.8	6.8				17	1	16	0	5.9	100
				W3/B01	12	11	0.9	7.8				18	1	17	0	5.6	100
				W4/B01	12	11	0.8	6.6				16	0	16	0	0	0
				W5/B01	20	16	3.7	18.7				6	0	6	0	0	0
				W5/F00	16	15	1	6.3				21	0	21	0	0	0
				W6/B01	17	17	0	0				10	0	10	0	0	0
				W7/B01	19	19	0	0				18	0	18	0	0	0
				W8/B01	31	31	0	0				17	0	17	0	0	0
F00	R1	Residential	LKD	W1/F00	7	6.5	0.5	7.1	48	42	13.3	16	1	16	1	0	0
	R2**	Residential	LKD	W2/F00	8.1	7.6	0.5	6.2	87	84	3.8	16	2	16	2	0	0
	R3	Residential	Bedroom	W3/F00	9.8	8.7	1.1	11.2	89	87	2.9	14	3	14	3	0	0
	R4	Residential	Bedroom	W4/F00	19	18	1.1	5.8	89	87	1.3	27	3	27	3	0	0
	R5	Residential	Lobby	W5/B01 (dup)	20	16	3.7	18.7	N.A.	N.A.	N.A.	6	0	6	0	0	0
				W5/F00 (dup)	16	15	1	6.3				21	0	21	0	0	0
				W6/F00	5.2	3.8	1.4	26.9				0	0	0	0	0	0
	R7	Residential	LKD	W10/F00	24	21	3	12.7	98	98	0						
				W11/F00	24	21	2.9	12.1									
				W12/F00	31	31	0	0									
F01	R1	Residential	LKD	W1/F01	2.5	1.9	0.6	24	84	80	4.6	15	2	14	1	6.7	50
				W2/F01	20	19	1.6	7.9				33	4	31	2	6.1	50
	R2	Residential	LKD	W3/F01	22	20	1.8	8.4	91	91	0	31	2	31	2	0	0
				W4/F01	7.8	5.5	2.3	29.5				17	2	17	2	0	0
	R3	Residential	Bedroom	W5/F01	14	12	1.2	8.9	98	96	2.5	24	3	24	3	0	0
	R4	Residential	Bedroom	W6/F01	22	21	1.4	6.4	96	95	1	34	4	34	4	0	0
	R5	Residential	Bedroom	W7/F01	22	20	1.6	7.3	93	92	0.3	33	3	33	3	0	0
	R6	Residential	LKD	W8/F01	20	19	1.4	6.9	96	92	4.5	29	2	29	2	0	0
				W9/F01	23	20	3.9	16.7				9	0	9	0	0	0
				W10/F01	23	18	4.7	20.8				14	0	13	0	7.1	0
	R7	Residential	Unknown	W11/F01	5.7	4	1.7	29.8	N.A.	N.A.	N.A.						
	R9	Residential	LKD	W13/F01	26	23	3.5	13.4	99	99	0.2						
				W14/F01	27	23	3.4	12.8									
				W15/F01	33	33	0.1	0.3									
F02	R1	Residential	LKD	W1/F02	2.7	2	0.7	25.9	85	82	3.1	17	2	16	1	5.9	50
				W2/F02	22	20	1.8	8.1				37	4	34	2	8.1	50

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R2	Residential	LKD	W3/F02	24	22	2	8.5	91	91	0	38	4	37	3	2.6	25
				W4/F02	9.4	6.4	3	31.9				18	2	18	2	0	0
	R3	Residential	Bedroom	W5/F02	16	14	1.5	9.6	98	96	2.4	29	5	29	5	0	0
	R4	Residential	Bedroom	W6/F02	24	23	1.7	7	98	98	0.9	36	5	36	5	0	0
	R5	Residential	Bedroom	W7/F02	25	23	1.9	7.6	95	94	0.3	38	5	38	5	0	0
	R6	Residential	LKD	W8/F02	24	23	1.9	7.8	97	96	1.2	37	3	37	3	0	0
				W9/F02	27	22	4.9	18.4				14	0	14	0	0	0
				W10/F02	25	20	5.1	20.5				18	2	17	2	5.6	0
	R7	Residential	Unknown	W11/F02	6.1	4.1	2	32.8	N.A.	N.A.	N.A.						
	R9	Residential	LKD	W13/F02	29	25	4	14	100	99	0.9						
				W14/F02	29	25	3.8	13.1									
				W15/F02	35	35	0.1	0.3									
F03	R1	Residential	LKD	W1/F03	3	2.2	0.8	26.7	87	85	1.9	17	2	16	1	5.9	50
				W2/F03	24	22	1.9	7.9				41	4	38	2	7.3	50
	R2	Residential	LKD	W3/F03	25	23	2.3	9.1	91	91	0	42	5	40	4	4.8	20
				W4/F03	11	7.2	3.5	32.7				22	2	21	2	4.5	0
	R3	Residential	Bedroom	W5/F03	18	16	1.9	10.8	98	96	2.3	32	5	30	5	6.2	0
	R4	Residential	Bedroom	W6/F03	26	24	2.3	8.7	99	98	0.9	42	6	40	6	4.8	0
	R5	Residential	Bedroom	W7/F03	27	25	2.4	8.9	97	97	0.2	43	5	41	5	4.7	0
	R6	Residential	LKD	W8/F03	28	25	2.4	8.7	97	96	1.1	43	6	39	5	9.3	16.7
				W9/F03	30	24	5.8	19.5				21	2	19	2	9.5	0
				W10/F03	27	22	5.6	20.7				21	2	19	2	9.5	0
	R7	Residential	Unknown	W11/F03	6.6	4.3	2.3	34.8	N.A.	N.A.	N.A.						
	R10	Residential	LKD	W15/F03	31	26	4.4	14.4	100	99	1.1						
				W16/F03	31	27	4.2	13.5									
				W17/F03	36	36	0.1	0.3									
F04	R1	Residential	LKD	W1/F04	8.3	7.3	1	12	86	78	9	20	3	19	2	5	33.3
				W2/F04	25	23	2	7.9				44	6	41	4	6.8	33.3
	R2	Residential	LKD	W3/F04	27	24	2.4	9	90	90	0	44	6	42	5	4.5	16.7
				W4/F04	16	11	5.1	31.9				23	2	22	2	4.3	0
	R3	Residential	Bedroom	W5/F04	26	24	1.9	7.3	98	96	1.7	46	7	44	7	4.3	0
	R4	Residential	Bedroom	W6/F04	27	25	2.4	8.9	99	98	0.9	47	7	44	6	6.4	14.3
	R5	Residential	Bedroom	W7/F04	28	25	2.6	9.4	97	97	0.2	46	7	43	6	6.5	14.3
	R6	Residential	LKD	W8/F04	29	26	2.7	9.4	97	96	1	46	7	41	5	10.9	28.6
				W9/F04	31	25	6.2	20				22	2	20	2	9.1	0
				W10/F04	28	22	5.9	20.9				23	3	21	3	8.7	0
	R7	Residential	Unknown	W11/F04	7.5	5.1	2.4	32	N.A.	N.A.	N.A.						
	R9	Residential	LKD	W13/F04	31	27	4.5	14.4	100	99	1.1						
				W14/F04	31	27	4.4	14.1									
				W15/F04	36	36	0.1	0.3									
F05	R1**	Residential	Unknown	W1/F05	22	20	1.9	8.7	N.A.	N.A.	N.A.	42	9	38	7	9.5	22.2
	R2	Residential	Unknown	W2/F05	22	20	2	9	N.A.	N.A.	N.A.	39	7	35	5	10.3	28.6
				W3/F05	24	21	2.3	9.7				42	7	39	6	7.1	14.3
				W4/F05	21	15	5.9	28.5				17	3	15	2	11.8	0
	R3	Residential	Unknown	W5/F05	10	5.5	4.9	47.1	N.A.	N.A.	N.A.						
	R5	Residential	LKD	W7/F05	28	24	4.3	15.2	100	99	1.2						
				W8/F05	25	20	4.6	18.7									
				W9/F05	31	31	0.1	0.3									
357-361 DEANSGATE																	
F01	R1	Residential	Unknown	W1/F01	7.6	6.8	0.8	10.5	N.A.	N.A.	N.A.						

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R2	Residential	Unknown	W2/F01	5.4	3.4	2	37	N.A.	N.A.	N.A.						
	R3	Residential	Unknown	W3/F01	0.2	0	0.2	100	N.A.	N.A.	N.A.						
	R4	Residential	Unknown	W4/F01	7.2	7	0.2	2.8	N.A.	N.A.	N.A.	3	0	3	0	0	0
				W5/F01	1.3	1.3	0	0				6	0	6	0	0	0
	R5	Residential	Unknown	W6/F01	23	21	2.5	10.8	N.A.	N.A.	N.A.						
	R6	Residential	Unknown	W7/F01	23	21	2.4	10.3	N.A.	N.A.	N.A.						
	R7	Residential	Unknown	W8/F01	25	22	2.3	9.4	N.A.	N.A.	N.A.						
	R8	Residential	Unknown	W9/F01	25	23	2.2	8.8	N.A.	N.A.	N.A.						
	R9	Residential	Unknown	W10/F01	26	24	2	7.6	N.A.	N.A.	N.A.						
				W11/F01	24	24	0.2	0.8									
F02	R1	Residential	Unknown	W1/F02	8.9	6.5	2.4	27	N.A.	N.A.	N.A.						
	R2	Residential	Unknown	W2/F02	14	11	3.5	25	N.A.	N.A.	N.A.						
	R3	Residential	Unknown	W3/F02	0.2	0	0.2	100	N.A.	N.A.	N.A.						
	R4	Residential	Unknown	W4/F02	9.3	9	0.3	3.2	N.A.	N.A.	N.A.	5	0	5	0	0	0
				W5/F02	1.6	1.6	0	0				7	0	7	0	0	0
	R5	Residential	Unknown	W6/F02	29	23	6.8	23.2	N.A.	N.A.	N.A.						
	R6	Residential	Unknown	W7/F02	29	22	7.1	24.2	N.A.	N.A.	N.A.						
	R7	Residential	Unknown	W8/F02	26	23	3	11.7	N.A.	N.A.	N.A.						
	R8	Residential	Unknown	W9/F02	26	23	2.9	11.2	N.A.	N.A.	N.A.						
	R9	Residential	Unknown	W10/F02	27	24	2.7	10	N.A.	N.A.	N.A.						
	R10	Residential	Unknown	W11/F02	28	25	2.7	9.8	N.A.	N.A.	N.A.						
	R11	Residential	Unknown	W12/F02	29	26	2.4	8.4	N.A.	N.A.	N.A.						
				W13/F02	27	27	0.2	0.7									
F03	R1	Residential	Unknown	W1/F03	17	14	2.9	16.9	N.A.	N.A.	N.A.						
	R2	Residential	Unknown	W2/F03	22	18	3.8	17.5	N.A.	N.A.	N.A.						
	R3	Residential	Unknown	W3/F03	4.8	4.2	0.6	12.5	N.A.	N.A.	N.A.						
	R4	Residential	Unknown	W4/F03	14	12	1.7	12.4	N.A.	N.A.	N.A.	7	0	7	0	0	0
				W5/F03	2.5	2.5	0	0				7	0	7	0	0	0
	R5	Residential	Unknown	W6/F03	31	24	7.6	24.4	N.A.	N.A.	N.A.						
	R6	Residential	Unknown	W7/F03	31	23	7.9	25.4	N.A.	N.A.	N.A.						
	R7	Residential	Unknown	W8/F03	28	25	3.6	12.8	N.A.	N.A.	N.A.						
	R8	Residential	Unknown	W9/F03	28	25	3.4	12	N.A.	N.A.	N.A.						
	R9	Residential	Unknown	W10/F03	29	26	3.2	11	N.A.	N.A.	N.A.						
	R10	Residential	Unknown	W11/F03	30	27	3.1	10.4	N.A.	N.A.	N.A.						
	R11	Residential	Unknown	W12/F03	31	28	2.8	9.2	N.A.	N.A.	N.A.						
				W13/F03	29	29	0.2	0.7									
F04	R1	Residential	Unknown	W1/F04	29	25	3.8	13.1	N.A.	N.A.	N.A.						
	R2	Residential	Unknown	W2/F04	31	27	4.1	13.3	N.A.	N.A.	N.A.						
	R3	Residential	Unknown	W3/F04	28	24	3.8	13.5	N.A.	N.A.	N.A.						
	R4	Residential	Unknown	W4/F04	21	17	3.7	18	N.A.	N.A.	N.A.						
	R5	Residential	Unknown	W5/F04	24	19	5.1	20.9	N.A.	N.A.	N.A.	28	0	27	0	3.6	0
				W6/F04	17	13	4	23.8				10	0	9	0	10	0
LUMIERE BUILDING																	
F00	R1	Residential	Unknown	W1/F00	0.3	0.3	0	0	N.A.	N.A.	N.A.						
	R2	Residential	Unknown	W2/F00	7.3	7.3	0	0	N.A.	N.A.	N.A.						
	R3	Residential	Unknown	W3/F00	1.6	1.6	0	0	N.A.	N.A.	N.A.						
	R4	Residential	Unknown	W4/F00	0.2	0.2	0	0	N.A.	N.A.	N.A.						
	R5	Residential	Unknown	W5/F00	4.5	4.5	0	0	N.A.	N.A.	N.A.						
F01	R1	Residential	LKD	W1/F01	10	10	0	0	29	29	0						
				W2/F01	9.7	9.7	0	0									

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R2	Residential	Bedroom	W3/F01	2.1	2.1	0	0	17	17	0.6						
	R3	Residential	Bedroom	W4/F01	0.3	0.2	0.1	33.3	6.4	6.1	4.9						
	R4	Residential	LKD	W5/F01	5.7	5.7	0	0	20	20	0						
				W6/F01	6.2	6.2	0	0									
	R5	Residential	LKD	W7/F01	0	0	0	0	6.1	6.1	0						
				W8/F01	4.3	4.3	0	0									
	R6	Residential	Bedroom	W9/F01	4.8	4.8	0	0	10	10	-0.1						
	R7	Residential	Bedroom	W10/F01	4.8	4.8	0	0	11	11	0						
	R8	Residential	LKD	W11/F01	4.8	4.8	0	0	49	49	0	0	0	0	0	0	0
				W12/F01	1.3	1.3	0	0				0	0	0	0	0	0
				W13/F01	4.3	4.3	0	0				15	6	15	6	0	0
F02	R1	Residential	LKD	W1/F02	14	14	0.1	0.7	42	42	0.3						
				W2/F02	13	13	0.1	0.8									
	R2	Residential	Bedroom	W3/F02	3.5	3.2	0.3	8.6	23	20	12						
	R3	Residential	Bedroom	W4/F02	1	0.8	0.2	20	14	13	11.4						
	R4	Residential	LKD	W5/F02	8.1	8	0.1	1.2	27	25	6						
				W6/F02	8.6	8.6	0	0									
	R5	Residential	LKD	W7/F02	0	0	0	0	9.4	9.4	0						
				W8/F02	6.3	6.3	0	0									
	R6	Residential	Bedroom	W9/F02	7	7	0	0	14	14	0						
	R7	Residential	Bedroom	W10/F02	7	7	0	0	14	14	0						
	R8	Residential	LKD	W11/F02	6.8	6.8	0	0	49	49	0	0	0	0	0	0	0
				W12/F02	2.4	2.4	0	0				0	0	0	0	0	0
				W13/F02	4.6	4.6	0	0				17	7	17	7	0	0
F03	R1	Residential	LKD	W1/F03	18	18	0.5	2.8	70	70	1						
				W2/F03	17	16	0.7	4.1									
	R2	Residential	Bedroom	W3/F03	6.3	5.6	0.7	11.1	33	27	18.6						
	R3	Residential	Bedroom	W4/F03	3.3	2.9	0.4	12.1	28	22	22.1						
	R4	Residential	LKD	W5/F03	12	12	0.3	2.5	37	33	10						
				W6/F03	12	12	0	0									
	R5	Residential	LKD	W7/F03	1.1	1.1	0	0	16	16	0						
				W8/F03	9.9	9.9	0	0									
	R6	Residential	Bedroom	W9/F03	11	11	0	0	23	22	0.1						
	R7	Residential	Bedroom	W10/F03	11	11	0	0	23	23	0.1						
	R8	Residential	LKD	W11/F03	10	10	0	0	49	49	0	0	0	0	0	0	0
				W12/F03	5.3	5.3	0	0				0	0	0	0	0	0
				W13/F03	5	5	0	0				18	7	18	7	0	0
F04	R1	Residential	LKD	W1/F04	23	22	1.6	6.9	90	89	0.8						
				W2/F04	22	20	1.5	6.9									
	R2	Residential	Bedroom	W3/F04	11	9.6	1.2	11.1	47	40	15.9						
	R3	Residential	Bedroom	W4/F04	7.6	6.7	0.9	11.8	42	40	4.6						
	R4	Residential	LKD	W5/F04	17	16	0.7	4.2	52	49	5						
				W6/F04	18	17	0.3	1.7									
	R5	Residential	LKD	W7/F04	5.5	5.4	0.1	1.8	29	28	1.1						
				W8/F04	15	15	0.3	2									
	R6	Residential	Bedroom	W9/F04	16	16	0.2	1.3	35	35	0						
	R7	Residential	Bedroom	W10/F04	16	16	0.3	1.9	39	39	0.1						
	R8	Residential	LKD	W11/F04	16	15	0.2	1.3	49	49	0	0	0	0	0	0	0
				W12/F04	10	9.9	0.1	1				0	0	0	0	0	0
				W13/F04	5.7	5.7	0	0				19	7	19	7	0	0
F05	R1	Residential	LKD	W1/F05	27	26	1.9	6.9	99	99	0						

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W2/F05	27	25	2	7.5									
	R2	Residential	Bedroom	W3/F05	16	14	1.8	11.3	95	95	0						
	R3	Residential	Bedroom	W4/F05	13	11	1.5	11.7	89	86	4.1						
	R4	Residential	LKD	W5/F05	23	22	1.5	6.5	92	91	0.9						
				W6/F05	24	22	1.5	6.3									
	R5	Residential	LKD	W7/F05	11	10	0.9	8	81	81	0.5						
				W8/F05	22	21	1.4	6.4									
	R6	Residential	Bedroom	W9/F05	23	21	1.4	6.2	79	79	0						
	R7	Residential	Bedroom	W10/F05	22	21	1.4	6.3	81	81	0						
	R8	Residential	LKD	W11/F05	22	21	1.3	5.9	87	87	0.2	0	0	0	0	0	0
				W12/F05	16	15	1.2	7.3				0	0	0	0	0	0
				W13/F05	6.8	6.8	0	0				21	9	21	9	0	0
F06	R1	Residential	LKD	W1/F06	31	29	2.3	7.4	99	99	0						
				W2/F06	31	28	2.3	7.5									
	R2	Residential	Bedroom	W3/F06	21	19	2.1	10	98	97	0						
	R3	Residential	Bedroom	W4/F06	18	16	1.8	9.9	98	98	0						
	R4	Residential	LKD	W5/F06	28	26	2.1	7.4	99	99	0						
				W6/F06	29	27	2	6.9									
	R5	Residential	LKD	W7/F06	17	16	1.4	8.2	98	98	0						
				W8/F06	28	26	2.1	7.6									
	R6	Residential	Bedroom	W9/F06	28	26	2.1	7.4	97	97	0						
	R7	Residential	Bedroom	W10/F06	28	26	2.1	7.5	98	98	0						
	R8	Residential	LKD	W11/F06	28	26	2	7.3	100	100	0	0	0	0	0	0	0
				W12/F06	23	21	1.9	8.4				0	0	0	0	0	0
				W13/F06	8.2	8.2	0	0				26	14	26	14	0	0
F07	R1	Residential	LKD	W1/F07	32	30	2.3	7.2	99	99	0						
				W2/F07	32	29	2.3	7.3									
	R2	Residential	Bedroom	W3/F07	30	28	2.2	7.2	98	98	0						
	R3	Residential	Bedroom	W4/F07	27	26	1.9	6.9	99	99	0						
	R4	Residential	LKD	W5/F07	31	29	2.1	6.9	100	100	0						
				W6/F07	30	28	2.1	6.9									
	R5	Residential	LKD	W7/F07	26	24	1.5	5.8	99	99	0						
				W8/F07	30	27	2.1	7.1									
	R6	Residential	Bedroom	W9/F07	29	27	2.2	7.5	97	97	0						
	R7	Residential	Bedroom	W10/F07	29	27	2.1	7.3	98	98	0						
	R8	Residential	LKD	W11/F07	29	26	2.1	7.4	100	100	0	1	0	1	0	0	0
				W12/F07	28	26	2	7.2				1	0	1	0	0	0
				W13/F07	14	14	0	0				32	15	32	15	0	0
F08	R1	Residential	Unknown	W1/F08	34	27	7.2	21.2	N.A.	N.A.	N.A.						
				W2/F08	32	30	2.2	6.9									
	R2	Residential	Unknown	W3/F08	32	30	2.1	6.6	N.A.	N.A.	N.A.						
	R3	Residential	Unknown	W4/F08	31	29	2.1	6.7	N.A.	N.A.	N.A.						
	R4	Residential	Unknown	W5/F08	31	29	2.1	6.8	N.A.	N.A.	N.A.						
	R5	Residential	Unknown	W6/F08	31	29	2	6.5	N.A.	N.A.	N.A.						
	R6	Residential	Unknown	W7/F08	29	27	1.9	6.6	N.A.	N.A.	N.A.						
	R7	Residential	Unknown	W8/F08	29	27	2	6.8	N.A.	N.A.	N.A.						
	R8	Residential	Unknown	W9/F08	30	28	2	6.7	N.A.	N.A.	N.A.						
	R9	Residential	Unknown	W10/F08	30	28	1.9	6.3	N.A.	N.A.	N.A.						
	R10	Residential	Unknown	W11/F08	31	29	2	6.6	N.A.	N.A.	N.A.						
F09	R1	Residential	Unknown	W1/F09	37	29	8.1	22.1	N.A.	N.A.	N.A.						
				W2/F09	32	30	2.2	6.8									

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R2	Residential	Unknown	W3/F09	32	30	2.1	6.6	N.A.	N.A.	N.A.						
	R3	Residential	Unknown	W4/F09	32	30	2.1	6.6	N.A.	N.A.	N.A.						
	R4	Residential	Unknown	W5/F09	31	29	2.1	6.7	N.A.	N.A.	N.A.						
	R5	Residential	Unknown	W6/F09	31	29	2	6.4	N.A.	N.A.	N.A.						
	R6	Residential	Unknown	W7/F09	16	16	0	0	N.A.	N.A.	N.A.	36	16	36	16	0	0
				W8/F09	29	27	1.9	6.5				1	0	0	0	100	0
	R7	Residential	Unknown	W9/F09	30	28	2	6.7	N.A.	N.A.	N.A.						
	R8	Residential	Unknown	W10/F09	30	28	2	6.6	N.A.	N.A.	N.A.						
	R9	Residential	Unknown	W11/F09	30	29	1.9	6.3	N.A.	N.A.	N.A.						
	R10	Residential	Unknown	W12/F09	31	29	2	6.5	N.A.	N.A.	N.A.						
F10	R1	Residential	Unknown	W1/F10	32	30	2	6.3	N.A.	N.A.	N.A.						
	R2	Residential	Unknown	W2/F10	31	29	2	6.4	N.A.	N.A.	N.A.						
	R3	Residential	Unknown	W3/F10	16	16	0	0	N.A.	N.A.	N.A.	36	16	36	16	0	0
				W4/F10	29	28	1.9	6.5				1	0	0	0	100	0
	R4	Residential	Unknown	W5/F10	30	28	1.9	6.4	N.A.	N.A.	N.A.						
	R5	Residential	Unknown	W6/F10	30	28	1.9	6.3	N.A.	N.A.	N.A.						
	R6	Residential	Unknown	W7/F10	31	29	1.9	6.2	N.A.	N.A.	N.A.						
	R7	Residential	Unknown	W8/F10	31	29	2	6.5	N.A.	N.A.	N.A.						
	R8	Residential	Unknown	W9/F10	35	33	1.9	5.4	N.A.	N.A.	N.A.	64	20	58	20	9.4	0
				W10/F10	32	30	2	6.3				1	0	0	0	100	0
				W11/F10	37	30	7	19				32	6	25	6	21.9	0

THE DANUBE																	
F00	R1	Residential	LKD	W1/F00	14	14	0.4	2.8	62	55	11.2						
				W2/F00	6.6	5.6	1	15.2									
	R2	Residential	Bedroom	W3/F00	2.2	1.5	0.7	31.8	23	20	14						
	R3	Residential	Bedroom	W4/F00	14	13	1.1	7.8	36	35	1.6						
	R4	Residential	Bedroom	W5/F00	13	12	1.2	9.1	35	35	1.5						
	R5	Residential	Bedroom	W6/F00	0.1	0.1	0	0	11	9.3	15.2						
	R6	Residential	LKD	W7/F00	2.3	2.2	0.1	4.3	35	26	23.8	1	0	0	0	100	0
				W8/F00	15	13	1.9	12.7				0	0	0	0	0	0
	R7	Residential	Bedroom	W9/F00	18	15	3	16.3	36	31	15.5						
	R8**	Residential	LKD	W10/F00	20	17	3	15.3	65	48	26.1						
F01	R1	Residential	Bedroom	W1/F01	14	13	0.9	6.6	43	40	5.6						
	R2	Residential	Bedroom	W2/F01	1.3	1	0.3	23.1	26	22	15.2						
	R3	Residential	LKD	W3/F01	1.8	1.8	0	0	68	68	0	0	0	0	0	0	0
				W4/F01	15	15	0.2	1.3				1	0	1	0	0	0
	R4	Residential	LKD	W5/F01	16	15	0.5	3.2	64	59	8.7						
				W6/F01	7.6	6.6	1	13.2									
	R5	Residential	Bedroom	W7/F01	3	2.2	0.8	26.7	34	32	6.7						
	R6	Residential	Bedroom	W8/F01	16	15	1.2	7.6	40	40	1.2						
	R7	Residential	Bedroom	W9/F01	15	13	1.3	8.8	40	38	3						
	R8	Residential	Bedroom	W10/F01	0.7	0.5	0.2	28.6	22	17	22.7						
	R9	Residential	LKD	W11/F01	2.9	2.8	0.1	3.4	35	28	20.8	1	0	0	0	100	0
				W12/F01	16	14	2	12.2				0	0	0	0	0	0
	R10	Residential	Bedroom	W13/F01	20	17	3	15.2	38	33	14.6						
	R11**	Residential	LKD	W14/F01	21	18	3.1	14.8	67	50	24.6						
F02	R1	Residential	Bedroom	W1/F02	15	14	1.2	7.9	48	46	4						
	R2	Residential	Bedroom	W2/F02	2.6	2.2	0.4	15.4	37	33	10.3						
	R3	Residential	LKD	W3/F02	2.1	2.1	0	0	71	71	0	0	0	0	0	0	0
				W4/F02	17	16	0.6	3.6				1	0	1	0	0	0

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R4	Residential	LKD	W5/F02	18	17	0.6	3.4	69	65	5.3						
				W6/F02	8.4	7.3	1.1	13.1									
	R5	Residential	Bedroom	W7/F02	5	4	1	20	46	44	2.5						
	R6	Residential	Bedroom	W8/F02	18	16	1.3	7.4	47	47	0.3						
	R7	Residential	Bedroom	W9/F02	16	15	1.6	9.8	46	44	3.6						
	R8	Residential	Bedroom	W10/F02	2.2	1.8	0.4	18.2	34	25	27.2						
	R9	Residential	LKD	W11/F02	3.4	3.3	0.1	2.9	37	31	17	1	0	0	0	100	0
				W12/F02	18	16	2.2	12.1				0	0	0	0	0	0
	R10	Residential	Bedroom	W13/F02	21	18	3	14	42	37	12.2						
	R11**	Residential	LKD	W14/F02	23	20	3	13.3	69	54	21.9						
F03	R1	Residential	Bedroom	W1/F03	17	16	1.4	8.1	52	50	4						
	R2	Residential	Bedroom	W2/F03	3.6	3.2	0.4	11.1	47	43	9.4						
	R3	Residential	LKD	W3/F03	2.3	2.3	0	0	74	74	0	0	0	0	0	0	0
				W4/F03	19	18	1	5.3				1	0	1	0	0	0
	R4	Residential	LKD	W5/F03	20	19	0.9	4.5	79	78	2.2						
				W6/F03	9	7.6	1.4	15.6									
	R5	Residential	Bedroom	W7/F03	6.6	5.3	1.3	19.7	54	54	0.3						
	R6	Residential	Bedroom	W8/F03	19	18	1.5	7.9	58	58	0.1						
	R7	Residential	Bedroom	W9/F03	18	17	1.7	9.3	54	53	2.5						
	R8	Residential	Bedroom	W10/F03	3.8	3.2	0.6	15.8	47	36	23.2						
	R9	Residential	LKD	W11/F03	3.8	3.7	0.1	2.6	40	35	11.7	2	0	1	0	50	0
				W12/F03	20	18	2.3	11.3				1	0	1	0	0	0
	R10	Residential	Bedroom	W13/F03	23	20	3	12.9	49	45	8						
	R11**	Residential	LKD	W14/F03	24	21	3	12.3	72	59	17.8						
F04	R1	Residential	Bedroom	W1/F04	19	18	1.7	8.8	62	61	1.7						
	R2	Residential	Bedroom	W2/F04	5.5	5.1	0.4	7.3	67	63	5.4						
	R3	Residential	LKD	W3/F04	2.6	2.6	0	0	75	75	0	0	0	0	0	0	0
				W4/F04	21	20	1.4	6.7				1	0	1	0	0	0
	R4	Residential	LKD	W5/F04	22	21	1.4	6.3	93	93	0.3						
				W6/F04	9.9	8.1	1.8	18.2									
	R5	Residential	Bedroom	W7/F04	9.3	7.6	1.7	18.3	75	75	0.4						
	R6	Residential	Bedroom	W8/F04	21	19	1.9	9.2	74	74	0						
	R7	Residential	Bedroom	W9/F04	20	18	2	10.1	68	67	0.6						
	R8	Residential	Bedroom	W10/F04	6.5	5.8	0.7	10.8	72	64	11.5						
	R9	Residential	LKD	W11/F04	4.4	4.3	0.1	2.3	45	42	7.3	2	0	1	0	50	0
				W12/F04	23	20	2.5	11				1	0	1	0	0	0
	R10	Residential	Bedroom	W13/F04	25	22	3.1	12.2	61	59	3.5						
	R11**	Residential	LKD	W14/F04	26	23	3	11.5	78	69	11.7						
F05	R1	Residential	Bedroom	W1/F05	21	19	2	9.4	80	80	0						
	R2	Residential	Bedroom	W2/F05	7.2	6.7	0.5	6.9	85	82	3.8						
	R3	Residential	LKD	W3/F05	2.9	2.9	0	0	76	76	0	0	0	0	0	0	0
				W4/F05	23	21	1.8	7.8				1	0	1	0	0	0
	R4	Residential	LKD	W5/F05	25	23	1.8	7.3	98	98	0.1						
				W6/F05	9.6	7.6	2	20.8									
	R5	Residential	Bedroom	W7/F05	9.9	8.2	1.7	17.2	88	88	0.2						
	R6	Residential	Bedroom	W8/F05	10	8.4	1.9	18.4	97	97	0						
	R7	Residential	Bedroom	W9/F05	15	12	2.2	15.1	94	94	0						
	R8	Residential	Bedroom	W10/F05	8.3	7.6	0.7	8.4	89	83	6.8						
	R9	Residential	LKD	W11/F05	4.9	4.8	0.1	2	61	58	4.9	2	0	1	0	50	0
				W12/F05	25	23	2.5	9.9				1	0	1	0	0	0
	R10	Residential	Bedroom	W13/F05	28	24	3.1	11.3	84	83	1						

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R11**	Residential	LKD	W14/F05	28	25	3.1	11	87	81	6.6						
F06	R1	Residential	Bedroom	W1/F06	24	21	2.2	9.3	99	99	0						
	R2	Residential	Bedroom	W2/F06	20	20	0.5	2.5	94	94	0						
	R3	Residential	LKD	W3/F06	4.9	4.9	0	0	88	88	0	0	0	0	0	0	0
				W4/F06	26	23	2.1	8.2				1	0	1	0	0	0
	R4	Residential	LKD	W5/F06	27	25	2.1	7.8	100	100	0						
				W6/F06	12	9.8	2.3	19									
	R5	Residential	Bedroom	W7/F06	21	18	2.2	10.7	93	93	0.1						
	R6	Residential	Bedroom	W8/F06	22	19	2.4	11.1	98	98	0						
	R7	Residential	Bedroom	W9/F06	23	20	2.4	10.6	99	99	0						
	R8	Residential	Bedroom	W10/F06	18	18	0.9	4.9	94	93	1						
	R9	Residential	LKD	W11/F06	6.7	6.6	0.1	1.5	91	90	0.9	3	0	2	0	33.3	0
				W12/F06	28	25	2.6	9.3				2	0	2	0	0	0
	R10	Residential	Bedroom	W13/F06	28	25	3	10.8	97	96	0.8						
	R11**	Residential	LKD	W14/F06	29	26	3	10.3	99	95	3.8						
AXIS TOWER																	
B01	R1	Residential	LKD	W1/B01	27	14	13.2	49.4	93	71	23.5	62	16	30	8	51.6	50
				W2/B01	26	14	12.4	47.1				61	17	32	11	47.5	35.3
	R2	Residential	Bedroom	W3/B01	27	15	11.3	42.5	90	76	15.6	62	15	35	10	43.5	33.3
F00	R1	Residential	Bedroom	W1/F00	25	10	14.3	57.9	92	72	21.5	59	19	26	9	55.9	52.6
	R2	Residential	Living Room	W2/F00	23	8.9	13.9	61	97	36	62.9	53	16	21	7	60.4	56.2
	R3	Residential	Kitchen***	W3/F00	25	13	12.2	49.4	95	65	31.1	58	18	28	9	51.7	50
F01	R1	Residential	LKD	W1/F01	4.6	1.3	3.3	71.7	83	15	81.7	12	8	6	2	50	75
				W2/F01	3.4	0.6	2.8	82.4				7	7	2	2	71.4	71.4
	R2	Residential	Bedroom	W3/F01	3.6	1.2	2.4	66.7	76	34	55.9	8	8	3	3	62.5	62.5
	R3	Residential	Bedroom	W4/F01	3.2	0.9	2.3	71.9	68	24	64.8	7	7	2	2	71.4	71.4
	R4	Residential	LKD	W5/F01	3.6	1.8	1.8	50	74	43	41.7	8	8	3	3	62.5	62.5
				W6/F01	3.3	1.6	1.7	51.5				9	9	5	5	44.4	44.4
	R5	Residential	Bedroom	W7/F01	3.8	2.4	1.4	36.8	72	52	28	9	9	6	6	33.3	33.3
				W8/F01	3.4	2.1	1.3	38.2				8	8	5	5	37.5	37.5
	R6	Residential	Living Room	W9/F01	3.9	2.9	1	25.6	79	58	26.2	7	7	4	4	42.9	42.9
				W10/F01	3.5	2.4	1.1	31.4				6	6	3	3	50	50
	R7	Residential	Bedroom	W11/F01	3.9	3.4	0.5	12.8	100	100	0	7	7	6	6	14.3	14.3
				W12/F01	2.1	1.8	0.3	14.3				4	4	4	4	0	0
F02	R1	Residential	LKD	W1/F02	27	18	8.6	32	100	85	15.1	45	8	14	3	68.9	62.5
				W2/F02	33	14	19.4	59				81	24	37	8	54.3	66.7
	R2	Residential	LKD	W3/F02	33	15	18.3	55.6	85	31	63.7	81	24	40	10	50.6	58.3
	R3	Residential	Bedroom	W4/F02	33	16	17.1	52	85	33	61.6	79	22	43	12	45.6	45.5
	R4	Residential	LKD	W5/F02	33	17	15.9	48.5	85	30	64.7	78	22	43	12	44.9	45.5
	R5	Residential	Bedroom	W6/F02	33	18	14.5	44.1	84	35	57.7	79	23	43	13	45.6	43.5
	R6	Residential	LKD	W7/F02	33	19	13.5	41	89	48	46.4	76	21	47	15	38.2	28.6
	R7	Residential	Bedroom	W8/F02	33	20	12.6	38.4	72	37	48.9	77	22	50	16	35.1	27.3
	R8	Residential	Bedroom	W9/F02	33	21	11.6	35.4	62	31	49.5	76	20	50	15	34.2	25
	R9	Residential	Bedroom	W10/F02	33	22	10.3	31.6	86	56	35.1	76	20	50	15	34.2	25
	R10	Residential	LKD	W11/F02	32	23	9.3	28.8	99	99	0.1	73	18	52	15	28.8	16.7
				W12/F02	30	28	2.9	9.5				33	7	33	7	0	0
F03	R1	Residential	LKD	W1/F03	28	19	9.2	32.9	100	85	14.6	45	8	14	3	68.9	62.5
				W2/F03	34	14	19.8	58.9				81	24	39	9	51.9	62.5
	R2**	Residential	LKD	W3/F03	34	15	18.6	55.4	89	34	62.3	81	24	40	10	50.6	58.3
	R3	Residential	Bedroom	W4/F03	34	16	17.3	51.5	89	40	55	80	23	43	12	46.2	47.8

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R4**	Residential	LKD	W5/F03	34	18	16	47.8	93	37	60.4	80	23	44	12	45	47.8
	R5	Residential	Bedroom	W6/F03	34	19	14.7	43.8	88	45	49.6	80	23	44	13	45	43.5
	R6**	Residential	LKD	W7/F03	34	20	13.6	40.6	88	56	36.2	78	21	49	15	37.2	28.6
	R7	Residential	Bedroom	W8/F03	34	21	12.7	37.9	79	46	41.4	78	22	51	16	34.6	27.3
	R8	Residential	Bedroom	W9/F03	34	22	11.7	34.9	69	41	40.8	77	21	51	16	33.8	23.8
	R9	Residential	Bedroom	W10/F03	33	23	10.2	30.7	88	64	26.9	77	21	50	15	35.1	28.6
	R10	Residential	LKD	W11/F03	33	24	9.2	27.9	100	99	0.7	75	19	54	16	28	15.8
				W12/F03	32	29	2.9	9.1				36	7	36	7	0	0
F04	R1	Residential	LKD	W1/F04	28	19	9.2	32.5	100	87	13.2	45	8	44	8	50	62.5
				W2/F04	34	14	20	58.7				81	24	40	9	50.6	62.5
	R2**	Residential	LKD	W3/F04	34	15	18.7	54.8	91	38	58.8	80	23	41	11	48.8	52.2
	R3	Residential	Bedroom	W4/F04	34	17	17.5	51.3	86	33	61.9	80	23	43	12	46.2	47.8
	R4**	Residential	LKD	W5/F04	34	18	16.1	47.2	96	44	54.2	80	23	44	12	45	47.8
	R5	Residential	Bedroom	W6/F04	34	19	14.9	43.7	85	35	58.4	81	24	44	13	45.7	45.8
	R6**	Residential	LKD	W7/F04	34	20	13.7	40.2	88	64	26.5	78	21	51	16	34.6	23.8
	R7	Residential	Bedroom	W8/F04	34	21	13	38.1	72	37	49	80	23	52	16	35	30.4
	R8	Residential	Bedroom	W9/F04	34	22	11.6	34.1	75	50	33.5	80	23	54	17	32.5	26.1
	R9	Residential	Bedroom	W10/F04	34	24	10.3	30.4	89	73	18.5	77	21	51	15	33.8	28.6
	R10	Residential	LKD	W11/F04	34	25	9.1	27.1	100	99	0.9	76	20	55	17	27.6	15
				W12/F04	33	30	2.9	8.8				38	7	38	7	0	0
F05	R1	Residential	LKD	W1/F05	29	19	9.2	32.2	100	88	11.9	45	8	44	8	50	62.5
				W2/F05	35	15	20.1	58.1				81	24	40	9	50.6	62.5
	R2**	Residential	LKD	W3/F05	35	16	18.7	54	94	41	55.9	80	23	42	12	47.5	47.8
	R3	Residential	Bedroom	W4/F05	35	17	17.6	50.9	89	40	55.5	80	23	43	12	46.2	47.8
	R4**	Residential	LKD	W5/F05	35	19	16.1	46.5	98	54	45.1	81	24	44	12	45.7	50
	R5	Residential	Bedroom	W6/F05	35	20	15	43.4	89	44	50.2	81	24	44	13	45.7	45.8
	R6	Residential	LKD	W7/F05	35	21	13.7	39.6	89	73	18.2	80	23	52	17	35	26.1
	R7	Residential	Bedroom	W8/F05	35	22	13	37.6	78	46	41.6	80	23	52	16	35	30.4
	R8	Residential	Bedroom	W9/F05	35	23	11.6	33.5	80	57	28.8	80	23	53	17	33.8	26.1
	R9	Residential	Bedroom	W10/F05	34	24	10.2	29.7	87	80	8.2	79	22	53	16	32.9	27.3
	R10	Residential	LKD	W11/F05	34	25	9	26.3	100	99	1.1	76	20	55	17	27.6	15
				W12/F05	34	31	2.8	8.2				38	7	38	7	0	0
F06	R1	Residential	LKD	W1/F06	29	20	9.2	31.9	100	87	13.5	45	8	44	8	50	62.5
				W2/F06	35	14	20.9	59.7				81	24	36	8	55.6	66.7
	R2	Residential	LKD	W3/F06	35	16	19.3	55	88	33	62.6	81	24	41	11	49.4	54.2
	R3	Residential	Bedroom	W4/F06	35	17	17.9	51	87	33	61.7	81	24	43	12	46.9	50
	R4	Residential	LKD	W5/F06	35	18	16.7	47.6	88	31	65	81	24	44	12	45.7	50
	R5	Residential	Bedroom	W6/F06	35	20	15.2	43.3	86	37	57.6	81	24	44	13	45.7	45.8
	R6	Residential	LKD	W7/F06	35	21	14.2	40.5	90	49	45.3	80	23	50	16	37.5	30.4
	R7	Residential	Bedroom	W8/F06	35	22	13.2	37.6	73	38	48.3	81	24	53	17	34.6	29.2
	R8	Residential	Bedroom	W9/F06	35	23	11.7	33.3	75	50	33.2	81	24	55	18	32.1	25
	R9	Residential	Bedroom	W10/F06	35	25	10.5	30	86	56	34.4	79	22	52	16	34.2	27.3
	R10	Residential	LKD	W11/F06	35	26	9.1	26.1	100	99	0.9	77	20	56	17	27.3	15
				W12/F06	35	32	2.8	8				40	8	40	8	0	0
F07	R1	Residential	LKD	W1/F07	29	20	9.1	31.4	100	86	13.7	45	8	44	8	50	62.5
				W2/F07	35	15	20.9	59				81	24	36	8	55.6	66.7
	R2**	Residential	LKD	W3/F07	35	16	19.2	54.2	90	35	61.5	82	25	41	11	50	56
	R3	Residential	Bedroom	W4/F07	36	18	17.9	50.4	90	41	54.6	81	24	43	12	46.9	50
	R4**	Residential	LKD	W5/F07	36	19	16.6	46.8	94	37	60.2	81	24	44	12	45.7	50
	R5	Residential	Bedroom	W6/F07	36	20	15.1	42.5	90	46	49.5	81	24	44	13	45.7	45.8
	R6**	Residential	LKD	W7/F07	36	21	14.1	39.7	90	57	36.4	80	23	50	16	37.5	30.4

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R7	Residential	Bedroom	W8/F07	36	23	13	36.6	79	47	40.9	81	24	53	17	34.6	29.2
	R8	Residential	Bedroom	W9/F07	36	24	11.6	32.7	80	57	28	81	24	54	18	33.3	25
	R9	Residential	Bedroom	W10/F07	35	25	10.4	29.4	89	65	26.6	81	24	54	18	33.3	25
	R10	Residential	LKD	W11/F07	35	26	9	25.5	100	99	1.1	79	22	58	19	26.6	13.6
				W12/F07	36	33	2.7	7.5				41	9	41	9	0	0
F08	R1	Residential	LKD	W1/F08	29	20	9.1	31.2	100	86	13.6	45	6	44	7	60	63.6
				W2/F08	36	15	20.8	58.4				81	24	37	8	54.3	66.7
	R2**	Residential	LKD	W3/F08	36	17	19.2	53.8	93	38	58.9	81	24	41	11	49.4	54.2
	R3	Residential	Bedroom	W4/F08	36	18	17.8	49.7	91	47	48.7	81	24	44	12	45.7	50
	R4**	Residential	LKD	W5/F08	36	19	16.5	46.1	97	46	52.8	81	24	44	12	45.7	50
	R5	Residential	Bedroom	W6/F08	36	21	15.1	42.1	92	57	38.2	82	25	47	15	42.7	40
	R6**	Residential	LKD	W7/F08	36	22	14	39	89	65	27.1	80	23	52	17	35	26.1
	R7	Residential	Bedroom	W8/F08	36	23	12.9	35.9	83	55	33.5	81	24	53	17	34.6	29.2
	R8	Residential	Bedroom	W9/F08	36	24	11.4	31.8	81	63	22.7	81	24	55	18	32.1	25
	R9	Residential	Bedroom	W10/F08	36	26	10.3	28.8	89	73	17.9	81	24	55	18	32.1	25
	R10	Residential	LKD	W11/F08	36	27	8.9	24.9	100	99	1	80	23	59	19	26.2	17.4
				W12/F08	37	34	2.7	7.3				42	10	42	10	0	0
F09	R1	Residential	LKD	W1/F09	29	20	9	30.6	100	86	13.7	45	6	44	7	60	63.6
				W2/F09	36	15	20.7	57.7				82	25	39	9	52.4	64
	R2**	Residential	LKD	W3/F09	36	17	19	52.9	96	42	56.2	81	24	42	12	48.1	50
	R3	Residential	Bedroom	W4/F09	36	18	17.6	48.9	89	55	38.1	81	24	43	12	46.9	50
	R4**	Residential	LKD	W5/F09	36	20	16.3	45.3	98	55	44.3	81	24	44	12	45.7	50
	R5	Residential	Bedroom	W6/F09	36	21	14.9	41.3	90	67	25.8	82	25	50	15	39	40
	R6	Residential	LKD	W7/F09	36	22	13.8	38.2	90	74	18	81	24	52	17	35.8	29.2
	R7	Residential	Bedroom	W8/F09	36	23	12.7	35.2	84	62	26.8	82	25	53	17	35.4	32
	R8	Residential	Bedroom	W9/F09	36	25	11.3	31.3	80	67	16.9	81	24	54	17	33.3	29.2
	R9	Residential	Bedroom	W10/F09	36	26	10.1	28	87	80	7.7	81	24	54	17	33.3	29.2
	R10	Residential	LKD	W11/F09	36	27	8.8	24.4	100	99	0.6	80	23	59	19	26.2	17.4
				W12/F09	37	35	2.6	7				42	10	42	10	0	0
F10	R1	Residential	LKD	W1/F10	30	21	8.9	30.1	100	81	19	45	7	44	7	61.1	63.7
				W2/F10	36	16	20.5	56.8				83	26	41	10	50.6	61.5
	R2	Residential	LKD	W3/F10	36	17	19.2	53.2	85	27	68.8	83	26	42	12	49.4	53.8
	R3	Residential	Bedroom	W4/F10	36	18	18	49.7	89	32	64.4	82	25	44	13	46.3	48
	R4	Residential	LKD	W5/F10	36	20	16.7	46.1	88	29	66.8	82	25	45	13	45.1	48
	R5	Residential	Bedroom	W6/F10	36	21	15.6	43	82	27	67.2	83	26	44	13	47	50
	R6	Residential	LKD	W7/F10	36	22	14	38.6	87	54	37.4	82	25	51	17	37.8	32
	R7	Residential	Bedroom	W8/F10	36	23	12.9	35.5	98	64	34.3	83	26	54	18	34.9	30.8
	R8	Residential	Bedroom	W9/F10	36	25	11.6	32	81	42	48.5	83	26	56	19	32.5	26.9
	R9	Residential	Bedroom	W10/F10	36	26	10.5	28.8	90	63	30.4	83	26	55	19	33.7	26.9
	R10	Residential	LKD	W11/F10	36	28	8.7	23.9	100	99	1.1	81	24	60	20	25.9	16.7
				W12/F10	38	35	2.6	6.9				43	11	43	11	0	0
F11	R1	Residential	LKD	W1/F11	29	21	8.5	28.9	100	83	17.4	43	7	44	7	57.6	63.7
				W2/F11	36	16	20.4	56.2				83	26	41	10	50.6	61.5
	R2	Residential	LKD	W3/F11	36	17	19.1	52.6	89	29	67.3	83	26	43	13	48.2	50
	R3	Residential	Bedroom	W4/F11	36	19	17.9	49.2	91	38	58.1	82	25	44	13	46.3	48
	R4**	Residential	LKD	W5/F11	36	20	16.6	45.6	97	36	63.1	82	25	45	13	45.1	48
	R5	Residential	Bedroom	W6/F11	36	21	15.3	42	86	35	60	83	26	44	13	47	50
	R6	Residential	LKD	W7/F11	37	23	13.9	38.1	89	62	30.2	82	25	53	18	35.4	28
	R7	Residential	Bedroom	W8/F11	37	24	12.8	35.1	98	73	25.9	83	26	54	18	34.9	30.8
	R8	Residential	Bedroom	W9/F11	37	25	11.4	31.2	86	48	43.8	83	26	56	19	32.5	26.9
	R9	Residential	Bedroom	W10/F11	37	26	10.3	28.1	91	72	21.2	84	27	55	19	34.5	29.6

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R10	Residential	LKD	W11/F11	37	28	8.5	23.2	100	99	1	83	26	61	21	26.5	19.2
				W12/F11	38	36	2.5	6.5				44	12	44	12	0	0
F12	R1	Residential	LKD	W1/F12	30	21	8.4	28.4	100	85	14.8	54	6	12	1	55.6	83.3
				W2/F12	36	16	20.2	55.5				83	26	42	10	49.4	61.5
	R2	Residential	LKD	W3/F12	37	18	19	52.1	90	32	64.1	83	26	43	13	48.2	50
	R3	Residential	Bedroom	W4/F12	37	19	17.7	48.5	93	47	49.5	82	25	45	13	45.1	48
	R4**	Residential	LKD	W5/F12	37	20	16.4	44.9	99	44	55.2	82	25	45	13	45.1	48
	R5	Residential	Bedroom	W6/F12	37	21	15.2	41.5	90	44	51.2	83	26	45	14	45.8	46.2
	R6	Residential	LKD	W7/F12	37	23	13.7	37.4	89	68	23.1	84	27	53	18	36.9	33.3
	R7	Residential	Bedroom	W8/F12	37	24	12.5	34.2	98	83	16	85	28	54	18	36.5	35.7
	R8	Residential	Bedroom	W9/F12	37	25	11.3	30.8	88	57	34.6	85	28	56	20	34.1	28.6
	R9	Residential	Bedroom	W10/F12	37	27	10.1	27.5	90	80	11.2	85	28	56	19	34.1	32.1
	R10	Residential	LKD	W11/F12	37	28	8.4	22.8	100	100	0.1	83	26	61	21	26.5	19.2
				W12/F12	38	36	2.4	6.3				44	12	44	12	0	0
F13	R1	Residential	LKD	W1/F13	30	22	8.3	27.9	100	88	11.9	54	6	12	1	55.6	83.3
				W2/F13	37	17	20	54.8				83	26	42	10	49.4	61.5
	R2	Residential	LKD	W3/F13	37	18	18.8	51.4	92	39	58.1	83	26	44	14	47	46.2
	R3	Residential	Bedroom	W4/F13	37	19	17.4	47.5	92	57	38.2	83	26	44	13	47	50
	R4**	Residential	LKD	W5/F13	37	21	16.2	44.1	99	54	45.6	83	26	45	13	45.8	50
	R5	Residential	Bedroom	W6/F13	37	22	14.9	40.6	91	52	43	84	27	45	14	46.4	48.1
	R6	Residential	LKD	W7/F13	37	23	13.4	36.5	86	74	14.7	84	27	53	18	36.9	33.3
	R7	Residential	Bedroom	W8/F13	37	24	12.4	33.7	98	90	7.8	85	28	53	18	37.6	35.7
	R8	Residential	Bedroom	W9/F13	37	26	11.1	30.2	86	66	22.9	85	28	57	20	32.9	28.6
	R9	Residential	Bedroom	W10/F13	37	27	9.9	26.9	87	86	0.5	85	28	56	19	34.1	32.1
	R10	Residential	LKD	W11/F13	37	29	8.2	22.2	100	100	0	83	26	61	21	26.5	19.2
				W12/F13	39	36	2.3	6				44	12	44	12	0	0
F14	R1	Residential	LKD	W1/F14	30	22	8.1	27	100	87	12.8	54	6	12	1	55.6	83.3
				W2/F14	37	16	20.6	56.3				83	26	37	9	55.4	65.4
	R2	Residential	LKD	W3/F14	37	18	19.2	52.3	96	47	51.3	83	26	42	12	49.4	53.8
	R3	Residential	Bedroom	W4/F14	37	19	17.8	48.5	90	32	63.8	83	26	44	13	47	50
	R4	Residential	LKD	W5/F14	37	20	16.5	44.8	91	30	67	83	26	45	13	45.8	50
	R5	Residential	Bedroom	W6/F14	37	22	15.3	41.6	82	27	67.4	84	27	44	13	47.6	51.9
	R6	Residential	LKD	W7/F14	37	23	13.8	37.4	86	52	39.1	84	27	51	17	39.3	37
	R7	Residential	Bedroom	W8/F14	37	24	12.7	34.4	98	65	33.5	85	28	54	18	36.5	35.7
	R8	Residential	Bedroom	W9/F14	37	26	11.3	30.6	82	42	48.4	85	28	56	19	34.1	32.1
	R9	Residential	Bedroom	W10/F14	37	27	10.1	27.4	89	62	30.6	85	28	55	19	35.3	32.1
	R10	Residential	LKD	W11/F14	37	28	9	24.3	99	99	0.3	85	28	61	21	28.2	25
				W12/F14	39	36	2.2	5.7				44	12	44	12	0	0
F15	R1	Residential	LKD	W1/F15	30	22	8.1	26.7	100	85	14.9	54	6	12	1	55.6	83.3
				W2/F15	37	16	20.5	55.7				83	26	38	9	54.2	65.4
	R2	Residential	LKD	W3/F15	37	18	19	51.6	97	48	50.6	83	26	43	12	48.2	53.8
	R3	Residential	Bedroom	W4/F15	37	19	17.6	47.7	92	40	56.3	83	26	44	13	47	50
	R4**	Residential	LKD	W5/F15	37	21	16.3	44.2	98	36	63.1	83	26	45	13	45.8	50
	R5	Residential	Bedroom	W6/F15	37	22	15	40.7	87	34	60.5	84	27	44	13	47.6	51.9
	R6	Residential	LKD	W7/F15	37	23	13.6	36.8	89	62	29.7	84	27	53	18	36.9	33.3
	R7	Residential	Bedroom	W8/F15	37	25	12.4	33.5	98	74	25.1	85	28	54	18	36.5	35.7
	R8	Residential	Bedroom	W9/F15	37	26	11.1	30	86	48	44.1	85	28	56	19	34.1	32.1
	R9	Residential	Bedroom	W10/F15	37	27	10	27	91	71	21.5	85	28	55	19	35.3	32.1
	R10	Residential	LKD	W11/F15	37	28	8.8	23.7	100	99	0.8	85	28	62	22	27.1	21.4
				W12/F15	39	37	2	5.2				45	13	45	13	0	0
F16	R1	Residential	LKD	W1/F16	31	23	8	26.2	100	84	16.5	54	6	12	1	55.6	83.3

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W2/F16	37	17	20.2	54.7				83	26	40	10	51.8	61.5
	R2	Residential	LKD	W3/F16	37	18	18.7	50.7	98	50	48.8	83	26	43	12	48.2	53.8
	R3	Residential	Bedroom	W4/F16	37	19	17.6	47.6	90	33	63.5	83	26	44	13	47	50
	R4**	Residential	LKD	W5/F16	37	21	16	43.2	99	45	54.5	83	26	45	13	45.8	50
	R5	Residential	Bedroom	W6/F16	37	22	14.8	39.9	89	43	52.2	85	28	46	14	45.9	50
	R6	Residential	LKD	W7/F16	37	24	13.3	35.8	89	69	22.6	85	28	53	18	37.6	35.7
	R7	Residential	Bedroom	W8/F16	37	25	12.1	32.6	98	83	15.3	85	28	54	18	36.5	35.7
	R8	Residential	Bedroom	W9/F16	37	26	10.9	29.3	87	56	35.4	85	28	56	20	34.1	28.6
	R9	Residential	Bedroom	W10/F16	37	27	10	26.9	89	62	30.5	85	28	55	19	35.3	32.1
	R10	Residential	LKD	W11/F16	37	29	8.6	23.1	100	99	1.2	85	28	63	22	25.9	21.4
				W12/F16	39	37	2	5.2				45	13	45	13	0	0
F17	R1	Residential	LKD	W1/F17	31	23	7.8	25.4	100	83	17.5	57	7	17	5	54.1	64.7
				W2/F17	37	17	20	54.1				83	26	41	11	50.6	57.7
	R2	Residential	LKD	W3/F17	37	19	18.5	49.9	98	54	44.7	84	27	44	13	47.6	51.9
	R3	Residential	Bedroom	W4/F17	37	20	17.4	46.9	92	40	56.5	84	27	44	13	47.6	51.9
	R4**	Residential	LKD	W5/F17	37	21	15.7	42.3	99	55	44.9	84	27	46	13	45.2	51.9
	R5	Residential	Bedroom	W6/F17	37	23	14.5	39	91	50	44.9	85	28	46	14	45.9	50
	R6	Residential	LKD	W7/F17	37	24	13	34.9	87	75	14.3	85	28	53	18	37.6	35.7
	R7	Residential	Bedroom	W8/F17	37	25	11.9	32	98	90	7.2	85	28	53	18	37.6	35.7
	R8	Residential	Bedroom	W9/F17	37	27	10.7	28.7	87	66	23.5	85	28	57	20	32.9	28.6
	R9	Residential	Bedroom	W10/F17	37	28	9.7	26	91	71	21.5	85	28	56	19	34.1	32.1
	R10	Residential	LKD	W11/F17	37	29	8.3	22.3	100	99	1.3	85	28	63	22	25.9	21.4
				W12/F17	39	37	1.8	4.7				45	13	45	13	0	0
F18	R1	Residential	LKD	W1/F18	31	23	7.8	25.2	100	82	17.8	57	7	18	5	54.4	64.7
				W2/F18	37	17	19.7	53.1				84	27	42	10	50	63
	R2	Residential	LKD	W3/F18	37	19	18.6	50	97	49	49.6	84	27	42	12	50	55.6
	R3	Residential	Bedroom	W4/F18	37	20	17.3	46.5	90	33	63.4	84	27	44	13	47.6	51.9
	R4	Residential	LKD	W5/F18	37	21	16	43	93	29	68.9	84	27	46	13	45.2	51.9
	R5	Residential	Bedroom	W6/F18	37	23	14.8	39.7	84	19	77	85	28	46	13	45.9	53.6
	R6	Residential	LKD	W7/F18	37	24	13.2	35.4	86	55	36.5	85	28	52	17	38.8	39.3
	R7	Residential	Bedroom	W8/F18	37	25	12.2	32.6	98	65	33.8	85	28	55	18	35.3	35.7
	R8	Residential	Bedroom	W9/F18	37	27	10.9	29.1	83	44	46.5	85	28	58	19	31.8	32.1
	R9	Residential	Bedroom	W10/F18	37	28	9.7	25.9	90	64	28.5	85	28	58	19	31.8	32.1
	R10	Residential	LKD	W11/F18	38	30	7.8	20.8	100	100	0.2	85	28	64	22	24.7	21.4
				W12/F18	39	37	1.7	4.4				45	13	45	13	0	0
F19	R1	Residential	LKD	W1/F19	31	24	7.6	24.4	100	84	16.5	58	8	24	5	58.5	64
				W2/F19	37	18	19.5	52.3				85	28	43	11	49.4	60.7
	R2	Residential	LKD	W3/F19	37	19	18.3	49.1	98	50	48.6	85	28	43	12	49.4	57.1
	R3	Residential	Bedroom	W4/F19	37	20	17	45.6	92	40	56.9	84	27	45	13	46.4	51.9
	R4	Residential	LKD	W5/F19	37	22	15.8	42.2	99	36	63.9	84	27	46	13	45.2	51.9
	R5	Residential	Bedroom	W6/F19	37	23	14.4	38.5	88	38	57.6	85	28	47	14	44.7	50
	R6	Residential	LKD	W7/F19	37	25	12.9	34.5	89	64	27.9	85	28	54	18	36.5	35.7
	R7	Residential	Bedroom	W8/F19	38	26	11.9	31.7	99	74	25.4	85	28	57	18	32.9	35.7
	R8	Residential	Bedroom	W9/F19	38	27	10.6	28.3	87	50	42.1	85	28	60	19	29.4	32.1
	R9	Residential	Bedroom	W10/F19	38	28	9.4	25.1	91	74	18.7	85	28	59	19	30.6	32.1
	R10	Residential	LKD	W11/F19	38	30	7.5	19.9	100	100	0	85	28	66	22	22.4	21.4
				W12/F19	39	37	1.4	3.6				45	13	45	13	0	0
F20	R1	Residential	LKD	W1/F20	32	24	7.5	23.8	100	86	13.9	58	8	24	5	58.5	64
				W2/F20	37	18	19.1	51.1				85	28	47	11	44.7	60.7
	R2	Residential	LKD	W3/F20	37	20	17.9	47.9	98	54	45.6	85	28	47	13	44.7	53.6
	R3	Residential	Bedroom	W4/F20	38	21	17	45.3	89	33	63.5	85	28	49	13	42.4	53.6

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R4**	Residential	LKD	W5/F20	38	22	15.4	41.1	99	43	56.6	84	27	49	13	41.7	51.9
	R5	Residential	Bedroom	W6/F20	38	23	14.4	38.4	84	19	77.6	85	28	49	13	42.4	53.6
	R6	Residential	LKD	W7/F20	38	25	12.9	34.3	86	55	36.1	85	28	56	17	34.1	39.3
	R7	Residential	Bedroom	W8/F20	38	26	11.8	31.4	98	64	34.7	85	28	60	18	29.4	35.7
	R8	Residential	Bedroom	W9/F20	38	27	10.5	27.9	82	45	45.8	85	28	61	19	28.2	32.1
	R9	Residential	Bedroom	W10/F20	38	28	9.4	25	89	64	28.1	85	28	60	19	29.4	32.1
	R10	Residential	LKD	W11/F20	38	30	7.5	19.9	100	100	0.2	85	28	67	22	21.2	21.4
				W12/F20	39	38	1.2	3.1				45	13	45	13	0	0
F21	R1	Residential	LKD	W1/F21	32	24	7.4	23.3	100	89	11.2	45	13	45	13	0	0
				W2/F21	38	19	18.7	49.9				85	28	49	11	42.4	60.7
	R2	Residential	LKD	W3/F21	38	20	17.5	46.7	98	60	39	85	28	51	14	40	50
	R3	Residential	Bedroom	W4/F21	38	21	16.6	44.1	92	40	56.2	84	27	50	13	40.5	51.9
	R4**	Residential	LKD	W5/F21	38	23	15	39.9	99	53	46.6	84	27	50	13	40.5	51.9
	R5	Residential	Bedroom	W6/F21	38	24	14	37.2	88	37	57.6	85	28	53	14	37.6	50
	R6	Residential	LKD	W7/F21	38	25	12.6	33.4	89	65	26.9	85	28	59	18	30.6	35.7
	R7	Residential	Bedroom	W8/F21	38	26	11.5	30.5	98	73	25.9	85	28	62	18	27.1	35.7
	R8	Residential	Bedroom	W9/F21	38	28	10.2	27.1	87	51	41.2	85	28	62	19	27.1	32.1
	R9	Residential	Bedroom	W10/F21	38	29	9.1	24.1	91	74	18	85	28	63	19	25.9	32.1
	R10	Residential	LKD	W11/F21	38	31	7.2	19	100	100	0	85	28	68	22	20	21.4
				W12/F21	39	38	1.1	2.8				45	13	45	13	0	0
F22	R1	Residential	LKD	W1/F22	32	25	7.2	22.5	100	88	11.6	45	13	45	13	0	0
				W2/F22	38	19	19	50.5				85	28	45	9	47.1	67.9
	R2	Residential	LKD	W3/F22	38	20	17.4	46.3	98	52	46.8	85	28	53	13	37.6	53.6
	R3	Residential	Bedroom	W4/F22	38	21	16.4	43.5	90	35	61.4	85	28	53	13	37.6	53.6
	R4	Residential	LKD	W5/F22	38	23	15.2	40.3	97	30	69.3	84	27	53	13	36.9	51.9
	R5	Residential	Bedroom	W6/F22	38	24	13.8	36.6	85	31	63.2	85	28	54	13	36.5	53.6
	R6	Residential	LKD	W7/F22	38	25	12.4	32.8	86	58	33.4	85	28	59	17	30.6	39.3
	R7	Residential	Bedroom	W8/F22	38	27	11.1	29.4	98	81	17.2	85	28	63	18	25.9	35.7
	R8	Residential	Bedroom	W9/F22	38	28	10	26.5	83	46	44.4	85	28	63	19	25.9	32.1
	R9	Residential	Bedroom	W10/F22	38	29	8.9	23.5	90	67	25.6	85	28	64	19	24.7	32.1
	R10	Residential	LKD	W11/F22	38	30	7.9	20.8	99	99	0.4	85	28	68	21	20	25
				W12/F22	39	38	0.9	2.3				45	13	45	13	0	0
F23	R1	Residential	LKD	W1/F23	32	25	7	21.7	100	86	13.8	45	13	45	13	0	0
				W2/F23	38	19	18.5	49.1				85	28	51	10	40	64.3
	R2	Residential	LKD	W3/F23	38	21	17	45	98	57	42	85	28	54	13	36.5	53.6
	R3	Residential	Bedroom	W4/F23	38	22	15.9	42.1	92	42	54.4	85	28	54	13	36.5	53.6
	R4	Residential	LKD	W5/F23	38	23	14.7	38.9	99	36	63.4	85	28	55	13	35.3	53.6
	R5	Residential	Bedroom	W6/F23	38	25	13.3	35.2	89	32	63.7	85	28	56	14	34.1	50
	R6	Residential	LKD	W7/F23	38	26	12	31.7	89	67	25	85	28	62	18	27.1	35.7
	R7	Residential	Bedroom	W8/F23	38	27	10.7	28.2	98	89	8.6	85	28	63	18	25.9	35.7
	R8	Residential	Bedroom	W9/F23	38	28	9.6	25.3	87	53	39.1	85	28	64	19	24.7	32.1
	R9	Residential	Bedroom	W10/F23	38	29	8.6	22.6	91	77	15.4	85	28	65	19	23.5	32.1
	R10	Residential	LKD	W11/F23	38	31	7.5	19.7	100	99	0.8	85	28	70	22	17.6	21.4
				W12/F23	39	38	0.7	1.8				45	13	45	13	0	0
F24	R1	Residential	LKD	W1/F24	33	26	7	21.5	100	85	15.5	45	13	45	13	0	0
				W2/F24	38	20	18	47.6				85	28	53	11	37.6	60.7
	R2	Residential	LKD	W3/F24	38	21	16.9	44.6	96	50	48.4	85	28	52	12	38.8	57.1
	R3	Residential	Bedroom	W4/F24	38	22	15.6	41.2	90	36	60.4	85	28	55	13	35.3	53.6
	R4	Residential	LKD	W5/F24	38	24	14.4	38	97	29	69.9	85	28	55	13	35.3	53.6
	R5	Residential	Bedroom	W6/F24	38	25	13	34.3	97	61	37.6	85	28	57	14	32.9	50
	R6	Residential	LKD	W7/F24	38	26	11.7	30.8	87	60	31	85	28	61	17	28.2	39.3

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R7	Residential	Bedroom	W8/F24	38	27	10.7	28.2	98	65	33.4	85	28	64	18	24.7	35.7
	R8	Residential	Bedroom	W9/F24	38	29	9.4	24.7	83	49	41.9	85	28	66	19	22.4	32.1
	R9	Residential	Bedroom	W10/F24	38	30	8.3	21.8	90	69	22.8	85	28	66	19	22.4	32.1
	R10	Residential	LKD	W11/F24	38	31	7.3	19.2	100	99	1.4	85	28	71	22	16.5	21.4
				W12/F24	39	38	0.5	1.3				45	13	45	13	0	0
F25	R1	Residential	LKD	W1/F25	33	26	6.8	20.8	100	84	16.4	48	8	25	5	47.9	75
				W2/F25	38	21	17.3	45.6				86	29	56	12	34.9	58.6
	R2	Residential	LKD	W3/F25	38	22	16.3	42.9	97	50	48.6	86	29	54	12	37.2	58.6
	R3	Residential	Bedroom	W4/F25	38	23	15	39.5	92	44	52.7	85	28	56	13	34.1	53.6
	R4	Residential	LKD	W5/F25	38	24	13.9	36.6	99	35	64.4	85	28	58	14	31.8	50
	R5	Residential	Bedroom	W6/F25	38	26	12.4	32.6	98	69	29.8	85	28	60	15	29.4	46.4
	R6	Residential	LKD	W7/F25	38	27	11.2	29.4	89	68	23.9	85	28	63	18	25.9	35.7
	R7	Residential	Bedroom	W8/F25	38	28	10.2	26.8	98	74	25.2	85	28	65	18	23.5	35.7
	R8	Residential	Bedroom	W9/F25	38	29	9	23.6	87	55	37.3	85	28	66	19	22.4	32.1
	R9	Residential	Bedroom	W10/F25	38	30	7.9	20.7	91	78	13.6	85	28	68	19	20	32.1
	R10	Residential	LKD	W11/F25	38	31	6.9	18.1	100	99	1.4	85	28	72	22	15.3	21.4
				W12/F25	39	39	0.4	1				45	13	45	13	0	0
F26	R1	Residential	LKD	W1/F26	33	26	6.6	20	100	83	16.7	48	8	27	5	43.8	75
				W2/F26	38	21	16.6	43.7				86	29	57	11	33.7	62.1
	R2	Residential	LKD	W3/F26	38	23	15.6	40.9	98	54	44.8	86	29	60	13	30.2	55.2
	R3	Residential	Bedroom	W4/F26	38	24	14.3	37.5	92	53	42.3	85	28	62	14	27.1	50
	R4**	Residential	LKD	W5/F26	38	25	13.2	34.6	99	42	57.8	85	28	62	14	27.1	50
	R5	Residential	Bedroom	W6/F26	38	26	11.8	31	98	75	23.1	85	28	65	16	23.5	42.9
	R6	Residential	LKD	W7/F26	38	28	10.6	27.7	89	76	13.8	85	28	67	18	21.2	35.7
	R7	Residential	Bedroom	W8/F26	38	29	9.6	25.1	98	82	16.4	85	28	68	18	20	35.7
	R8	Residential	Bedroom	W9/F26	38	30	8.4	22	87	67	23.6	85	28	70	20	17.6	28.6
	R9	Residential	Bedroom	W10/F26	38	31	7.4	19.4	89	86	4.4	85	28	70	19	17.6	32.1
	R10	Residential	LKD	W11/F26	38	32	6.4	16.7	100	99	1.3	85	28	74	22	12.9	21.4
				W12/F26	39	39	0.2	0.5				45	13	45	13	0	0
VIADUX - PHASE 1																	
F02	R1	Residential	LKD	W1/F02	33	22	11.3	34.3	100	96	4.5	69	22	45	8	34.8	63.6
				W2/F02	33	21	11.4	34.8				68	21	43	8	36.8	61.9
				W9/F02	27	15	11.5	42.9				32	6	26	5	18.8	0
	R2	Residential	Bedroom	W3/F02	33	21	11.6	35.5	92	78	14.9	68	21	43	8	36.8	61.9
	R3	Residential	Bedroom	W4/F02	33	21	11.7	35.9	99	95	3.4	67	20	38	5	43.3	75
	R4	Residential	LKD	W5/F02	32	21	11.9	36.7	100	99	0.6	67	21	40	8	40.3	61.9
				W6/F02	32	14	17.7	55.7				47	15	18	4	61.7	73.3
				W7/F02	32	14	18.3	57.5				46	14	22	5	52.2	64.3
				W8/F02	32	13	18.7	58.6				47	14	22	5	53.2	64.3
F03	R1	Residential	LKD	W1/F03	33	22	11.2	33.7	100	96	4.2	71	22	47	8	33.8	63.6
				W2/F03	33	22	11.3	34.1				68	21	44	8	35.3	61.9
				W9/F03	27	16	11.5	42.1				33	6	27	6	18.2	0
	R2	Residential	Bedroom	W3/F03	33	22	11.5	34.8	92	78	14.8	69	21	44	8	36.2	61.9
	R3	Residential	Bedroom	W4/F03	33	21	11.7	35.6	99	95	3.7	69	21	41	6	40.6	71.4
	R4	Residential	LKD	W5/F03	33	21	11.8	36.1	100	99	0.6	69	22	43	9	37.7	59.1
				W6/F03	32	15	17.8	55.1				49	16	21	5	57.1	68.8
				W7/F03	32	14	18.5	57.1				47	14	24	5	48.9	64.3
				W8/F03	32	14	18.8	58				48	14	23	5	52.1	64.3
F04	R1	Residential	LKD	W1/F04	34	22	11.2	33.4	100	96	4	71	22	47	8	33.8	63.6
				W2/F04	33	22	11.3	33.8				70	21	46	8	34.3	61.9

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W9/F04	28	16	11.4	41.3				33	6	27	6	18.2	0
	R2	Residential	Bedroom	W3/F04	33	22	11.5	34.5	92	78	15.1	69	21	45	8	34.8	61.9
	R3	Residential	Bedroom	W4/F04	33	22	11.6	34.9	99	96	3.4	70	22	43	7	38.6	68.2
	R4	Residential	LKD	W5/F04	33	21	11.7	35.5	100	99	0.6	69	22	44	9	36.2	59.1
				W6/F04	33	15	17.9	54.7				49	16	22	5	55.1	68.8
				W7/F04	33	14	18.5	56.4				47	14	24	5	48.9	64.3
				W8/F04	33	14	19	57.8				49	14	24	5	51	64.3
F05	R1	Residential	LKD	W1/F05	34	23	11	32.6	100	96	3.9	72	22	48	8	33.3	63.6
				W2/F05	34	23	11.2	33.2				70	21	46	8	34.3	61.9
				W9/F05	28	17	11.1	39.8				34	6	28	6	17.6	0
	R2	Residential	Bedroom	W3/F05	34	22	11.4	33.9	92	78	14.7	71	22	47	9	33.8	59.1
	R3	Residential	Bedroom	W4/F05	34	22	11.5	34.3	99	95	3.4	71	22	44	7	38	68.2
	R4	Residential	LKD	W5/F05	33	22	11.6	34.9	100	99	0.6	70	22	45	9	35.7	59.1
				W6/F05	33	15	17.9	54.1				50	16	23	5	54	68.8
				W7/F05	33	15	18.6	56				47	14	24	5	48.9	64.3
				W8/F05	33	14	19	57.1				50	14	25	5	50	64.3
F06	R1	Residential	LKD	W1/F06	34	23	10.9	32.1	100	96	3.7	72	22	48	8	33.3	63.6
				W2/F06	34	23	11	32.4				70	21	46	8	34.3	61.9
				W9/F06	28	17	10.8	38.4				34	6	28	6	17.7	0
	R2	Residential	Bedroom	W3/F06	34	23	11.2	33.1	92	78	14.8	72	22	48	9	33.3	59.1
	R3	Residential	Bedroom	W4/F06	34	22	11.3	33.5	99	95	3.5	72	22	45	7	37.5	68.2
	R4	Residential	LKD	W5/F06	34	22	11.5	34.3	100	99	0.6	72	22	47	9	34.7	59.1
				W6/F06	34	16	18	53.7				50	16	23	5	54	68.8
				W7/F06	34	15	18.6	55.4				49	14	27	5	44.9	64.3
				W8/F06	34	15	19.1	56.7				51	14	26	5	49	64.3
F07	R1	Residential	LKD	W1/F07	34	24	10.7	31.3	100	97	3.5	74	22	51	8	31.1	63.6
				W2/F07	34	23	10.9	31.9				74	23	51	10	31.1	56.5
				W9/F07	28	18	10.5	37				35	6	29	5	17.1	16.7
	R2	Residential	Bedroom	W3/F07	34	23	11.1	32.6	92	78	14.5	74	22	51	9	31.1	59.1
	R3	Residential	Bedroom	W4/F07	34	23	11.3	33.2	99	96	3.4	74	22	47	7	36.5	68.2
	R4	Residential	LKD	W5/F07	34	22	11.3	33.5	100	99	0.6	73	22	48	9	34.2	59.1
				W6/F07	34	16	17.9	53				50	16	23	5	54	68.8
				W7/F07	34	15	18.6	54.9				51	14	28	5	45.1	64.3
				W8/F07	34	15	19	55.9				51	14	27	5	47.1	64.3
F08	R1	Residential	LKD	W1/F08	35	24	10.5	30.4	100	97	3.4	76	23	54	9	28.9	60.9
				W2/F08	34	24	10.7	31.1				76	23	53	10	30.3	56.5
				W9/F08	29	19	10	35				37	7	32	7	13.5	0
	R2	Residential	Bedroom	W3/F08	34	23	10.9	31.8	92	79	14.5	76	23	53	10	30.3	56.5
	R3	Residential	Bedroom	W4/F08	34	23	11	32.2	99	95	3.4	74	22	48	7	35.1	68.2
	R4	Residential	LKD	W5/F08	34	23	11.2	32.9	100	100	0.4	74	22	50	9	32.4	59.1
				W6/F08	34	16	17.9	52.5				51	16	24	5	52.9	68.8
				W7/F08	34	16	18.5	54.1				51	14	29	5	43.1	64.3
				W8/F08	34	15	19	55.4				51	14	27	5	47.1	64.3
F09	R1	Residential	LKD	W1/F09	35	24	10.3	29.7	100	97	3.4	76	23	55	9	27.6	60.9
				W2/F09	35	24	10.6	30.5				76	23	55	10	27.6	56.5
				W9/F09	29	19	9.4	32.6				37	7	32	7	13.5	0
	R2	Residential	Bedroom	W3/F09	35	24	10.8	31.2	92	79	14.4	76	23	55	10	27.6	56.5
	R3	Residential	Bedroom	W4/F09	34	24	10.8	31.4	99	95	3.5	77	23	52	8	32.5	65.2
	R4	Residential	LKD	W5/F09	34	23	11	32.2	100	100	0.4	77	23	53	10	31.2	56.5
				W6/F09	34	17	17.8	51.7				52	16	26	5	50	68.8
				W7/F09	35	16	18.5	53.6				52	14	30	5	42.3	64.3

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W8/F09	35	16	18.9	54.6				52	14	28	5	46.2	64.3
F10	R1	Residential	LKD	W1/F10	35	25	10.2	29.1	100	97	3.3	78	23	57	9	26.9	60.9
				W2/F10	35	25	10.3	29.5				78	23	57	10	26.9	56.5
				W9/F10	29	20	8.8	30.2				39	7	26	7	12.8	0
	R2	Residential	Bedroom	W3/F10	35	24	10.5	30.2	92	79	14.4	77	23	56	10	27.3	56.5
	R3	Residential	Bedroom	W4/F10	35	24	10.7	30.8	99	96	3.4	77	23	53	8	31.2	65.2
	R4	Residential	LKD	W5/F10	35	24	10.9	31.6	100	100	0.4	77	23	55	10	28.6	56.5
				W6/F10	35	17	17.7	51				53	16	28	5	47.2	68.8
				W7/F10	35	16	18.4	52.9				52	14	31	5	40.4	64.3
				W8/F10	35	16	18.9	54.2				52	14	28	5	46.2	64.3
F11	R1	Residential	LKD	W1/F11	35	25	9.9	28.1	100	97	3.3	79	23	59	9	25.3	60.9
				W2/F11	35	25	10.2	29				79	23	59	10	25.3	56.5
				W9/F11	29	21	8.1	27.6				39	7	34	7	12.8	0
	R2	Residential	Bedroom	W3/F11	35	25	10.4	29.6	92	79	14.2	79	23	59	10	25.3	56.5
	R3	Residential	Bedroom	W4/F11	35	25	10.4	29.8	99	95	3.5	78	23	54	8	30.8	65.2
	R4	Residential	LKD	W5/F11	35	24	10.6	30.5	100	100	0.4	78	23	56	10	28.2	56.5
				W6/F11	35	17	17.6	50.3				54	16	29	5	46.3	68.8
				W7/F11	35	17	18.3	52.1				52	14	31	5	40.4	64.3
				W8/F11	35	16	18.8	53.4				52	14	28	5	46.2	64.3
F12	R1	Residential	LKD	W1/F12	36	26	9.7	27.3	100	97	3	80	23	60	9	25	60.9
				W2/F12	35	26	9.9	28				80	23	61	10	23.8	56.5
				W9/F12	30	22	7.2	24.4				39	7	34	7	12.8	0
	R2	Residential	Bedroom	W3/F12	35	25	10.1	28.6	92	79	14.1	80	23	62	10	22.5	56.5
	R3	Residential	Bedroom	W4/F12	35	25	10.2	29	99	95	3.5	80	23	58	8	27.5	65.2
	R4	Residential	LKD	W5/F12	35	25	10.4	29.7	100	100	0.4	79	23	59	10	25.3	56.5
				W6/F12	35	18	17.5	49.6				54	16	30	5	44.4	68.8
				W7/F12	36	17	18.3	51.5				52	14	31	5	40.4	64.3
				W8/F12	36	17	18.7	52.7				52	14	30	5	42.3	64.3
F13	R1	Residential	LKD	W1/F13	36	26	9.4	26.3	100	97	2.6	80	23	61	9	23.8	60.9
				W2/F13	36	26	9.7	27.2				80	23	62	10	22.5	56.5
				W9/F13	30	23	6.4	21.5				39	7	34	7	12.8	0
	R2	Residential	Bedroom	W3/F13	36	26	9.9	27.8	92	79	13.8	80	23	63	10	21.2	56.5
	R3	Residential	Bedroom	W4/F13	36	26	10	28.2	99	96	3.4	80	23	59	8	26.2	65.2
	R4	Residential	LKD	W5/F13	35	25	10.2	28.9	100	100	0.4	80	23	60	10	25	56.5
				W6/F13	36	18	17.5	49				55	16	31	5	43.6	68.8
				W7/F13	36	18	18.2	50.8				54	15	34	6	37	60
				W8/F13	36	17	18.7	52.1				54	15	32	6	40.7	60
F14	R1	Residential	LKD	W1/F14	36	27	9.2	25.6	100	98	2.2	80	23	62	9	22.5	60.9
				W2/F14	36	27	9.4	26.2				80	23	63	10	21.2	56.5
				W9/F14	30	25	5.4	17.9				39	7	34	7	12.8	0
	R2	Residential	Bedroom	W3/F14	36	26	9.6	26.8	92	79	13.8	80	23	62	9	22.5	60.9
	R3	Residential	Bedroom	W4/F14	36	26	9.7	27.2	99	95	3.5	80	23	60	8	25	65.2
	R4	Residential	LKD	W5/F14	36	26	9.9	27.9	100	100	0.5	80	23	62	10	22.5	56.5
				W6/F14	36	19	17.4	48.3				55	16	33	5	40	68.8
				W7/F14	36	18	18.1	50.1				54	15	34	6	37	60
				W8/F14	36	18	18.5	51.1				54	15	32	6	40.7	60
F15	R1	Residential	LKD	W1/F15	36	27	8.9	24.6	100	98	2.2	80	23	62	9	22.5	60.9
				W2/F15	36	27	9.2	25.4				80	23	63	10	21.2	56.5
				W9/F15	30	26	4.3	14.2				39	7	34	7	12.8	0
	R2	Residential	Bedroom	W3/F15	36	27	9.3	25.8	92	80	13.3	80	23	63	10	21.2	56.5
	R3	Residential	Bedroom	W4/F15	36	27	9.5	26.4	99	96	3.4	80	23	61	8	23.8	65.2

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R4	Residential	LKD	W5/F15	36	26	9.6	26.8	100	100	0.5	80	23	63	10	21.2	56.5
				W6/F15	36	19	17.3	47.5				55	16	33	5	40	68.8
				W7/F15	37	19	18	49.3				54	15	34	6	37	60
				W8/F15	37	18	18.4	50.4				54	15	34	7	37	53.3
F16	R1	Residential	LKD	W1/F16	37	28	8.7	23.8	100	99	1	80	23	64	10	20	56.5
				W2/F16	36	28	8.8	24.2				80	23	63	10	21.2	56.5
				W9/F16	31	27	3.3	10.8				39	7	35	7	10.3	0
	R2	Residential	Bedroom	W3/F16	36	27	9	24.8	92	80	13	80	23	62	9	22.5	60.9
	R3	Residential	Bedroom	W4/F16	36	27	9.1	25.1	99	96	3.4	80	23	62	9	22.5	60.9
	R4	Residential	LKD	W5/F16	36	27	9.4	26	100	100	0.5	80	23	63	10	21.2	56.5
				W6/F16	37	20	17.1	46.6				55	16	33	5	40	68.8
				W7/F16	37	19	17.9	48.6				55	16	37	8	32.7	50
				W8/F16	37	19	18.4	49.9				55	16	35	8	36.4	50
F17	R1	Residential	LKD	W1/F17	37	28	8.4	22.9	100	100	0	81	24	65	11	19.8	54.2
				W2/F17	37	28	8.6	23.4				80	23	64	10	20	56.5
				W9/F17	31	29	2.2	7.1				39	7	37	7	5.1	0
	R2	Residential	Bedroom	W3/F17	37	28	8.7	23.8	92	80	12.5	80	23	63	9	21.2	60.9
	R3	Residential	Bedroom	W4/F17	37	28	8.9	24.4	99	95	3.5	80	23	63	9	21.2	60.9
	R4	Residential	LKD	W5/F17	36	27	9.1	25	100	100	0.5	80	23	66	11	17.5	52.2
				W6/F17	37	20	17.1	46.1				55	16	35	6	36.4	62.5
				W7/F17	37	19	17.8	47.8				55	16	37	8	32.7	50
				W8/F17	37	19	18.2	48.9				55	16	35	8	36.4	50
F18	R1	Residential	LKD	W1/F18	37	29	8	21.7	100	100	0	82	25	69	13	15.9	48
				W2/F18	37	29	8.2	22.2				82	25	67	12	18.3	52
				W9/F18	31	30	1.3	4.2				39	7	38	7	0	0
	R2	Residential	Bedroom	W3/F18	37	28	8.4	22.8	92	81	11.7	82	25	66	11	19.5	56
	R3	Residential	Bedroom	W4/F18	37	28	8.6	23.4	99	96	3.3	81	24	65	10	19.8	58.3
	R4	Residential	LKD	W5/F18	37	28	8.8	24	100	100	0.5	81	24	67	12	17.3	50
				W6/F18	38	21	17	45.3				56	17	36	7	35.7	58.8
				W7/F18	38	20	17.6	46.9				55	16	37	8	32.7	50
				W8/F18	38	19	18.2	48.4				56	17	36	9	35.7	47.1
F19	R1	Residential	LKD	W1/F19	37	29	7.8	21	100	100	0	82	25	70	13	14.6	48
				W2/F19	37	29	7.9	21.3				82	25	70	13	14.6	48
				W9/F19	31	31	0.7	2.2				39	7	39	7	0	0
	R2	Residential	Bedroom	W3/F19	37	29	8.1	21.8	92	82	11.2	82	25	68	11	17.1	56
	R3	Residential	Bedroom	W4/F19	37	29	8.2	22.2	99	96	3.5	82	25	67	11	18.3	56
	R4	Residential	LKD	W5/F19	37	29	8.4	22.8	100	100	0.5	82	25	69	13	15.9	48
				W6/F19	38	21	16.8	44.4				57	18	37	8	35.1	55.6
				W7/F19	38	20	17.6	46.4				57	18	41	11	28.1	38.9
				W8/F19	38	20	18	47.5				57	18	38	11	33.3	38.9
F20	R1	Residential	LKD	W1/F20	37	30	7.5	20.1	100	100	0	82	25	70	13	14.6	48
				W2/F20	37	30	7.6	20.4				82	25	70	13	14.6	48
				W9/F20	31	31	0.5	1.6				39	7	38	7	0	0
	R2	Residential	Bedroom	W3/F20	37	30	7.8	20.9	92	83	10	82	25	70	13	14.6	48
	R3	Residential	Bedroom	W4/F20	37	29	7.8	21	99	95	3.5	82	25	69	12	15.9	52
	R4	Residential	LKD	W5/F20	37	29	8.1	21.8	100	100	0.5	82	25	71	14	13.4	44
				W6/F20	38	22	16.6	43.5				57	18	39	9	31.6	50
				W7/F20	38	21	17.4	45.5				57	18	40	11	29.8	38.9
				W8/F20	38	20	17.9	46.9				57	18	38	11	33.3	38.9
F21	R1	Residential	LKD	W1/F21	38	30	7.1	18.9	100	100	0	82	25	71	14	13.4	44
				W2/F21	38	30	7.2	19.2				82	25	71	14	13.4	44

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W9/F21	31	31	0.5	1.6				39	7	39	7	0	0
	R2	Residential	Bedroom	W3/F21	38	30	7.4	19.7	92	83	9.2	82	25	71	14	13.4	44
	R3	Residential	Bedroom	W4/F21	37	30	7.4	19.8	99	96	3.3	82	25	70	13	14.6	48
	R4	Residential	LKD	W5/F21	37	30	7.7	20.6	100	100	0.5	82	25	71	14	13.4	44
				W6/F21	39	22	16.4	42.6				57	18	39	9	31.6	50
				W7/F21	39	21	17.2	44.7				57	18	40	11	29.8	38.9
				W8/F21	39	21	17.8	46.1				57	18	38	11	33.3	38.9
F22	R1	Residential	LKD	W1/F22	38	31	6.7	17.8	100	100	0	83	26	73	16	12	38.5
				W2/F22	38	31	6.9	18.3				83	26	72	15	13.3	42.3
				W9/F22	32	31	0.4	1.3				39	7	39	7	0	0
	R2	Residential	Bedroom	W3/F22	38	31	6.9	18.4	92	84	8.1	83	26	72	15	13.3	42.3
	R3	Residential	Bedroom	W4/F22	38	31	7	18.6	99	95	3.5	82	25	70	13	14.6	48
	R4	Residential	LKD	W5/F22	38	30	7.2	19.1	100	100	0.4	82	25	71	14	13.4	44
				W6/F22	39	23	16.3	42				57	18	39	9	31.6	50
				W7/F22	39	22	17	43.8				57	18	40	11	29.8	38.9
				W8/F22	39	21	17.6	45.2				57	18	39	12	31.6	33.3
F23	R1	Residential	LKD	W1/F23	38	32	6.3	16.7	100	100	0	83	26	74	17	10.8	34.6
				W2/F23	38	31	6.4	16.9				83	26	74	17	10.8	34.6
				W9/F23	32	31	0.4	1.3				39	7	39	7	0	0
	R2	Residential	Bedroom	W3/F23	38	31	6.5	17.2	92	86	6.4	83	26	73	16	12	38.5
	R3	Residential	Bedroom	W4/F23	38	31	6.6	17.5	99	96	3.5	83	26	71	14	14.5	46.2
	R4	Residential	LKD	W5/F23	38	31	6.8	18	100	100	0.4	83	26	72	15	13.3	42.3
				W6/F23	39	23	16.1	41.2				58	19	40	10	31	47.4
				W7/F23	39	22	16.9	43.2				58	19	43	13	25.9	31.6
				W8/F23	39	22	17.4	44.5				58	19	41	14	29.3	26.3
F24	R1	Residential	LKD	W1/F24	38	32	6	15.8	100	100	0	83	26	74	17	10.8	34.6
				W2/F24	38	32	6.1	16.1				83	26	74	17	10.8	34.6
				W9/F24	32	32	0.3	0.9				39	7	39	7	0	0
	R2	Residential	Bedroom	W3/F24	38	32	6.2	16.3	92	88	4.5	83	26	74	17	10.8	34.6
	R3	Residential	Bedroom	W4/F24	38	32	6.3	16.6	99	96	2.7	83	26	73	16	12	38.5
	R4	Residential	LKD	W5/F24	38	32	6.4	16.8	100	100	0.4	83	26	74	17	10.8	34.6
				W6/F24	39	23	16	40.6				58	19	42	12	27.6	36.8
				W7/F24	39	23	16.8	42.6				58	19	44	14	24.1	26.3
				W8/F24	39	22	17.3	43.9				58	19	41	14	29.3	26.3
F25	R1	Residential	LKD	W1/F25	38	33	5.6	14.7	100	100	0	84	27	76	19	9.5	29.6
				W2/F25	38	33	5.6	14.7				84	27	75	18	10.7	33.3
				W9/F25	32	32	0.2	0.6				40	8	40	8	0	0
	R2	Residential	Bedroom	W3/F25	38	32	5.7	15	92	90	1.9	83	26	74	17	10.8	34.6
	R3	Residential	Bedroom	W4/F25	38	32	5.8	15.2	99	97	2.3	84	27	73	16	13.1	40.7
	R4	Residential	LKD	W5/F25	38	32	5.9	15.5	100	100	0.4	83	26	74	17	10.8	34.6
				W6/F25	40	24	15.7	39.7				58	19	42	12	27.6	36.8
				W7/F25	40	23	16.6	42				58	19	43	14	25.9	26.3
				W8/F25	40	22	17.1	43.3				58	19	41	14	29.3	26.3
F26	R1	Residential	LKD	W1/F26	38	33	5.2	13.6	100	100	0	84	27	79	22	6	18.5
				W2/F26	38	33	5.2	13.6				84	27	77	20	8.3	25.9
				W9/F26	32	32	0.2	0.6				40	8	40	8	0	0
	R2	Residential	Bedroom	W3/F26	38	33	5.3	13.9	92	92	0.1	83	26	76	19	8.4	26.9
	R3	Residential	Bedroom	W4/F26	38	33	5.3	13.9	99	98	1.2	84	27	74	17	11.9	37
	R4	Residential	LKD	W5/F26	38	33	5.4	14.1	100	100	0.4	84	27	74	17	11.9	37
				W6/F26	40	24	15.6	39.5				58	19	43	13	25.9	31.6
				W7/F26	40	23	16.4	41.5				58	19	44	15	24.1	21.1

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W8/F26	40	23	16.9	42.8				58	19	42	15	27.6	21.1
F27	R1	Residential	LKD	W1/F27	38	34	4.6	12	100	100	0	84	27	79	22	6	18.5
				W2/F27	38	34	4.8	12.5				84	27	78	21	7.1	22.2
				W9/F27	32	32	0.1	0.3				40	8	40	8	0	0
	R2	Residential	Bedroom	W3/F27	38	34	4.8	12.5	92	92	0	84	27	77	20	8.3	25.9
	R3	Residential	Bedroom	W4/F27	38	33	4.9	12.8	99	99	0	84	27	76	19	9.5	29.6
	R4	Residential	LKD	W5/F27	38	33	5	13.1	100	100	0.5	84	27	77	20	8.3	25.9
				W6/F27	40	24	15.4	39				58	19	44	14	24.1	26.3
				W7/F27	40	23	16.2	41				58	19	44	15	24.1	21.1
				W8/F27	40	23	16.8	42.5				58	19	42	15	27.6	21.1
F28	R1	Residential	LKD	W1/F28	38	34	4.2	11	100	100	0	84	27	79	22	6	18.5
				W2/F28	38	34	4.2	11				84	27	78	21	7.1	22.2
				W9/F28	32	32	0.1	0.3				40	8	40	8	0	0
	R2	Residential	Bedroom	W3/F28	38	34	4.3	11.2	92	92	0	84	27	77	20	8.3	25.9
	R3	Residential	Bedroom	W4/F28	38	34	4.3	11.2	99	99	0	84	27	76	19	9.5	29.6
	R4	Residential	LKD	W5/F28	38	34	4.5	11.7	100	100	0.5	84	27	77	20	8.3	25.9
				W6/F28	40	24	15.2	38.5				58	19	44	14	24.1	26.3
				W7/F28	40	23	16.1	40.8				58	19	44	15	24.1	21.1
				W8/F28	40	23	16.6	42				58	19	42	15	27.6	21.1
F29	R1	Residential	LKD	W1/F29	38	35	3.8	9.9	100	100	0	84	27	81	24	3.6	11.1
				W2/F29	38	35	3.8	9.9				84	27	80	23	4.8	14.8
				W9/F29	33	33	0.1	0.3				40	8	40	8	0	0
	R2	Residential	Bedroom	W3/F29	38	35	3.8	9.9	92	92	0	84	27	79	22	6	18.5
	R3	Residential	Bedroom	W4/F29	38	35	3.9	10.2	99	99	0	84	27	79	22	6	18.5
	R4	Residential	LKD	W5/F29	38	35	3.9	10.2	100	100	0.5	84	27	78	21	7.1	22.2
				W6/F29	40	25	15	38				58	19	46	16	20.7	15.8
				W7/F29	40	24	15.9	40.3				58	19	47	18	19	5.3
				W8/F29	40	23	16.5	41.8				58	19	45	18	22.4	5.3
F30	R1	Residential	LKD	W1/F30	39	35	3.4	8.8	100	100	0	84	27	81	24	3.6	11.1
				W2/F30	39	35	3.4	8.8				84	27	80	23	4.8	14.8
				W9/F30	33	33	0.1	0.3				40	8	40	8	0	0
	R2	Residential	Bedroom	W3/F30	39	35	3.4	8.8	92	92	0	84	27	80	23	4.8	14.8
	R3	Residential	Bedroom	W4/F30	39	35	3.4	8.8	99	99	0	84	27	80	23	4.8	14.8
	R4	Residential	LKD	W5/F30	39	35	3.5	9.1	100	100	0.2	84	27	81	24	3.6	11.1
				W6/F30	40	25	14.8	37.5				58	19	47	17	19	10.5
				W7/F30	40	24	15.7	39.7				58	19	47	18	19	5.3
				W8/F30	40	23	16.3	41.3				58	19	45	18	22.4	5.3
F31	R1	Residential	LKD	W1/F31	39	36	2.9	7.5	100	100	0	84	27	82	25	2.4	7.4
				W2/F31	39	36	2.9	7.5				84	27	81	24	3.6	11.1
				W9/F31	33	33	0.1	0.3				40	8	40	8	0	0
	R2	Residential	Bedroom	W3/F31	39	36	2.9	7.5	92	92	0	84	27	81	24	3.6	11.1
	R3	Residential	Bedroom	W4/F31	39	36	2.9	7.5	99	99	0	84	27	80	23	4.8	14.8
	R4	Residential	LKD	W5/F31	39	36	3	7.8	100	100	0.2	84	27	81	24	3.6	11.1
				W6/F31	40	25	14.6	37				58	19	47	17	19	10.5
				W7/F31	40	24	15.7	39.6				58	19	48	18	17.2	5.3
				W8/F31	40	23	16.3	41.2				58	19	45	18	22.4	5.3
F32	R1	Residential	LKD	W1/F32	39	36	2.4	6.2	100	100	0	85	28	83	26	2.4	7.1
				W2/F32	39	36	2.4	6.2				85	28	83	26	2.4	7.1
				W9/F32	33	33	0.1	0.3				41	9	41	9	0	0
	R2	Residential	Bedroom	W3/F32	39	36	2.4	6.2	92	92	0	85	28	83	26	2.4	7.1
	R3	Residential	Bedroom	W4/F32	39	36	2.4	6.2	99	99	0	85	28	83	26	2.4	7.1

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R4	Residential	LKD	W5/F32	39	36	2.5	6.5	100	100	0.2	85	28	83	26	2.4	7.1
				W6/F32	40	25	14.6	36.9				58	19	48	18	17.2	5.3
				W7/F32	40	24	15.5	39.1				58	19	47	18	19	5.3
				W8/F32	40	24	16.1	40.7				58	19	45	18	22.4	5.3
F33	R1	Residential	LKD	W1/F33	39	37	2	5.2	100	100	0	85	28	84	27	1.2	3.6
				W2/F33	39	37	1.9	4.9				86	29	84	27	2.3	6.9
				W9/F33	34	34	0	0				42	10	42	10	0	0
	R2	Residential	Bedroom	W3/F33	39	37	1.9	4.9	92	92	0	85	28	84	27	1.2	3.6
	R3	Residential	Bedroom	W4/F33	39	37	1.9	4.9	99	99	0	86	29	84	27	2.3	6.9
	R4	Residential	LKD	W5/F33	39	37	1.9	4.9	100	100	0.2	86	29	84	27	2.3	6.9
				W6/F33	40	25	14.4	36.4				58	19	48	18	17.2	5.3
				W7/F33	40	24	15.3	38.6				58	19	47	18	19	5.3
				W8/F33	40	24	16	40.4				58	19	45	18	22.4	5.3
F34	R1	Residential	LKD	W1/F34	39	37	1.6	4.1	100	100	0	86	29	86	29	0	0
				W2/F34	39	37	1.5	3.9				86	29	86	29	0	0
				W9/F34	34	34	0	0				42	10	42	10	0	0
	R2	Residential	Bedroom	W3/F34	39	37	1.5	3.9	92	92	0	86	29	86	29	0	0
	R3	Residential	Bedroom	W4/F34	39	37	1.5	3.9	99	99	0	86	29	86	29	0	0
	R4	Residential	LKD	W5/F34	39	37	1.5	3.9	100	100	0.1	86	29	86	29	0	0
				W6/F34	40	25	14.2	35.9				58	19	49	19	15.5	0
				W7/F34	40	24	15.2	38.4				58	19	48	19	17.2	0
				W8/F34	40	24	15.8	39.9				58	19	46	19	20.7	0
F35	R1	Residential	LKD	W1/F35	39	38	1.3	3.3	100	100	0	86	29	86	29	0	0
				W2/F35	39	38	1.2	3.1				86	29	86	29	0	0
				W9/F35	34	34	0	0				42	10	42	10	0	0
	R2	Residential	Bedroom	W3/F35	39	38	1.2	3.1	92	92	0	86	29	86	29	0	0
	R3	Residential	Bedroom	W4/F35	39	38	1.1	2.8	99	99	0	86	29	86	29	0	0
	R4	Residential	LKD	W5/F35	39	38	1.1	2.8	100	100	0.1	86	29	86	29	0	0
				W6/F35	40	26	14	35.4				58	19	49	19	15.5	0
				W7/F35	40	25	15	37.9				58	19	49	19	15.5	0
				W8/F35	40	24	15.7	39.6				58	19	46	19	20.7	0
F36	R1	Residential	LKD	W1/F36	39	38	0.9	2.3	100	100	0	86	29	86	29	0	0
				W2/F36	39	38	0.9	2.3				86	29	86	29	0	0
				W9/F36	34	34	0	0				42	10	42	10	0	0
	R2	Residential	Bedroom	W3/F36	39	38	0.8	2.1	92	92	0	86	29	86	29	0	0
	R3	Residential	Bedroom	W4/F36	39	38	0.8	2.1	99	99	0	86	29	86	29	0	0
	R4	Residential	LKD	W5/F36	39	38	0.8	2.1	100	100	0.1	86	29	86	29	0	0
				W6/F36	40	26	14	35.4				58	19	49	19	15.5	0
				W7/F36	40	25	15	37.9				58	19	49	19	15.5	0
				W8/F36	40	24	15.6	39.4				58	19	46	19	20.7	0
F37	R1	Residential	LKD	W1/F37	39	38	0.7	1.8	100	100	0	86	29	86	29	0	0
				W2/F37	39	38	0.6	1.5				86	29	86	29	0	0
				W9/F37	35	35	0	0				42	10	42	10	0	0
	R2	Residential	Bedroom	W3/F37	39	38	0.6	1.5	92	92	0	86	29	86	29	0	0
	R3	Residential	Bedroom	W4/F37	39	38	0.6	1.5	99	99	0	86	29	86	29	0	0
	R4	Residential	LKD	W5/F37	39	38	0.6	1.5	100	100	0.1	86	29	86	29	0	0
				W6/F37	40	26	13.9	35.1				58	19	49	19	15.5	0
				W7/F37	40	25	14.9	37.6				58	19	48	19	17.2	0
				W8/F37	40	24	15.6	39.4				58	19	46	19	20.7	0
F38	R1	Residential	LKD	W1/F38	39	39	0.5	1.3	100	100	0	86	29	86	29	0	0
				W2/F38	39	39	0.4	1				86	29	86	29	0	0

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W9/F38	35	35	0	0				42	10	42	10	0	0
	R2	Residential	Bedroom	W3/F38	39	39	0.4	1	92	92	0	86	29	86	29	0	0
	R3	Residential	Bedroom	W4/F38	39	39	0.4	1	99	99	0	86	29	86	29	0	0
	R4	Residential	LKD	W5/F38	39	39	0.4	1	100	100	0.1	86	29	86	29	0	0
				W6/F38	40	26	13.9	35.1				58	19	49	19	15.5	0
				W7/F38	40	25	14.9	37.6				58	19	48	19	17.2	0
				W8/F38	40	24	15.5	39.1				58	19	46	19	20.7	0
F39	R1	Residential	LKD	W1/F39	39	39	0.2	0.5	100	100	0	86	29	86	29	0	0
				W2/F39	39	39	0.2	0.5				86	29	86	29	0	0
				W9/F39	36	36	0	0				42	10	42	10	0	0
	R2	Residential	Bedroom	W3/F39	39	39	0.2	0.5	92	92	0	86	29	86	29	0	0
	R3	Residential	Bedroom	W4/F39	39	39	0.2	0.5	99	99	0	86	29	86	29	0	0
	R4	Residential	LKD	W5/F39	39	39	0.1	0.3	100	100	0.1	86	29	86	29	0	0
				W6/F39	40	26	13.8	34.8				58	19	49	19	15.5	0
				W7/F39	40	25	14.9	37.6				58	19	48	19	17.2	0
				W8/F39	40	24	15.5	39.1				58	19	46	19	20.7	0
BEETHAM TOWER																	
F00	R2	Residential	Unknown	W6/F00	15	7.5	7.7	50.7	N.A.	N.A.	N.A.	27	11	2	0	92.6	100
	R3	Residential	Unknown	W7/F00	15	6	8.9	59.7	N.A.	N.A.	N.A.	27	11	2	0	92.6	100
	R4	Residential	Unknown	W8/F00	14	4.1	10.3	71.5	N.A.	N.A.	N.A.	25	11	0	0	100	100
F25	R2	Residential	Bedroom	W6/F25	23	20	2.2	9.7	70	70	0.1	32	12	29	9	9.4	25
				W7/F25	23	21	2.3	10				33	12	29	8	12.1	33.3
	R3	Residential	Bedroom	W8/F25	24	22	2.3	9.6	87	87	0.1	34	12	30	8	11.8	33.3
	R4	Residential	Bedroom	W9/F25	24	22	2.3	9.5	92	92	0	34	12	30	8	11.8	33.3
				W10/F25	25	22	2.3	9.3				35	12	31	8	11.4	33.3
	R5	Residential	LKD	W1/F25	35	32	3.1	8.8	100	100	0	70	24	69	23	1.4	4.2
				W2/F25	21	19	2.5	11.8				29	12	26	9	10.3	25
				W3/F25	22	19	2.4	11.1				29	12	26	9	10.3	25
				W4/F25	22	20	2.4	10.9				30	12	27	9	10	25
				W5/F25	22	20	2.4	10.7				32	12	29	9	9.4	25
	R6	Residential	LKD	W11/F25	25	23	2.2	8.7	100	100	0	33	11	29	7	12.1	36.4
				W12/F25	26	24	2.4	9.1				35	10	32	8	8.6	20
				W13/F25	40	36	3.9	9.8				14	0	13	0	7.1	0
				W14/F25	40	36	3.6	9.1				14	0	13	0	7.1	0
F26	R1	Residential	LKD	W1/F26	35	33	2.9	8.2	100	100	0	71	24	70	23	1.4	4.2
				W2/F26	22	19	2.4	11.1				30	12	27	9	10	25
				W3/F26	22	20	2.3	10.5				30	12	27	9	10	25
				W4/F26	22	20	2.2	9.9				31	12	28	9	9.7	25
				W5/F26	23	21	2.2	9.7				33	12	30	9	9.1	25
	R2	Residential	LKD	W11/F26	26	24	2.1	8.2	100	100	0	35	11	32	8	8.6	27.3
				W12/F26	27	25	2.1	7.9				37	10	35	8	5.4	20
				W13/F26	40	37	2.7	6.8				14	0	14	0	0	0
				W14/F26	40	37	2.5	6.3				14	0	13	0	7.1	0
	R3	Residential	Bedroom	W9/F26	25	22	2.1	8.6	92	92	0	35	12	32	9	8.6	25
				W10/F26	25	23	2	8				36	12	33	9	8.3	25
	R4	Residential	Bedroom	W8/F26	24	22	2.1	8.7	87	87	0.1	35	12	32	9	8.6	25
	R5	Residential	Bedroom	W6/F26	23	21	2.2	9.6	70	70	0.1	33	12	30	9	9.1	25
				W7/F26	23	21	2.2	9.4				34	12	31	9	8.8	25
F27	R2	Residential	LKD	W1/F27	36	33	2.8	7.9	100	100	0	71	24	70	23	1.4	4.2
				W2/F27	22	20	2.4	10.9				31	12	28	9	9.7	25

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W3/F27	23	20	2.3	10.2				31	12	28	9	9.7	25
				W4/F27	23	21	2.2	9.6				32	12	29	9	9.4	25
				W5/F27	23	21	2.2	9.5				34	12	31	9	8.8	25
	R3	Residential	LKD	W11/F27	26	24	1.9	7.3	100	100	0	36	11	34	9	5.6	18.2
				W12/F27	27	25	1.8	6.7				38	10	36	9	5.3	10
				W13/F27	40	38	1.7	4.3				14	0	14	0	0	0
				W14/F27	40	38	1.6	4				14	0	14	0	0	0
	R4	Residential	Bedroom	W6/F27	24	21	2.2	9.4	71	70	0.2	34	12	31	9	8.8	25
				W7/F27	24	22	2.1	8.8				35	12	32	9	8.6	25
	R5	Residential	Bedroom	W8/F27	25	23	2	8.1	88	88	0	36	12	33	9	8.3	25
	R6	Residential	Bedroom	W9/F27	25	23	1.9	7.6	92	92	0	36	12	33	9	8.3	25
				W10/F27	25	24	1.9	7.5				37	12	35	10	5.4	16.7
F28	R1	Residential	Bedroom	W6/F28	24	22	2.1	8.8	71	71	0	34	12	32	10	5.9	16.7
				W7/F28	24	22	2.1	8.6				35	12	33	10	5.7	16.7
	R2	Residential	Bedroom	W8/F28	25	23	2	8	88	88	0	36	12	34	10	5.6	16.7
	R3	Residential	Bedroom	W9/F28	25	23	2	7.9	92	92	0	36	12	34	10	5.6	16.7
				W10/F28	26	24	2	7.7				37	12	35	10	5.4	16.7
	R4	Residential	LKD	W11/F28	26	25	1.9	7.2	100	100	0	36	11	34	9	5.6	18.2
				W12/F28	27	26	1.7	6.2				38	10	36	9	5.3	10
				W13/F28	40	39	1	2.5				14	0	14	0	0	0
				W14/F28	40	39	1	2.5				14	0	14	0	0	0
	R5	Residential	LKD	W1/F28	36	33	2.6	7.3	100	100	0	73	24	71	23	2.7	4.2
				W2/F28	23	20	2.4	10.6				31	12	28	9	9.7	25
				W3/F28	23	21	2.3	10				31	12	28	9	9.7	25
				W4/F28	23	21	2.2	9.4				32	12	29	9	9.4	25
				W5/F28	24	22	2.2	9.3				34	12	32	10	5.9	16.7
F29	R2	Residential	LKD	W1/F29	36	34	2.4	6.7	100	100	0	73	24	71	23	2.7	4.2
				W2/F29	23	21	2.5	10.8				31	12	29	10	6.5	16.7
				W3/F29	24	21	2.4	10.2				31	12	29	10	6.5	16.7
				W4/F29	24	22	2.3	9.7				32	12	30	10	6.2	16.7
				W5/F29	24	22	2.2	9.1				34	12	32	10	5.9	16.7
	R3	Residential	LKD	W11/F29	27	25	2	7.4	100	100	0	36	11	34	9	5.6	18.2
				W12/F29	28	26	1.9	6.8				38	10	36	9	5.3	10
				W13/F29	40	39	0.8	2				14	0	14	0	0	0
				W14/F29	40	39	0.8	2				14	0	14	0	0	0
	R4	Residential	Bedroom	W6/F29	25	22	2.2	9	71	71	0	34	12	32	10	5.9	16.7
				W7/F29	25	23	2.1	8.5				35	12	33	10	5.7	16.7
	R5	Residential	Bedroom	W8/F29	26	24	2.1	8.2	88	88	0	36	12	34	10	5.6	16.7
	R6	Residential	Bedroom	W9/F29	26	24	2.1	8.1	92	92	0	36	12	34	10	5.6	16.7
				W10/F29	26	24	2	7.6				37	12	35	10	5.4	16.7
F30	R1	Residential	Bedroom	W10/F30	25	23	2.3	9.2	72	72	0.4	36	12	33	10	8.3	16.7
				W11/F30	25	23	2.3	9.1				37	12	34	10	8.1	16.7
	R2	Residential	Bedroom	W12/F30	26	24	2.2	8.4	88	88	0.1	38	12	35	10	7.9	16.7
	R3	Residential	Bedroom	W13/F30	27	25	2.1	7.9	93	93	0	38	12	35	10	7.9	16.7
				W14/F30	27	25	2.1	7.7				39	12	37	11	5.1	8.3
	R4	Residential	LKD	W5/F30	36	34	2.2	6.1	100	100	0	75	24	72	23	4	4.2
				W6/F30	24	21	2.5	10.5				33	12	30	10	9.1	16.7
				W7/F30	24	22	2.5	10.3				33	12	30	10	9.1	16.7
				W8/F30	25	22	2.4	9.8				34	12	31	10	8.8	16.7
				W9/F30	25	23	2.3	9.3				36	12	33	10	8.3	16.7
	R5	Residential	LKD	W15/F30	27	25	2.1	7.7	100	100	0	39	12	37	11	5.1	8.3

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W16/F30	28	26	2	7.1				40	10	38	10	5	0
				W17/F30	40	39	0.7	1.8				14	0	14	0	0	0
				W18/F30	40	39	0.7	1.8				14	0	14	0	0	0
F31	R2	Residential	LKD	W1/F31	36	34	2	5.5	100	100	0	76	24	73	23	3.9	4.2
				W2/F31	25	22	2.7	11				34	12	31	10	8.8	16.7
				W3/F31	25	22	2.6	10.4				34	12	31	10	8.8	16.7
				W4/F31	25	23	2.5	9.9				36	12	34	11	5.6	8.3
	R3	Residential	LKD	W10/F31	28	26	2.2	7.9	100	100	0	39	11	36	10	7.7	9.1
				W11/F31	29	27	2.2	7.6				41	10	38	10	7.3	0
				W12/F31	40	39	0.5	1.3				14	0	14	0	0	0
				W13/F31	40	39	0.5	1.3				14	0	14	0	0	0
	R4	Residential	Bedroom	W5/F31	26	23	2.5	9.7	81	81	0	37	12	35	11	5.4	8.3
				W6/F31	26	24	2.4	9.2				38	12	35	11	7.9	8.3
	R5	Residential	Bedroom	W7/F31	27	25	2.3	8.6	89	89	0	39	12	36	11	7.7	8.3
	R6	Residential	Bedroom	W8/F31	27	25	2.3	8.5	93	93	0	39	12	36	11	7.7	8.3
				W9/F31	28	25	2.3	8.3				40	12	37	11	7.5	8.3
F32	R2	Residential	LKD	W1/F32	37	35	1.9	5.2	100	100	0	76	24	73	23	3.9	4.2
				W2/F32	25	23	2.9	11.4				36	12	33	11	8.3	8.3
				W3/F32	26	23	2.7	10.5				37	12	34	11	8.1	8.3
				W4/F32	26	23	2.7	10.3				39	12	36	11	7.7	8.3
	R3	Residential	LKD	W10/F32	29	26	2.5	8.7	100	100	0	42	11	38	10	9.5	9.1
				W11/F32	30	27	2.4	8.1				44	10	40	10	9.1	0
				W12/F32	40	39	0.4	1				14	0	14	0	0	0
				W13/F32	40	39	0.4	1				14	0	14	0	0	0
	R4	Residential	Bedroom	W5/F32	27	24	2.7	10.2	81	81	0	40	12	37	11	7.5	8.3
				W6/F32	27	24	2.6	9.7				41	12	37	11	9.8	8.3
	R5	Residential	Bedroom	W7/F32	28	25	2.6	9.5	90	90	0	42	12	38	11	9.5	8.3
	R6	Residential	Bedroom	W8/F32	28	26	2.5	8.9	93	93	0	42	12	38	11	9.5	8.3
				W9/F32	28	26	2.5	8.8				43	12	39	11	9.3	8.3
F33	R1	Residential	Bedroom	W5/F33	27	25	2.9	10.6	82	82	0	40	12	38	12	5	0
				W6/F33	28	25	2.8	10.1				41	12	38	12	7.3	0
	R2	Residential	Bedroom	W7/F33	28	26	2.8	9.9	91	91	0.1	42	12	39	12	7.1	0
	R3	Residential	Bedroom	W8/F33	29	26	2.7	9.4	93	93	0	42	12	39	12	7.1	0
				W9/F33	29	26	2.7	9.3				43	12	40	12	7	0
	R4	Residential	LKD	W1/F33	37	35	1.7	4.6	100	100	0	78	24	74	23	5.1	4.2
				W2/F33	26	23	3	11.4				36	12	33	11	8.3	8.3
				W3/F33	27	24	2.9	10.9				37	12	34	11	8.1	8.3
				W4/F33	27	24	2.9	10.7				39	12	37	12	5.1	0
	R5	Residential	LKD	W10/F33	29	27	2.7	9.2	100	100	0	42	11	39	11	7.1	0
				W11/F33	30	28	2.6	8.6				44	10	40	10	9.1	0
				W12/F33	40	39	0.2	0.5				14	0	14	0	0	0
				W13/F33	40	39	0.2	0.5				14	0	14	0	0	0
F34	R2	Residential	LKD	W1/F34	37	35	1.6	4.3	100	100	0	80	25	77	25	3.8	0
				W2/F34	27	24	3.3	12.1				39	12	35	12	10.3	0
				W3/F34	28	24	3.2	11.6				40	12	35	12	12.5	0
				W4/F34	28	25	3.2	11.4				42	12	37	12	11.9	0
	R3	Residential	LKD	W10/F34	30	27	2.9	9.6	100	100	0	45	11	40	11	11.1	0
				W11/F34	31	28	2.9	9.4				46	10	40	10	13	0
				W12/F34	40	40	0.1	0.3				14	0	14	0	0	0
				W13/F34	40	40	0.1	0.3				14	0	14	0	0	0
	R4	Residential	Bedroom	W5/F34	28	25	3.1	11	85	85	0.2	43	12	38	12	11.6	0

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W6/F34	29	26	3.1	10.8				44	12	38	12	13.6	0
	R5	Residential	Bedroom	W7/F34	29	26	3.1	10.6	92	92	0.1	45	12	40	12	11.1	0
	R6	Residential	Bedroom	W8/F34	30	27	3	10.1	94	94	0	45	12	40	12	11.1	0
				W9/F34	30	27	3	10				46	12	41	12	10.9	0
F35	R1	Residential	Bedroom	W5/F35	29	26	3.5	11.9	88	88	0.2	45	13	39	13	13.3	0
				W6/F35	30	26	3.4	11.5				46	13	40	13	13	0
	R2	Residential	Bedroom	W7/F35	30	27	3.3	11	93	93	0.1	47	13	42	13	10.6	0
	R3	Residential	Bedroom	W8/F35	31	27	3.3	10.8	95	95	0	47	13	42	13	10.6	0
				W9/F35	31	28	3.3	10.7				48	13	43	13	10.4	0
	R4	Residential	LKD	W1/F35	37	36	1.4	3.8	100	100	0	81	25	77	25	4.9	0
				W2/F35	29	25	3.6	12.6				41	13	37	13	9.8	0
				W3/F35	29	25	3.5	12.2				42	13	37	13	11.9	0
				W4/F35	29	26	3.5	12				44	13	39	13	11.4	0
	R5	Residential	LKD	W10/F35	31	28	3.2	10.3	100	100	0	48	13	43	13	10.4	0
				W11/F35	32	29	3.3	10.4				48	11	42	11	12.5	0
				W12/F35	40	40	0	0				14	0	14	0	0	0
				W13/F35	40	40	0	0				14	0	14	0	0	0
F36	R2	Residential	LKD	W1/F36	38	36	1.3	3.5	100	100	0	81	25	77	25	4.9	0
				W2/F36	30	26	3.9	13.1				44	13	38	13	13.6	0
				W3/F36	30	26	3.9	13				45	13	39	13	13.3	0
				W4/F36	30	26	3.8	12.6				47	13	41	13	12.8	0
	R3	Residential	LKD	W10/F36	32	28	3.6	11.3	100	100	0	48	12	42	12	12.5	0
				W11/F36	33	29	3.5	10.7				49	11	42	11	14.3	0
				W12/F36	40	40	0	0				14	0	14	0	0	0
				W13/F36	40	40	0	0				14	0	14	0	0	0
	R4	Residential	Bedroom	W5/F36	31	27	3.8	12.5	90	90	0.1	48	13	42	13	12.5	0
				W6/F36	31	27	3.8	12.4				48	13	41	13	14.6	0
	R5	Residential	Bedroom	W7/F36	31	28	3.7	11.9	95	95	0.5	49	13	43	13	12.2	0
	R6	Residential	Bedroom	W8/F36	32	28	3.7	11.7	98	97	0.1	49	13	43	13	12.2	0
				W9/F36	32	28	3.7	11.6				49	13	43	13	12.2	0
F37	R1	Residential	Bedroom	W5/F37	32	28	4.2	13.2	91	90	0.8	50	14	43	14	14	0
				W6/F37	32	28	4.2	13.2				50	14	42	14	16	0
	R2	Residential	Bedroom	W7/F37	32	28	4.1	12.7	99	97	1.3	51	14	45	14	11.8	0
	R3	Residential	Bedroom	W8/F37	33	29	4.1	12.6	100	100	0.1	51	14	45	14	11.8	0
				W9/F37	33	29	4	12.2				51	14	45	14	11.8	0
	R4	Residential	LKD	W10/F37	33	29	4.1	12.4	100	100	0	50	13	44	13	12	0
				W11/F37	34	30	3.9	11.6				50	12	43	12	14	0
				W12/F37	40	40	0	0				14	0	14	0	0	0
				W13/F37	40	40	0	0				14	0	14	0	0	0
	R5	Residential	LKD	W1/F37	38	37	1.1	2.9	100	100	0	81	25	77	25	4.9	0
				W2/F37	31	27	4.3	13.9				47	14	40	14	14.9	0
				W3/F37	31	27	4.3	13.8				48	14	41	14	14.6	0
				W4/F37	32	27	4.3	13.7				49	14	42	14	14.3	0
F38	R1	Residential	Bedroom	W5/F38	33	28	4.7	14.2	94	90	3.8	51	14	43	14	15.7	0
				W6/F38	33	29	4.6	13.9				51	14	42	14	17.6	0
	R2	Residential	Bedroom	W7/F38	34	29	4.5	13.4	99	98	0.4	52	14	45	14	13.5	0
	R3	Residential	Bedroom	W8/F38	34	29	4.5	13.4	100	100	0	52	14	45	14	13.5	0
				W9/F38	34	30	4.4	13				52	14	45	14	13.5	0
	R4	Residential	LKD	W1/F38	38	37	1	2.6	100	100	0	82	25	77	25	6.1	0
				W2/F38	32	28	4.8	14.8				48	14	40	14	16.7	0
				W3/F38	33	28	4.8	14.7				49	14	41	14	16.3	0

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W4/F38	33	28	4.7	14.3				50	14	42	14	16	0
	R5	Residential	LKD	W10/F38	34	30	4.4	12.9	100	100	0	52	14	45	14	13.5	0
				W11/F38	35	30	4.4	12.7				52	13	44	13	15.4	0
				W12/F38	40	40	0	0				14	0	14	0	0	0
				W13/F38	40	40	0	0				14	0	14	0	0	0
F39	R2	Residential	LKD	W1/F39	38	37	0.8	2.1	100	100	0	84	27	78	26	7.1	3.7
				W2/F39	34	29	5.3	15.7				51	15	42	15	17.6	0
				W3/F39	34	29	5.3	15.6				51	15	42	15	17.6	0
				W4/F39	34	29	5.2	15.2				52	15	43	15	17.3	0
	R3	Residential	LKD	W10/F39	35	30	4.9	13.9	100	100	0	54	15	47	15	13	0
				W11/F39	36	31	4.8	13.5				54	15	46	15	14.8	0
				W12/F39	40	40	0	0				14	0	14	0	0	0
				W13/F39	40	40	0	0				14	0	14	0	0	0
	R4	Residential	Bedroom	W5/F39	34	29	5.2	15.2	100	91	9	53	15	44	15	17	0
				W6/F39	34	29	5.1	14.8				53	15	43	15	18.9	0
	R5	Residential	Bedroom	W7/F39	35	30	5	14.4	99	98	0.2	54	15	47	15	13	0
	R6	Residential	Bedroom	W8/F39	35	30	5	14.3	100	100	0	54	15	47	15	13	0
				W9/F39	35	30	4.9	14				54	15	47	15	13	0
F40	R1	Residential	Bedroom	W5/F40	36	30	5.6	15.7	100	97	3.4	55	17	44	16	20	5.9
	R2	Residential	Bedroom	W6/F40	36	31	5.4	15	99	98	0.1	56	17	47	15	16.1	11.8
	R3	Residential	Bedroom	W7/F40	36	31	5.4	15	100	100	0	56	17	47	15	16.1	11.8
				W8/F40	36	31	5.4	14.9				56	17	47	15	16.1	11.8
	R4	Residential	LKD	W1/F40	39	38	0.8	2.1	100	100	0	84	27	78	26	7.1	3.7
				W2/F40	35	30	5.7	16.2				54	17	44	16	18.5	5.9
				W3/F40	35	30	5.7	16.1				54	17	44	16	18.5	5.9
				W4/F40	36	30	5.6	15.8				55	17	45	16	18.2	5.9
	R5	Residential	LKD	W9/F40	36	31	5.4	14.9	100	100	0	56	17	47	15	16.1	11.8
				W10/F40	37	31	5.3	14.5				56	17	46	15	17.9	11.8
				W11/F40	40	40	0	0				14	0	14	0	0	0
				W12/F40	40	40	0	0				14	0	14	0	0	0
F41	R2	Residential	LKD	W1/F41	39	38	0.6	1.6	100	100	0	84	27	78	26	7.1	3.7
				W2/F41	37	30	6.2	16.9				55	17	45	16	18.2	5.9
				W3/F41	37	31	6.1	16.6				55	17	45	16	18.2	5.9
				W4/F41	37	31	6.1	16.6				55	17	45	16	18.2	5.9
	R3	Residential	LKD	W9/F41	37	32	5.7	15.3	100	100	0	56	17	47	15	16.1	11.8
				W10/F41	38	32	5.7	15.2				56	17	46	15	17.9	11.8
				W11/F41	40	40	0	0				14	0	14	0	0	0
				W12/F41	40	40	0	0				14	0	14	0	0	0
	R4	Residential	Bedroom	W5/F41	37	31	6.1	16.5	100	97	3.2	55	17	44	16	20	5.9
	R5	Residential	Bedroom	W6/F41	37	31	5.9	15.9	99	98	0.1	56	17	47	15	16.1	11.8
	R6	Residential	Bedroom	W7/F41	37	31	5.9	15.9	100	100	0	56	17	47	15	16.1	11.8
				W8/F41	37	31	5.9	15.8				56	17	47	15	16.1	11.8
F42	R2	Residential	LKD	W1/F42	39	38	0.6	1.5	100	100	0	86	29	79	27	8.1	6.9
				W2/F42	38	31	6.7	17.6				56	17	46	16	17.9	5.9
				W3/F42	38	31	6.6	17.4				56	17	46	16	17.9	5.9
				W4/F42	38	32	6.6	17.3				56	17	46	16	17.9	5.9
	R3	Residential	Bedroom	W5/F42	38	32	6.5	17.1	98	98	0	56	17	45	16	19.6	5.9
	R4	Residential	Bedroom	W6/F42	38	32	6.4	16.8	99	99	0	56	17	47	15	16.1	11.8
				W7/F42	38	32	6.3	16.5				56	17	47	15	16.1	11.8
	R5	Residential	Bedroom	W8/F42	38	32	6.2	16.2	99	99	0	56	17	47	15	16.1	11.8
				W9/F42	39	32	6.1	15.8				56	17	46	15	17.9	11.8

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W10/F42	40	40	0	0				14	0	14	0	0	0
F43	R2	Residential	LKD	W1/F43	39	39	0.5	1.3	100	100	0	86	29	79	27	8.1	6.9
				W2/F43	39	32	7.1	18.1				58	19	47	17	19	10.5
				W3/F43	39	32	7	17.9				58	19	47	17	19	10.5
				W4/F43	39	32	6.9	17.6				58	19	46	16	20.7	15.8
	R3	Residential	Bedroom	W5/F43	39	32	6.8	17.3	98	98	0	58	19	45	16	22.4	15.8
	R4	Residential	Bedroom	W6/F43	39	33	6.7	17.1	99	99	0	58	19	47	15	19	21.1
				W7/F43	39	33	6.6	16.8				58	19	47	15	19	21.1
	R5	Residential	Bedroom	W8/F43	39	33	6.6	16.8	99	99	0	58	19	47	15	19	21.1
				W9/F43	39	33	6.5	16.5				58	19	46	15	20.7	21.1
				W10/F43	40	40	0	0				14	0	14	0	0	0
				W11/F43	40	40	0	0				14	0	14	0	0	0
F44	R2	Residential	LKD	W1/F44	39	39	0.5	1.3	100	100	0	86	29	79	27	8.1	6.9
				W2/F44	40	33	7.1	17.9				58	19	47	17	19	10.5
				W3/F44	40	33	7.1	17.9				58	19	47	17	19	10.5
				W4/F44	40	33	7	17.7				58	19	46	16	20.7	15.8
	R3	Residential	Bedroom	W5/F44	40	33	7	17.7	98	98	0	58	19	45	16	22.4	15.8
	R4	Residential	Bedroom	W6/F44	40	33	6.8	17.2	99	99	0	58	19	47	15	19	21.1
				W7/F44	40	33	6.8	17.2				58	19	47	15	19	21.1
	R5	Residential	Bedroom	W8/F44	40	33	6.7	16.9	98	98	0	58	19	47	15	19	21.1
				W9/F44	40	33	6.5	16.4				58	19	46	15	20.7	21.1
				W10/F44	40	40	0	0				14	0	14	0	0	0
				W11/F44	40	40	0	0				14	0	14	0	0	0
F45	R2	Residential	LKD	W1/F45	39	39	0.4	1	100	100	0	86	29	79	27	8.1	6.9
				W2/F45	40	33	7	17.7				58	19	47	17	19	10.5
				W3/F45	40	33	7	17.7				58	19	47	17	19	10.5
				W4/F45	40	33	6.9	17.4				58	19	46	16	20.7	15.8
	R3	Residential	Bedroom	W5/F45	40	33	6.9	17.4	98	98	0	58	19	45	16	22.4	15.8
	R4	Residential	Bedroom	W6/F45	40	33	6.8	17.2	99	99	0	58	19	46	15	20.7	21.1
				W7/F45	40	33	6.7	16.9				58	19	47	15	19	21.1
	R5	Residential	Bedroom	W8/F45	40	33	6.6	16.7	98	98	0	58	19	47	15	19	21.1
				W9/F45	40	33	6.5	16.4				58	19	47	15	19	21.1
				W10/F45	40	40	0	0				14	0	14	0	0	0
				W11/F45	40	40	0	0				14	0	14	0	0	0
F46	R2	Residential	LKD	W1/F46	39	39	0.5	1.3	100	100	0	86	29	79	27	8.1	6.9
				W2/F46	40	33	7	17.7				58	19	47	17	19	10.5
				W3/F46	40	33	6.9	17.4				58	19	47	17	19	10.5
				W4/F46	40	33	6.8	17.2				58	19	46	16	20.7	15.8
	R3	Residential	Bedroom	W5/F46	40	33	6.8	17.2	98	98	0	58	19	46	16	20.7	15.8
	R4	Residential	Bedroom	W6/F46	40	33	6.7	16.9	99	99	0	58	19	46	15	20.7	21.1
				W7/F46	40	33	6.6	16.7				58	19	47	15	19	21.1
	R5	Residential	Bedroom	W8/F46	40	33	6.5	16.4	99	99	0	58	19	47	15	19	21.1
				W9/F46	40	33	6.4	16.2				58	19	47	15	19	21.1
				W10/F46	40	40	0	0				14	0	14	0	0	0
				W11/F46	40	40	0	0				14	0	14	0	0	0
325 DEANSGATE STAYCITY APARTHOTEL																	
F01	R1	Residential	#NAME?	W1/F01	9.8	9.4	0.4	4.1	N.A	N.A	N.A	0	0	0	0	0	0
				W2/F01	9.6	9.3	0.3	3.1				0	0	0	0	0	0
				W3/F01	9.5	9.1	0.4	4.2				0	0	0	0	0	0
				W4/F01	9.4	9	0.4	4.3				0	0	0	0	0	0

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W5/F01	9.2	8.9	0.3	3.3				0	0	0	0	0	0
				W6/F01	9.1	8.7	0.4	4.4				0	0	0	0	0	0
				W7/F01	9	8.6	0.4	4.4				0	0	0	0	0	0
				W8/F01	22	15	6.6	30.7				39	12	30	8	23.1	33.3
				W9/F01	22	15	6.8	31.5				39	12	30	8	23.1	33.3
	R2**	Residential	#NAME?	W10/F01	22	15	7	32.3	N.A.	N.A.	N.A.	39	12	30	8	23.1	33.3
				W11/F01	22	15	7.3	33				39	12	30	8	23.1	33.3
	R3**	Residential	#NAME?	W12/F01	23	15	7.6	33.8	N.A.	N.A.	N.A.	39	12	30	8	23.1	33.3
				W13/F01	23	15	7.9	33.9				39	12	30	8	23.1	33.3
	R4**	Residential	#NAME?	W14/F01	24	16	8	34	N.A.	N.A.	N.A.	37	12	28	8	24.3	33.3
				W15/F01	24	16	8.1	33.9				39	13	28	8	28.2	38.5
				W16/F01	24	16	8.3	34.2				38	13	27	8	28.9	38.5
	R5**	Residential	#NAME?	W17/F01	25	16	8.4	34.3	N.A.	N.A.	N.A.	38	13	27	8	28.9	38.5
				W18/F01	25	16	8.6	34.7				40	13	26	8	35	38.5
	R6	Residential	#NAME?	W19/F01	25	16	8.7	34.8	N.A.	N.A.	N.A.	41	13	26	8	36.6	38.5
				W20/F01	24	15	8.9	37.4				34	11	18	6	47.1	45.5
				W21/F01	22	16	5.7	25.9				47	19	35	14	25.5	26.3
				W22/F01	22	16	5.7	26.1				46	19	35	14	23.9	26.3
F02	R1	Residential	#NAME?	W1/F02	13	13	0.5	3.8	N.A.	N.A.	N.A.	0	0	0	0	0	0
				W2/F02	13	12	0.5	3.9				0	0	0	0	0	0
				W3/F02	13	12	0.6	4.8				0	0	0	0	0	0
				W4/F02	12	12	0.6	4.8				0	0	0	0	0	0
				W5/F02	12	12	0.6	4.9				0	0	0	0	0	0
				W6/F02	12	11	0.7	5.8				0	0	0	0	0	0
				W7/F02	12	11	0.6	5				0	0	0	0	0	0
				W8/F02	23	16	7.4	32				40	13	30	8	25	38.5
				W9/F02	23	16	7.6	32.5				40	13	30	8	25	38.5
	R2**	Residential	#NAME?	W10/F02	24	16	7.7	32.6	N.A.	N.A.	N.A.	40	13	30	8	25	38.5
				W11/F02	24	16	7.9	33.1				40	13	30	8	25	38.5
	R3**	Residential	#NAME?	W12/F02	24	16	8	33.2	N.A.	N.A.	N.A.	40	13	30	8	25	38.5
				W13/F02	25	16	8.3	33.7				40	13	30	8	25	38.5
	R4**	Residential	#NAME?	W14/F02	25	16	8.5	34.3	N.A.	N.A.	N.A.	39	13	29	8	25.6	38.5
				W15/F02	25	16	8.6	34.4				42	14	29	8	31	42.9
				W16/F02	25	17	8.7	34.5				41	14	28	8	31.7	42.9
	R5**	Residential	#NAME?	W17/F02	25	17	8.8	34.6	N.A.	N.A.	N.A.	41	14	28	8	31.7	42.9
				W18/F02	26	17	9	35.2				42	14	28	8	33.3	42.9
	R6	Residential	#NAME?	W19/F02	26	17	9.1	35.3	N.A.	N.A.	N.A.	43	14	29	8	32.6	42.9
				W20/F02	25	15	9.3	37.8				37	12	20	6	45.9	50
				W21/F02	8.1	5.8	2.3	28.4				11	11	9	9	18.2	18.2
				W22/F02	6.9	4.5	2.4	34.8				11	11	7	7	36.4	36.4
F03	R1	Residential	#NAME?	W1/F03	19	18	0.8	4.3	N.A.	N.A.	N.A.	0	0	0	0	0	0
				W2/F03	17	16	1.1	6.3				6	0	6	0	0	0
				W3/F03	24	16	7.7	32.2				40	13	30	8	25	38.5
				W4/F03	24	16	7.9	32.6				40	13	30	8	25	38.5
	R2**	Residential	#NAME?	W5/F03	25	17	8.1	32.9	N.A.	N.A.	N.A.	40	13	30	8	25	38.5
				W6/F03	25	17	8.2	33.1				40	13	30	8	25	38.5
				W7/F03	25	17	8.4	33.3				40	13	30	8	25	38.5
	R3**	Residential	#NAME?	W8/F03	25	17	8.6	33.9	N.A.	N.A.	N.A.	40	13	29	8	27.5	38.5
				W9/F03	26	17	8.7	34				42	14	28	8	33.3	42.9
				W10/F03	26	17	8.8	34.1				42	14	28	8	33.3	42.9
				W11/F03	26	17	8.9	34.2				42	14	28	8	33.3	42.9

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R4**	Residential	#NAME?	W12/F03	26	17	9.1	34.7	N.A.	N.A.	N.A.	43	14	28	8	34.9	42.9
				W13/F03	26	17	9.2	34.8				43	14	28	8	34.9	42.9
				W14/F03	27	17	9.4	35.2				42	13	27	7	35.7	46.2
				W15/F03	27	17	9.5	35.3				42	13	27	7	35.7	46.2
	R5	Residential	#NAME?	W16/F03	27	17	9.7	35.8	N.A.	N.A.	N.A.	42	13	26	7	38.1	46.2
				W17/F03	27	18	9.7	35.7				43	13	25	7	41.9	46.2
				W18/F03	30	26	4.5	14.8				67	22	50	15	25.4	31.8
				W19/F03	28	24	4.4	15.7				63	21	48	15	23.8	28.6
				W20/F03	24	20	4.2	17.6				54	17	40	11	25.9	35.3
				W21/F03	18	14	3.7	20.4				45	15	31	9	31.1	40
F04	R1	Residential	#NAME?	W1/F04	22	21	0.9	4.1	N.A.	N.A.	N.A.	6	0	6	0	0	0
				W2/F04	20	19	1.1	5.4				7	0	7	0	0	0
				W3/F04	24	17	7.8	32				41	13	30	8	26.8	38.5
				W4/F04	25	17	7.9	32.1				41	13	30	8	26.8	38.5
	R2**	Residential	#NAME?	W5/F04	25	17	8.1	32.4	N.A.	N.A.	N.A.	41	13	30	8	26.8	38.5
				W6/F04	25	17	8.2	32.5				41	13	30	8	26.8	38.5
				W7/F04	26	17	8.5	33.2				42	14	31	9	26.2	35.7
	R3**	Residential	#NAME?	W8/F04	26	17	8.6	33.3	N.A.	N.A.	N.A.	41	14	30	9	26.8	35.7
				W9/F04	26	17	8.7	33.5				42	14	28	8	33.3	42.9
				W10/F04	26	17	8.8	33.6				42	14	28	8	33.3	42.9
				W11/F04	26	17	9	34.1				42	14	28	8	33.3	42.9
	R4**	Residential	#NAME?	W12/F04	27	18	9.1	34.2	N.A.	N.A.	N.A.	43	14	28	8	34.9	42.9
				W13/F04	27	18	9.1	34.1				43	14	28	8	34.9	42.9
				W14/F04	27	18	9.4	34.7				42	13	27	7	35.7	46.2
				W15/F04	27	18	9.6	35.2				42	13	27	7	35.7	46.2
	R5	Residential	#NAME?	W16/F04	27	18	9.6	35	N.A.	N.A.	N.A.	42	13	27	7	35.7	46.2
				W17/F04	28	18	9.7	35.1				43	13	27	7	37.2	46.2
				W18/F04	31	26	4.4	14.4				67	22	51	15	23.9	31.8
				W19/F04	28	24	4.3	15.2				63	21	49	15	22.2	28.6
				W20/F04	24	20	4.2	17.5				55	18	41	12	25.5	33.3
				W21/F04	18	15	3.7	20.2				45	15	31	9	31.1	40
F05	R1	Residential	#NAME?	W1/F05	22	21	1	4.5	N.A.	N.A.	N.A.	6	0	6	0	0	0
				W2/F05	21	20	1.1	5.3				7	0	7	0	0	0
				W3/F05	25	17	7.7	31.2				41	13	30	8	26.8	38.5
				W4/F05	25	17	7.9	31.7				41	13	30	8	26.8	38.5
	R2**	Residential	#NAME?	W5/F05	25	17	8.1	32	N.A.	N.A.	N.A.	41	13	30	8	26.8	38.5
				W6/F05	26	17	8.2	32.2				41	13	30	8	26.8	38.5
				W7/F05	26	18	8.4	32.4				42	14	31	9	26.2	35.7
	R3**	Residential	#NAME?	W8/F05	26	18	8.5	32.6	N.A.	N.A.	N.A.	41	14	30	9	26.8	35.7
				W9/F05	26	18	8.6	32.7				42	14	29	8	31	42.9
				W10/F05	27	18	8.8	33.2				42	14	29	8	31	42.9
				W11/F05	27	18	8.9	33.3				42	14	29	8	31	42.9
	R4**	Residential	#NAME?	W12/F05	27	18	9	33.6	N.A.	N.A.	N.A.	43	14	28	8	34.9	42.9
				W13/F05	27	18	9.1	33.7				43	14	28	8	34.9	42.9
				W14/F05	27	18	9.4	34.3				42	13	27	7	35.7	46.2
				W15/F05	28	18	9.4	34.2				42	13	27	7	35.7	46.2
	R5	Residential	#NAME?	W16/F05	28	18	9.5	34.3	N.A.	N.A.	N.A.	42	13	27	7	35.7	46.2
				W17/F05	28	18	9.6	34.5				43	13	27	7	37.2	46.2
				W18/F05	31	26	4.5	14.6				67	22	51	15	23.9	31.8
				W19/F05	29	24	4.3	15				63	21	49	15	22.2	28.6
				W20/F05	24	20	4.1	16.9				55	18	41	12	25.5	33.3

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W21/F05	18	15	3.6	19.6				46	16	33	10	28.3	37.5
F06	R1	Residential	#NAME?	W1/F06	23	22	1	4.4	N.A.	N.A.	N.A.	6	0	6	0	0	0
				W2/F06	21	20	1.1	5.3				7	0	7	0	0	0
				W3/F06	25	17	7.6	30.5				41	13	31	8	24.4	38.5
				W4/F06	25	17	7.7	30.7				41	13	31	8	24.4	38.5
	R2**	Residential	#NAME?	W5/F06	26	18	7.9	31	N.A.	N.A.	N.A.	41	13	30	8	26.8	38.5
				W6/F06	26	18	8.1	31.4				41	13	30	8	26.8	38.5
				W7/F06	26	18	8.4	32.1				42	14	31	9	26.2	35.7
	R3**	Residential	#NAME?	W8/F06	26	18	8.5	32.2	N.A.	N.A.	N.A.	41	14	30	9	26.8	35.7
				W9/F06	27	18	8.5	32.1				42	14	29	8	31	42.9
				W10/F06	27	18	8.6	32.2				42	14	29	8	31	42.9
				W11/F06	27	18	8.8	32.7				42	14	29	8	31	42.9
	R4**	Residential	#NAME?	W12/F06	27	18	8.9	32.8	N.A.	N.A.	N.A.	43	14	29	8	32.6	42.9
				W13/F06	27	18	9.1	33.3				43	14	29	8	32.6	42.9
				W14/F06	28	18	9.2	33.3				42	13	27	7	35.7	46.2
				W15/F06	28	18	9.4	33.8				42	13	27	7	35.7	46.2
	R5	Residential	#NAME?	W16/F06	28	19	9.5	33.9	N.A.	N.A.	N.A.	42	13	27	7	35.7	46.2
				W17/F06	28	19	9.5	33.8				43	13	26	7	39.5	46.2
				W18/F06	31	27	4.3	13.9				67	22	52	15	22.4	31.8
				W19/F06	29	25	4.2	14.6				63	21	49	15	22.2	28.6
				W20/F06	24	20	4.1	16.8				55	18	42	12	23.6	33.3
				W21/F06	19	15	3.5	18.9				46	16	33	10	28.3	37.5
F07	R1	Residential	#NAME?	W1/F07	23	22	0.8	3.6	N.A.	N.A.	N.A.	6	0	5	0	16.7	0
				W2/F07	21	20	1.1	5.3				7	0	7	0	0	0
				W3/F07	25	18	7.6	30.2				41	13	32	8	22	38.5
				W4/F07	25	18	7.7	30.3				41	13	31	8	24.4	38.5
	R2**	Residential	#NAME?	W5/F07	26	18	7.9	30.6	N.A.	N.A.	N.A.	41	13	31	8	24.4	38.5
				W6/F07	26	18	8	30.8				41	13	30	8	26.8	38.5
				W7/F07	26	18	8.2	31.1				42	14	31	9	26.2	35.7
	R3**	Residential	#NAME?	W8/F07	27	18	8.3	31.2	N.A.	N.A.	N.A.	42	14	31	9	26.2	35.7
				W9/F07	27	18	8.5	31.7				43	14	30	8	30.2	42.9
				W10/F07	27	18	8.6	31.9				43	14	30	8	30.2	42.9
				W11/F07	27	19	8.7	32				43	14	30	8	30.2	42.9
	R4**	Residential	#NAME?	W12/F07	27	19	8.7	31.9	N.A.	N.A.	N.A.	44	14	30	8	31.8	42.9
				W13/F07	28	19	8.9	32.4				44	14	30	8	31.8	42.9
				W14/F07	28	19	9.2	33				43	13	29	7	32.6	46.2
				W15/F07	28	19	9.2	32.9				43	13	28	7	34.9	46.2
	R5	Residential	#NAME?	W16/F07	28	19	9.3	33	N.A.	N.A.	N.A.	43	13	28	7	34.9	46.2
				W17/F07	28	19	9.5	33.5				44	13	28	7	36.4	46.2
				W18/F07	31	27	4.3	13.8				68	23	53	16	22.1	30.4
				W19/F07	29	25	4.2	14.5				64	22	51	16	20.3	27.3
				W20/F07	25	21	4.1	16.7				56	19	43	13	23.2	31.6
				W21/F07	19	15	3.6	19.3				47	17	34	11	27.7	35.3
F08	R1	Residential	#NAME?	W1/F08	23	22	0.8	3.5	N.A.	N.A.	N.A.	6	0	5	0	16.7	0
				W2/F08	21	20	1.1	5.2				7	0	7	0	0	0
				W3/F08	25	18	7.4	29.1				41	13	33	8	19.5	38.5
				W4/F08	26	18	7.5	29.3				41	13	33	8	19.5	38.5
	R2**	Residential	#NAME?	W5/F08	26	18	7.7	29.6	N.A.	N.A.	N.A.	41	13	31	8	24.4	38.5
				W6/F08	26	18	7.8	29.8				41	13	31	8	24.4	38.5
				W7/F08	27	19	8.1	30.5				42	14	32	9	23.8	35.7
	R3**	Residential	#NAME?	W8/F08	27	19	8.3	30.9	N.A.	N.A.	N.A.	42	14	31	9	26.2	35.7

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W9/F08	27	19	8.4	31				43	14	30	8	30.2	42.9
				W10/F08	27	19	8.4	30.9				43	14	30	8	30.2	42.9
				W11/F08	27	19	8.6	31.4				43	14	30	8	30.2	42.9
	R4**	Residential	#NAME?	W12/F08	28	19	8.7	31.5	N.A.	N.A.	N.A.	44	14	30	8	31.8	42.9
				W13/F08	28	19	8.8	31.7				44	14	30	8	31.8	42.9
				W14/F08	28	19	9	32				43	13	29	7	32.6	46.2
				W15/F08	28	19	9.1	32.2				43	13	29	7	32.6	46.2
	R5	Residential	#NAME?	W16/F08	29	19	9.3	32.6	N.A.	N.A.	N.A.	43	13	29	7	32.6	46.2
				W17/F08	29	19	9.3	32.5				44	13	29	7	34.1	46.2
				W18/F08	31	27	4.3	13.7				68	23	53	16	22.1	30.4
				W19/F08	29	25	4.1	14.1				64	22	51	16	20.3	27.3
				W20/F08	25	21	3.9	15.8				56	19	43	13	23.2	31.6
				W21/F08	19	15	3.5	18.6				47	17	36	11	23.4	35.3
F09	R1	Residential	#NAME?	W1/F09	23	22	0.8	3.5	N.A.	N.A.	N.A.	6	0	6	0	0	0
				W2/F09	21	20	1	4.7				7	0	7	0	0	0
				W3/F09	26	18	7.3	28.5				42	14	34	9	19	35.7
				W4/F09	26	18	7.4	28.7				42	14	34	9	19	35.7
	R2**	Residential	#NAME?	W5/F09	26	19	7.7	29.3	N.A.	N.A.	N.A.	42	14	33	9	21.4	35.7
				W6/F09	27	19	7.8	29.4				41	13	32	8	22	38.5
				W7/F09	27	19	8	29.7				42	14	32	9	23.8	35.7
	R3**	Residential	#NAME?	W8/F09	27	19	8.1	29.9	N.A.	N.A.	N.A.	42	14	32	9	23.8	35.7
				W9/F09	27	19	8.2	30				43	14	31	8	27.9	42.9
				W10/F09	28	19	8.4	30.5				43	14	30	8	30.2	42.9
				W11/F09	28	19	8.5	30.7				43	14	30	8	30.2	42.9
	R4**	Residential	#NAME?	W12/F09	28	19	8.5	30.6	N.A.	N.A.	N.A.	44	14	30	8	31.8	42.9
				W13/F09	28	19	8.7	31.1				44	14	30	8	31.8	42.9
				W14/F09	28	20	8.9	31.3				44	14	30	8	31.8	42.9
				W15/F09	29	20	9	31.6				44	14	30	8	31.8	42.9
	R5	Residential	#NAME?	W16/F09	29	20	9.1	31.7	N.A.	N.A.	N.A.	44	14	30	8	31.8	42.9
				W17/F09	29	20	9.2	31.8				45	14	30	8	33.3	42.9
				W18/F09	32	27	4.1	13				69	24	55	17	20.3	29.2
				W19/F09	29	25	4	13.7				65	23	53	17	18.5	26.1
				W20/F09	25	21	3.9	15.7				57	20	47	14	17.5	30
				W21/F09	19	15	3.5	18.5				48	18	38	12	20.8	33.3
F10	R1	Residential	#NAME?	W1/F10	23	22	0.8	3.5	N.A.	N.A.	N.A.	6	0	6	0	0	0
				W2/F10	21	20	0.9	4.3				7	0	7	0	0	0
				W3/F10	26	19	7.1	27.5				42	14	34	9	19	35.7
				W4/F10	26	19	7.2	27.7				41	14	33	9	19.5	35.7
	R2**	Residential	#NAME?	W5/F10	27	19	7.5	28.3	N.A.	N.A.	N.A.	42	14	33	9	21.4	35.7
				W6/F10	27	19	7.6	28.5				42	14	33	9	21.4	35.7
				W7/F10	27	19	7.8	28.8				43	15	34	10	20.9	33.3
	R3**	Residential	#NAME?	W8/F10	27	19	8	29.3	N.A.	N.A.	N.A.	43	15	33	10	23.3	33.3
				W9/F10	28	19	8.1	29.5				44	15	32	9	27.3	40
				W10/F10	28	20	8.2	29.6				44	15	32	9	27.3	40
				W11/F10	28	20	8.3	29.7				44	15	32	9	27.3	40
	R4**	Residential	#NAME?	W12/F10	28	20	8.4	30	N.A.	N.A.	N.A.	45	15	31	9	31.1	40
				W13/F10	28	20	8.5	30.1				45	15	31	9	31.1	40
				W14/F10	29	20	8.7	30.4				44	14	30	8	31.8	42.9
				W15/F10	29	20	8.9	30.9				44	14	30	8	31.8	42.9
	R5	Residential	#NAME?	W16/F10	29	20	8.9	30.8	N.A.	N.A.	N.A.	44	14	30	8	31.8	42.9
				W17/F10	29	20	9	30.9				45	14	30	8	33.3	42.9

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W18/F10	32	28	4.1	12.9				69	24	57	17	17.4	29.2
				W19/F10	29	25	4	13.6				65	23	54	17	16.9	26.1
				W20/F10	25	21	3.9	15.5				57	20	47	14	17.5	30
				W21/F10	19	16	3.4	17.9				48	18	38	12	20.8	33.3
F11	R1	Residential	#NAME?	W1/F11	23	22	0.8	3.5	N.A.	N.A.	N.A.	6	0	6	0	0	0
				W2/F11	21	20	0.9	4.2				7	0	7	0	0	0
				W3/F11	26	19	6.9	26.5				42	14	34	9	19	35.7
				W4/F11	26	19	7.1	27				42	14	34	9	19	35.7
	R2**	Residential	#NAME?	W5/F11	27	19	7.4	27.7	N.A.	N.A.	N.A.	42	14	33	9	21.4	35.7
				W6/F11	27	20	7.4	27.5				42	14	33	9	21.4	35.7
				W7/F11	27	20	7.7	28.2				43	15	34	10	20.9	33.3
	R3**	Residential	#NAME?	W8/F11	28	20	7.8	28.4	N.A.	N.A.	N.A.	43	15	34	10	20.9	33.3
				W9/F11	28	20	7.9	28.5				44	15	33	9	25	40
				W10/F11	28	20	8	28.7				44	15	33	9	25	40
				W11/F11	28	20	8.1	28.8				44	15	32	9	27.3	40
	R4**	Residential	#NAME?	W12/F11	28	20	8.3	29.3	N.A.	N.A.	N.A.	45	15	32	9	28.9	40
				W13/F11	28	20	8.3	29.2				45	15	32	9	28.9	40
				W14/F11	29	20	8.6	29.9				45	15	31	9	31.1	40
				W15/F11	29	20	8.7	30				45	15	31	9	31.1	40
	R5	Residential	#NAME?	W16/F11	29	20	8.7	29.9	N.A.	N.A.	N.A.	45	15	31	9	31.1	40
				W17/F11	29	21	8.8	30				46	15	32	9	30.4	40
				W18/F11	32	28	4.1	12.9				69	24	57	17	17.4	29.2
				W19/F11	30	26	3.9	13.2				65	23	54	17	16.9	26.1
				W20/F11	25	22	3.7	14.7				57	20	47	14	17.5	30
				W21/F11	19	16	3.2	16.8				48	18	38	12	20.8	33.3
F12	R1	Residential	#NAME?	W1/F12	23	22	0.7	3	N.A.	N.A.	N.A.	6	0	6	0	0	0
				W2/F12	21	21	0.8	3.8				7	0	7	0	0	0
				W3/F12	26	19	6.9	26.2				42	14	34	9	19	35.7
				W4/F12	27	20	7	26.4				41	14	33	9	19.5	35.7
	R2**	Residential	#NAME?	W5/F12	27	20	7.2	26.8	N.A.	N.A.	N.A.	42	14	33	9	21.4	35.7
				W6/F12	27	20	7.3	26.9				42	14	33	9	21.4	35.7
				W7/F12	28	20	7.5	27.3				43	15	34	10	20.9	33.3
	R3**	Residential	#NAME?	W8/F12	28	20	7.6	27.4	N.A.	N.A.	N.A.	43	15	34	10	20.9	33.3
				W9/F12	28	20	7.7	27.6				44	15	33	9	25	40
				W10/F12	28	20	7.8	27.8				44	15	33	9	25	40
				W11/F12	28	20	7.9	27.9				44	15	33	9	25	40
	R4**	Residential	#NAME?	W12/F12	29	20	8.1	28.4	N.A.	N.A.	N.A.	45	15	33	9	26.7	40
				W13/F12	29	21	8.2	28.6				45	15	32	9	28.9	40
				W14/F12	29	21	8.4	29				45	15	32	9	28.9	40
				W15/F12	29	21	8.5	29.1				45	15	32	9	28.9	40
	R5	Residential	#NAME?	W16/F12	29	21	8.5	29	N.A.	N.A.	N.A.	45	15	32	9	28.9	40
				W17/F12	30	21	8.6	29.2				46	15	32	9	30.4	40
				W18/F12	32	28	3.9	12.2				69	24	57	17	17.4	29.2
				W19/F12	30	26	3.8	12.8				65	23	54	17	16.9	26.1
				W20/F12	25	22	3.7	14.6				57	20	47	14	17.5	30
				W21/F12	19	16	3.2	16.8				48	18	38	12	20.8	33.3
F13	R1	Residential	#NAME?	W1/F13	23	22	0.7	3	N.A.	N.A.	N.A.	6	0	6	0	0	0
				W2/F13	21	21	0.7	3.3				7	0	7	0	0	0
				W3/F13	27	20	6.7	25.3				42	14	35	9	16.7	35.7
				W4/F13	27	20	6.8	25.5				42	14	34	9	19	35.7
	R2**	Residential	#NAME?	W5/F13	27	20	7	25.8	N.A.	N.A.	N.A.	42	14	33	9	21.4	35.7

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W6/F13	27	20	7.1	26				42	14	33	9	21.4	35.7
				W7/F13	28	20	7.3	26.4				43	15	34	10	20.9	33.3
	R3**	Residential	#NAME?	W8/F13	28	21	7.4	26.5	N.A.	N.A.	N.A.	43	15	34	10	20.9	33.3
				W9/F13	28	21	7.5	26.7				44	15	33	9	25	40
				W10/F13	28	21	7.6	26.9				44	15	33	9	25	40
				W11/F13	29	21	7.7	27				44	15	33	9	25	40
	R4**	Residential	#NAME?	W12/F13	29	21	7.9	27.5	N.A.	N.A.	N.A.	45	15	33	9	26.7	40
				W13/F13	29	21	8	27.7				45	15	33	9	26.7	40
				W14/F13	29	21	8.1	27.7				45	15	32	9	28.9	40
				W15/F13	29	21	8.3	28.2				45	15	32	9	28.9	40
	R5	Residential	#NAME?	W16/F13	30	21	8.3	28.1	N.A.	N.A.	N.A.	45	15	32	9	28.9	40
				W17/F13	30	21	8.4	28.3				46	15	32	9	30.4	40
				W18/F13	32	28	3.9	12.1				69	24	57	17	17.4	29.2
				W19/F13	30	26	3.7	12.4				65	23	54	17	16.9	26.1
				W20/F13	26	22	3.6	14.1				57	20	47	14	17.5	30
				W21/F13	19	16	3.1	16.1				48	18	38	12	20.8	33.3
F14	R1	Residential	#NAME?	W1/F14	23	23	0.6	2.6	N.A.	N.A.	N.A.	6	0	6	0	0	0
				W2/F14	22	21	0.7	3.3				7	0	7	0	0	0
				W3/F14	27	20	6.5	24.3				42	14	35	9	16.7	35.7
				W4/F14	27	20	6.6	24.5				42	14	35	9	16.7	35.7
	R2**	Residential	#NAME?	W5/F14	27	21	6.8	24.9	N.A.	N.A.	N.A.	42	14	34	9	19	35.7
				W6/F14	28	21	7	25.4				42	14	33	9	21.4	35.7
				W7/F14	28	21	7.2	25.7				43	15	34	10	20.9	33.3
	R3**	Residential	#NAME?	W8/F14	28	21	7.3	25.9	N.A.	N.A.	N.A.	43	15	34	10	20.9	33.3
				W9/F14	28	21	7.4	26.1				44	15	33	9	25	40
				W10/F14	29	21	7.4	26				44	15	33	9	25	40
				W11/F14	29	21	7.5	26.1				44	15	33	9	25	40
	R4**	Residential	#NAME?	W12/F14	29	21	7.7	26.6	N.A.	N.A.	N.A.	45	15	33	9	26.7	40
				W13/F14	29	21	7.8	26.8				45	15	33	9	26.7	40
				W14/F14	29	22	7.9	26.9				45	15	33	9	26.7	40
				W15/F14	30	22	8.1	27.4				45	15	33	9	26.7	40
	R5	Residential	#NAME?	W16/F14	30	22	8.2	27.5	N.A.	N.A.	N.A.	45	15	33	9	26.7	40
				W17/F14	30	22	8.2	27.4				46	15	32	9	30.4	40
				W18/F14	32	29	3.7	11.5				69	24	57	17	17.4	29.2
				W19/F14	30	26	3.6	12				65	23	55	17	15.4	26.1
				W20/F14	26	22	3.5	13.6				57	20	48	14	15.8	30
				W21/F14	19	16	3	15.5				48	18	39	12	18.8	33.3
F15	R1	Residential	#NAME?	W1/F15	23	23	0.6	2.6	N.A.	N.A.	N.A.	6	0	6	0	0	0
				W2/F15	22	21	0.6	2.8				7	0	7	0	0	0
				W3/F15	27	21	6.2	23				42	14	35	9	16.7	35.7
				W4/F15	27	21	6.4	23.5				42	14	35	9	16.7	35.7
	R2**	Residential	#NAME?	W5/F15	28	21	6.6	23.9	N.A.	N.A.	N.A.	42	14	34	9	19	35.7
				W6/F15	28	21	6.7	24.1				42	14	34	9	19	35.7
				W7/F15	28	21	6.9	24.5				43	15	35	10	18.6	33.3
	R3**	Residential	#NAME?	W8/F15	28	21	7	24.6	N.A.	N.A.	N.A.	43	15	34	10	20.9	33.3
				W9/F15	29	21	7.2	25.2				44	15	33	9	25	40
				W10/F15	29	22	7.3	25.3				44	15	33	9	25	40
				W11/F15	29	22	7.3	25.3				44	15	33	9	25	40
	R4**	Residential	#NAME?	W12/F15	29	22	7.4	25.4	N.A.	N.A.	N.A.	45	15	33	9	26.7	40
				W13/F15	29	22	7.6	25.9				45	15	33	9	26.7	40
				W14/F15	30	22	7.7	26				45	15	33	9	26.7	40

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W15/F15	30	22	7.8	26.2				45	15	33	9	26.7	40
	R5	Residential	#NAME?	W16/F15	30	22	7.9	26.3	N.A.	N.A.	N.A.	45	15	33	9	26.7	40
				W17/F15	30	22	8	26.6				46	15	33	9	28.3	40
				W18/F15	33	29	3.6	11.1				69	24	58	17	15.9	29.2
				W19/F15	30	27	3.5	11.6				65	23	55	17	15.4	26.1
				W20/F15	26	22	3.4	13.2				57	20	48	14	15.8	30
				W21/F15	19	17	2.9	14.9				48	18	39	12	18.8	33.3
F16	R1	Residential	#NAME?	W1/F16	23	23	0.5	2.1	N.A.	N.A.	N.A.	6	0	6	0	0	0
				W2/F16	22	21	0.6	2.8				7	0	7	0	0	0
				W3/F16	27	21	6.1	22.4				43	15	36	10	16.3	33.3
				W4/F16	27	21	6.2	22.6				43	15	36	10	16.3	33.3
	R2**	Residential	#NAME?	W5/F16	28	21	6.4	23	N.A.	N.A.	N.A.	43	15	35	10	18.6	33.3
				W6/F16	28	22	6.5	23.2				43	15	35	10	18.6	33.3
				W7/F16	28	22	6.7	23.6				43	15	35	10	18.6	33.3
	R3**	Residential	#NAME?	W8/F16	29	22	6.8	23.8	N.A.	N.A.	N.A.	43	15	35	10	18.6	33.3
				W9/F16	29	22	6.9	24				44	15	34	9	22.7	40
				W10/F16	29	22	7	24.1				44	15	33	9	25	40
				W11/F16	29	22	7.2	24.7				44	15	33	9	25	40
	R4**	Residential	#NAME?	W12/F16	29	22	7.3	24.8	N.A.	N.A.	N.A.	45	15	33	9	26.7	40
				W13/F16	30	22	7.3	24.7				45	15	33	9	26.7	40
				W14/F16	30	22	7.6	25.4				45	15	33	9	26.7	40
				W15/F16	30	22	7.6	25.3				45	15	33	9	26.7	40
	R5	Residential	#NAME?	W16/F16	30	23	7.7	25.5	N.A.	N.A.	N.A.	45	15	33	9	26.7	40
				W17/F16	30	23	7.8	25.7				46	15	33	9	28.3	40
				W18/F16	33	29	3.6	11				69	24	59	17	14.5	29.2
				W19/F16	30	27	3.5	11.5				65	23	56	17	13.8	26.1
				W20/F16	26	23	3.3	12.7				57	20	49	14	14	30
				W21/F16	20	17	2.9	14.9				48	18	40	12	16.7	33.3
F17	R1	Residential	#NAME?	W1/F17	24	23	0.5	2.1	N.A.	N.A.	N.A.	6	0	6	0	0	0
				W2/F17	22	21	0.5	2.3				7	0	7	0	0	0
				W3/F17	27	22	5.9	21.5				43	15	36	10	16.3	33.3
				W4/F17	28	22	6	21.7				43	15	36	10	16.3	33.3
	R2**	Residential	#NAME?	W5/F17	28	22	6.3	22.4	N.A.	N.A.	N.A.	43	15	35	10	18.6	33.3
				W6/F17	28	22	6.4	22.6				43	15	35	10	18.6	33.3
				W7/F17	29	22	6.6	23				44	16	36	11	18.2	31.2
	R3**	Residential	#NAME?	W8/F17	29	22	6.7	23.2	N.A.	N.A.	N.A.	44	16	36	11	18.2	31.2
				W9/F17	29	22	6.8	23.4				45	16	35	10	22.2	37.5
				W10/F17	29	22	6.8	23.3				45	16	35	10	22.2	37.5
				W11/F17	29	23	6.9	23.5				45	16	35	10	22.2	37.5
	R4**	Residential	#NAME?	W12/F17	30	23	7	23.6	N.A.	N.A.	N.A.	46	16	35	10	23.9	37.5
				W13/F17	30	23	7.2	24.2				46	16	34	10	26.1	37.5
				W14/F17	30	23	7.3	24.3				46	16	34	10	26.1	37.5
				W15/F17	30	23	7.4	24.4				46	16	34	10	26.1	37.5
	R5	Residential	#NAME?	W16/F17	30	23	7.4	24.3	N.A.	N.A.	N.A.	45	15	33	9	26.7	40
				W17/F17	31	23	7.6	24.8				46	15	33	9	28.3	40
				W18/F17	33	30	3.4	10.3				70	25	60	18	14.3	28
				W19/F17	31	27	3.3	10.8				65	23	56	17	13.8	26.1
				W20/F17	26	23	3.2	12.2				57	20	49	14	14	30
				W21/F17	20	17	2.8	14.3				48	18	40	12	16.7	33.3
F18	R1	Residential	#NAME?	W1/F18	24	23	0.4	1.7	N.A.	N.A.	N.A.	6	0	6	0	0	0
				W2/F18	22	22	0.4	1.8				7	0	7	0	0	0

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W3/F18	28	22	5.7	20.6				43	15	36	10	16.3	33.3
				W4/F18	28	22	5.8	20.8				42	15	35	10	16.7	33.3
	R2**	Residential	#NAME?	W5/F18	28	22	6	21.2	N.A.	N.A.	N.A.	43	15	35	10	18.6	33.3
				W6/F18	29	22	6.1	21.4				43	15	35	10	18.6	33.3
				W7/F18	29	23	6.3	21.8				44	16	36	11	18.2	31.2
	R3**	Residential	#NAME?	W8/F18	29	23	6.4	22	N.A.	N.A.	N.A.	44	16	36	11	18.2	31.2
				W9/F18	29	23	6.5	22.2				45	16	35	10	22.2	37.5
				W10/F18	30	23	6.6	22.4				45	16	35	10	22.2	37.5
				W11/F18	30	23	6.8	22.9				45	16	35	10	22.2	37.5
	R4**	Residential	#NAME?	W12/F18	30	23	6.8	22.8	N.A.	N.A.	N.A.	46	16	35	10	23.9	37.5
				W13/F18	30	23	6.9	23				46	16	35	10	23.9	37.5
				W14/F18	30	23	7	23.1				46	16	36	10	21.7	37.5
				W15/F18	31	23	7.2	23.6				46	16	35	10	23.9	37.5
	R5	Residential	#NAME?	W16/F18	31	23	7.3	23.8	N.A.	N.A.	N.A.	46	16	35	10	23.9	37.5
				W17/F18	31	24	7.3	23.7				47	16	35	10	25.5	37.5
				W18/F18	33	30	3.3	9.9				71	26	61	19	14.1	26.9
				W19/F18	31	28	3.2	10.4				67	25	58	19	13.4	24
				W20/F18	26	23	3.1	11.7				59	22	51	16	13.6	27.3
				W21/F18	20	17	2.7	13.7				49	19	41	13	16.3	31.6
F19	R1	Residential	#NAME?	W1/F19	24	23	0.4	1.7	N.A.	N.A.	N.A.	6	0	5	0	0	0
				W2/F19	22	22	0.4	1.8				7	0	7	0	0	0
				W3/F19	28	22	5.6	20				43	15	38	10	11.6	33.3
				W4/F19	28	23	5.7	20.2				43	15	38	10	11.6	33.3
	R2**	Residential	#NAME?	W5/F19	29	23	5.9	20.6	N.A.	N.A.	N.A.	43	15	38	10	11.6	33.3
				W6/F19	29	23	6	20.8				43	15	37	10	14	33.3
				W7/F19	29	23	6.2	21.2				44	16	37	11	15.9	31.2
	R3**	Residential	#NAME?	W8/F19	29	23	6.3	21.4	N.A.	N.A.	N.A.	44	16	37	11	15.9	31.2
				W9/F19	30	23	6.4	21.6				45	16	36	10	20	37.5
				W10/F19	30	23	6.4	21.5				45	16	36	10	20	37.5
				W11/F19	30	23	6.5	21.7				45	16	36	10	20	37.5
	R4**	Residential	#NAME?	W12/F19	30	24	6.6	21.9	N.A.	N.A.	N.A.	46	16	36	10	21.7	37.5
				W13/F19	30	24	6.7	22.1				46	16	36	10	21.7	37.5
				W14/F19	31	24	6.9	22.5				46	16	37	10	19.6	37.5
				W15/F19	31	24	7	22.7				46	16	36	10	21.7	37.5
	R5	Residential	#NAME?	W16/F19	31	24	7	22.7	N.A.	N.A.	N.A.	46	16	36	10	21.7	37.5
				W17/F19	31	24	7.2	23.2				47	16	36	10	23.4	37.5
				W18/F19	34	31	3.2	9.5				72	27	62	20	13.9	25.9
				W19/F19	32	28	3.2	10.2				68	26	59	20	13.2	23.1
				W20/F19	27	24	3	11.2				60	23	52	17	13.3	26.1
				W21/F19	20	17	2.6	13.1				49	19	41	13	16.3	31.6
F20	R1	Residential	#NAME?	W1/F20	24	24	0.4	1.7	N.A.	N.A.	N.A.	6	0	5	0	16.7	0
				W2/F20	22	22	0.4	1.8				7	0	7	0	0	0
				W3/F20	28	23	5.3	18.8				43	15	38	10	11.6	33.3
				W4/F20	28	23	5.4	19				42	15	37	10	11.9	33.3
	R2**	Residential	#NAME?	W5/F20	29	23	5.7	19.7	N.A.	N.A.	N.A.	43	15	38	10	11.6	33.3
				W6/F20	29	23	5.8	19.9				43	15	38	10	11.6	33.3
				W7/F20	30	24	6	20.3				44	16	39	11	11.4	31.2
	R3**	Residential	#NAME?	W8/F20	30	24	6	20.3	N.A.	N.A.	N.A.	44	16	38	11	13.6	31.2
				W9/F20	30	24	6.1	20.5				45	16	37	10	17.8	37.5
				W10/F20	30	24	6.2	20.7				45	16	36	10	20	37.5
				W11/F20	30	24	6.3	20.9				45	16	36	10	20	37.5

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R4**	Residential	#NAME?	W12/F20	30	24	6.4	21.1	N.A	N.A	N.A	46	16	36	10	21.7	37.5
				W13/F20	31	24	6.5	21.3				46	16	36	10	21.7	37.5
				W14/F20	31	24	6.6	21.4				46	16	37	10	19.6	37.5
				W15/F20	31	24	6.8	21.9				46	16	36	10	21.7	37.5
	R5	Residential	#NAME?	W16/F20	31	24	6.8	21.9	N.A	N.A	N.A	46	16	36	10	21.7	37.5
				W17/F20	31	24	6.9	22				47	16	36	10	23.4	37.5
				W18/F20	35	32	3.1	8.9				75	27	67	21	10.7	22.2
				W19/F20	33	30	3	9.1				70	26	63	20	10	23.1
				W20/F20	29	26	2.9	10.1				62	23	55	17	11.3	26.1
				W21/F20	20	18	2.5	12.3				50	19	43	13	14	31.6
ROPEWORKS BLOCK A																	
F00	R3**	Residential	LKD	W4/F00	8.9	1.3	7.6	85.4	94	21	78						
				W5/F00	9.1	1.2	7.9	86.8									
	R4	Residential	Bedroom	W6/F00	17	5	12	70.6	86	21	76.3						
	R5**	Residential	Bedroom	W7/F00	17	5.2	11.7	69.2	85	22	74.7						
	R6	Residential	LKD	W8/F00	9.1	1.7	7.4	81.3	93	19	79.4						
				W9/F00	8.4	0.6	7.8	92.9									
	R7**	Residential	LKD	W10/F00	16	5.6	10.8	65.9	63	15	75.9						
	R8	Residential	Bedroom	W11/F00	6.5	1.8	4.7	72.3	96	10	89.3						
				W12/F00	6.7	0	6.7	100									
	R9	Residential	Bedroom	W13/F00	16	6.6	9.4	58.8	74	12	83.9						
	R10	Residential	LKD	W14/F00	16	7.3	8.7	54.4	66	11	83.3						
F01	R1	Residential	LKD	W1/F01	18	11	6.7	37.9	66	56	15.1	12	0	12	0	0	0
				W2/F01	18	12	6.7	36.6				14	0	14	0	0	0
				W3/F01	20	5.7	14.6	71.9				10	0	9	0	10	0
				W4/F01	20	5.5	14.8	72.9				10	0	9	0	10	0
				W5/F01	21	5.3	15.6	74.6				9	0	8	0	11.1	0
	R2**	Residential	LKD	W6/F01	4.2	0.1	4.1	97.6	61	13	79.4						
	R3**	Residential	Bedroom	W7/F01	20	5.5	14.9	73	46	22	51.9						
	R4**	Residential	Bedroom	W8/F01	20	6	14.2	70.3	47	24	48.8						
	R5	Residential	LKD	W9/F01	3.8	0.8	3	78.9	62	19	69.2						
	R6**	Residential	LKD	W10/F01	20	6.7	13.1	66.2	36	18	49.3						
	R7	Residential	Bedroom	W11/F01	2.2	0.2	2	90.9	87	8	90.9						
	R8	Residential	Bedroom	W12/F01	20	8.4	11.1	56.9	62	33	47.1						
	R9	Residential	Bedroom	W13/F01	19	8.8	9.9	52.9	46	30	35.7						
				W14/F01	19	8.9	9.8	52.4									
	R10	Residential	LKD	W15/F01	17	8	8.5	51.5	60	34	42.4						
F02	R1	Residential	LKD	W1/F02	21	14	7.1	34	91	57	37.1	19	0	19	0	0	0
				W2/F02	22	14	7.3	33.8				20	0	20	0	0	0
				W3/F02	24	5.9	18.1	75.4				10	0	9	0	10	0
				W4/F02	24	5.7	18.3	76.3				10	0	9	0	10	0
				W5/F02	24	5.5	18.5	77.1				10	0	9	0	10	0
	R2**	Residential	LKD	W6/F02	5.8	0.2	5.6	96.6	95	12	87.5						
				W7/F02	7.3	0.4	6.9	94.5									
				W8/F02	7.1	0.4	6.7	94.4									
				W9/F02	7.3	0.4	6.9	94.5									
	R3**	Residential	Bedroom	W10/F02	23	5.9	17.5	74.8	95	22	76.6						
	R4**	Residential	Bedroom	W11/F02	23	6.5	16.7	72	98	24	75.3						
	R5	Residential	LKD	W12/F02	5.5	1.1	4.4	80	95	18	81						
				W13/F02	6.6	1.7	4.9	74.2									

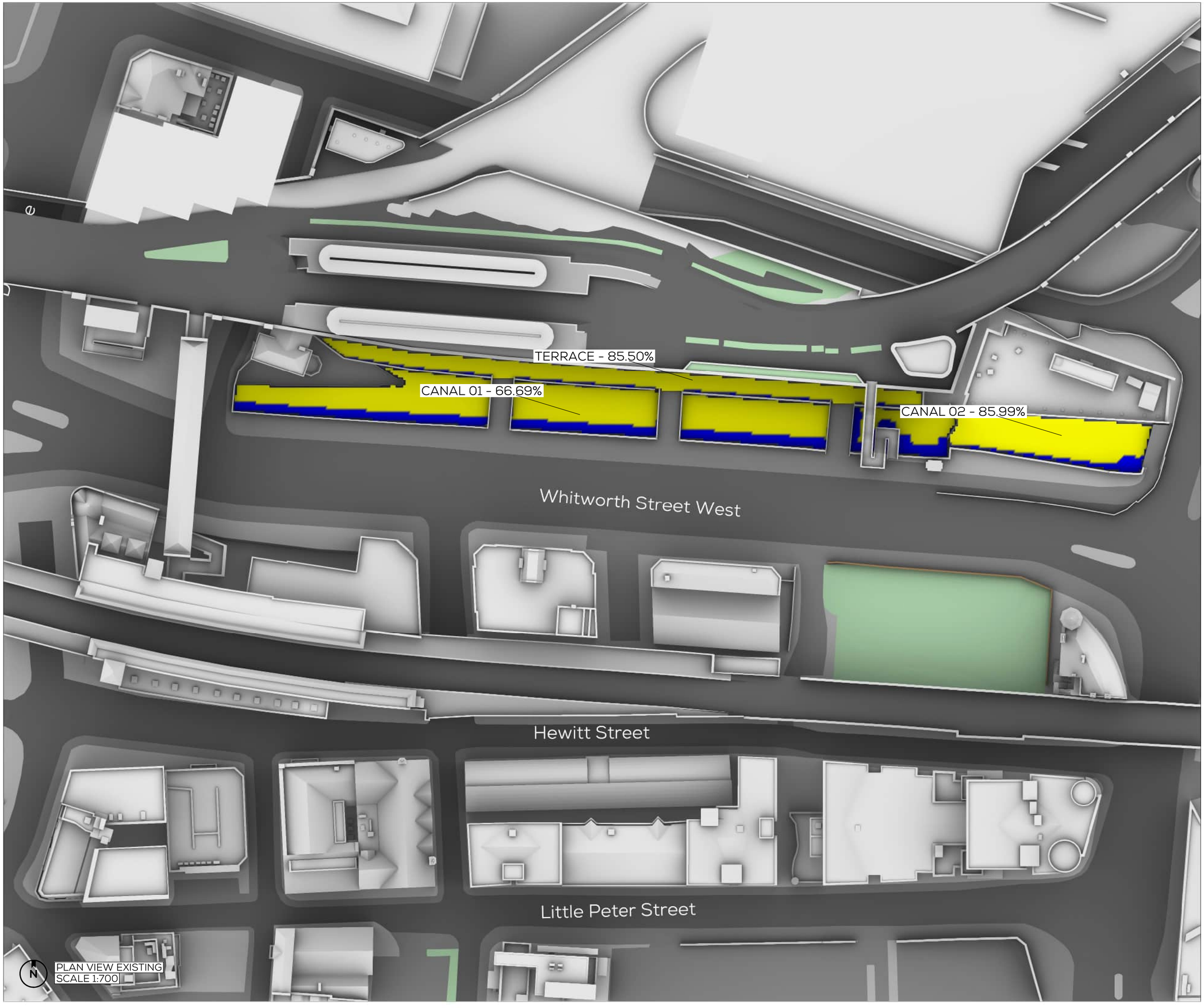
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W14/F02	6.6	0.8	5.8	87.9									
				W15/F02	6	0.7	5.3	88.3									
	R6**	Residential	LKD	W16/F02	23	7.4	15.3	67.4	73	19	73.9						
	R7	Residential	Bedroom	W17/F02	4.7	1.7	3	63.8	99	6	94						
				W18/F02	4.4	1.1	3.3	75									
				W19/F02	4	0	4	100									
				W20/F02	4.4	0	4.4	100									
	R8	Residential	Bedroom	W21/F02	22	9	13	59.1	92	42	54						
	R9**	Residential	Bedroom	W22/F02	22	9.7	11.8	54.9	64	32	50.7						
				W23/F02	22	9.9	11.6	54									
	R10**	Residential	LKD	W24/F02	18	8.7	9.7	52.7	78	59	24.1						
				W25/F02	17	6.4	10.7	62.6									
F03	R1	Residential	LKD	W1/F03	25	17	7.5	30.1	92	58	36.6	23	0	23	0	0	0
				W2/F03	25	18	7.6	29.9				25	0	25	0	0	0
				W3/F03	25	6	18.7	75.7				10	0	9	0	10	0
				W4/F03	25	5.8	18.9	76.5				10	0	9	0	10	0
				W5/F03	25	5.5	19	77.6				11	0	10	0	9.1	0
	R2**	Residential	LKD	W6/F03	6.1	0.2	5.9	96.7	94	13	86.3						
				W7/F03	7.7	0.4	7.3	94.8									
				W8/F03	7.6	0.4	7.2	94.7									
				W9/F03	7.8	0.5	7.3	93.6									
	R3**	Residential	Bedroom	W10/F03	24	6	18	75	97	24	74.9						
	R4**	Residential	Bedroom	W11/F03	24	6.6	17.3	72.4	97	24	75.8						
	R5	Residential	LKD	W12/F03	6	1.2	4.8	80	95	18	81						
				W13/F03	7.2	1.9	5.3	73.6									
				W14/F03	7.2	0.8	6.4	88.9									
				W15/F03	6.5	0.7	5.8	89.2									
	R6**	Residential	LKD	W16/F03	23	7.7	15.7	67.1	74	19	74.5						
	R7	Residential	Bedroom	W17/F03	5.2	1.9	3.3	63.5	99	-5.7	106						
				W18/F03	4.9	1.3	3.6	73.5									
				W19/F03	4.4	0	4.4	100									
				W20/F03	4.8	0	4.8	100									
	R8	Residential	Bedroom	W21/F03	23	9.4	13.5	59	94	43	54.2						
	R9	Residential	Bedroom	W22/F03	23	10	12.5	55.1	74	40	45.4						
				W23/F03	23	10	12.3	54.2									
	R10	Residential	LKD	W24/F03	19	9.4	9.9	51.3	60	27	55.3						
	R11	Residential	Bedroom	W25/F03	18	7.1	11	60.8	98	54	44.4						
	R12**	Residential	Bedroom	W26/F03	23	13	9.7	43.1	73	42	41.9						
	R13	Residential	LKD	W27/F03	23	13	9.4	41.6	95	91	4.2						
				W28/F03	23	14	9.2	40.2									
F04	R1	Residential	LKD	W1/F04	29	21	8.3	28.7	93	60	35.3	34	2	32	1	5.9	50
				W2/F04	29	21	8.4	28.9				34	2	32	1	5.9	50
				W3/F04	25	6	19.1	76.1				12	0	10	0	16.7	0
				W4/F04	25	5.8	19.2	76.8				11	0	10	0	9.1	0
				W5/F04	25	5.3	19.4	78.5				10	0	9	0	10	0
	R2	Residential	LKD	W6/F04	6.3	0.3	6	95.2	94	13	86.2						
				W7/F04	8.1	0.4	7.7	95.1									
				W8/F04	8	0.5	7.5	93.8									
				W9/F04	8	0.5	7.5	93.8									
	R3	Residential	Bedroom	W10/F04	24	5.9	18.5	75.8	97	24	75						
	R4**	Residential	Bedroom	W11/F04	24	6.5	17.7	73.1	98	26	73.7						

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
	R5	Residential	LKD	W12/F04	6.3	1.3	5	79.4	95	19	79.9						
				W13/F04	7.7	1.9	5.8	75.3									
				W14/F04	7.6	0.8	6.8	89.5									
				W15/F04	6.8	0.7	6.1	89.7									
	R6**	Residential	LKD	W16/F04	24	7.8	16.3	67.6	75	20	73						
	R7	Residential	Bedroom	W17/F04	5.5	2	3.5	63.6	100	7.3	92.7						
				W18/F04	5.4	1.4	4	74.1									
				W19/F04	4.7	0	4.7	100									
				W20/F04	5	0	5	100									
	R8	Residential	Bedroom	W21/F04	23	9.5	13.8	59.2	93	43	53.4						
	R9	Residential	Bedroom	W22/F04	23	11	12.8	54.9	75	44	40.8						
				W23/F04	23	11	12.6	54.1									
	R10	Residential	LKD	W24/F04	20	9.6	10	51	92	73	20.2						
				W25/F04	19	7.6	11.4	60									
	R11**	Residential	Bedroom	W26/F04	24	13	10.1	43	74	43	41.8						
	R12	Residential	LKD	W27/F04	24	14	9.7	40.9	96	92	4.2						
				W28/F04	24	14	9.5	39.7									
F05	R1	Residential	LKD	W1/F05	31	23	8.7	27.9	94	63	32.6	32	3	31	2	3.1	33.3
				W2/F05	31	23	8.8	28.1				34	4	33	3	2.9	25
				W3/F05	25	5.4	19.4	78.2				11	0	9	0	18.2	0
				W4/F05	25	5.1	19.4	79.2				10	0	9	0	10	0
				W6/F05	22	3.6	17.9	83.3				10	0	9	0	10	0
	R2	Residential	LKD	W5/F05	9.3	0.7	8.6	92.5	94	16	83.4						
				W7/F05	13	0.7	12.2	94.6									
				W8/F05	13	1.5	11.8	88.7									
				W9/F05	13	1.4	11.3	89									
	R3	Residential	Bedroom	W10/F05	22	4.3	17.7	80.5	96	23	76.2						
	R4**	Residential	Bedroom	W11/F05	20	4.5	15.7	77.7	96	22	76.7						
	R5	Residential	LKD	W12/F05	11	2.5	8.1	76.4	95	18	80.9						
				W13/F05	13	2.5	10.8	81.2									
				W14/F05	14	1.2	12.4	91.2									
				W15/F05	12	1	11	91.7									
	R6**	Residential	LKD	W16/F05	24	7.2	16.6	69.7	73	20	73.1						
	R7	Residential	Bedroom	W17/F05	11	3.9	7.2	64.9	100	13	87.5						
				W18/F05	12	2.5	9.3	78.8									
				W19/F05	11	0.5	10.5	95.5									
				W20/F05	10	0.4	9.9	96.1									
	R8	Residential	Bedroom	W21/F05	21	8.3	13	61	94	44	53.1						
	R9	Residential	Bedroom	W22/F05	23	10	12.7	55.7	75	44	40.8						
				W23/F05	23	10	12.5	54.6									
	R10	Residential	LKD	W24/F05	20	10	9.9	48.8	92	74	19.7						
				W25/F05	19	7.9	11.5	59.3									
	R11**	Residential	Bedroom	W26/F05	24	14	10.4	43	74	43	42.5						
	R12	Residential	LKD	W27/F05	24	14	10	41	97	93	4.1						
				W28/F05	25	15	9.7	39.4									
F06	R2**	Residential	Unknown	W4/F06	9.5	4.3	5.2	54.7	N.A.	N.A.	N.A.						
				W5/F06	9.5	4.9	4.6	48.4									
	R3	Residential	Unknown	W6/F06	23	11	11.6	51.3	N.A.	N.A.	N.A.						
	R4	Residential	Unknown	W7/F06	20	8	11.7	59.4	N.A.	N.A.	N.A.						
	R5**	Residential	Bedroom	W8/F06	25	14	10.5	42.9	77	46	40.7						
	R6	Residential	LKD	W9/F06	25	15	10.2	41.1	98	94	3.8						

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC(WINDOW)				NSL			APSH (WINDOW)					
					EX %	FB %	LOSS	LOSS %	EX %	FB %	LOSS %	EX		FB		LOSS %	
												ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
				W10/F06	25	15	9.9	39.4									
F07	R2**	Residential	Unknown	W4/F07	24	9.8	14.3	59.3	N.A.	N.A.	N.A.						
	R3	Residential	Unknown	W5/F07	22	9.7	12.7	56.7	N.A.	N.A.	N.A.						
	R4	Residential	Unknown	W6/F07	17	5.2	11.4	68.7	N.A.	N.A.	N.A.						
	R5**	Residential	Bedroom	W7/F07	22	13	9.4	42	77	46	40.8						
	R6	Residential	LKD	W8/F07	24	14	9.7	41.1	98	95	3.3						
				W9/F07	25	15	9.8	39.7									

Appendix 9.3

Overshadowing Results



SOURCES OF INFORMATION

IR17-20260209- GEOLOCATED 3DMODEL

ALL INFORMATION DISPLAYED IS SUBJECT TO A COMPLETE VERIFIABLE SITE SURVEY BEING UNDERTAKEN. GIA TAKES NO RESPONSIBILITY ON THE ACCURACY OR RELIABILITY OF THE DISPLAYED DATA SINCE A VERIFIED SITE SURVEY WAS NOT MADE AVAILABLE PRIOR TO THE GENERATION OF SUCH INFORMATION.

AREA THAT RECEIVES MORE THAN 2 HOURS OF DIRECT SUNLIGHT ON 21 MARCH

AREA THAT RECEIVES LESS THAN 2 HOURS OF DIRECT SUNLIGHT ON 21 MARCH

NOTES:
Existing
ALL HEIGHTS AND DIMENSIONS GIVEN IN m AOD

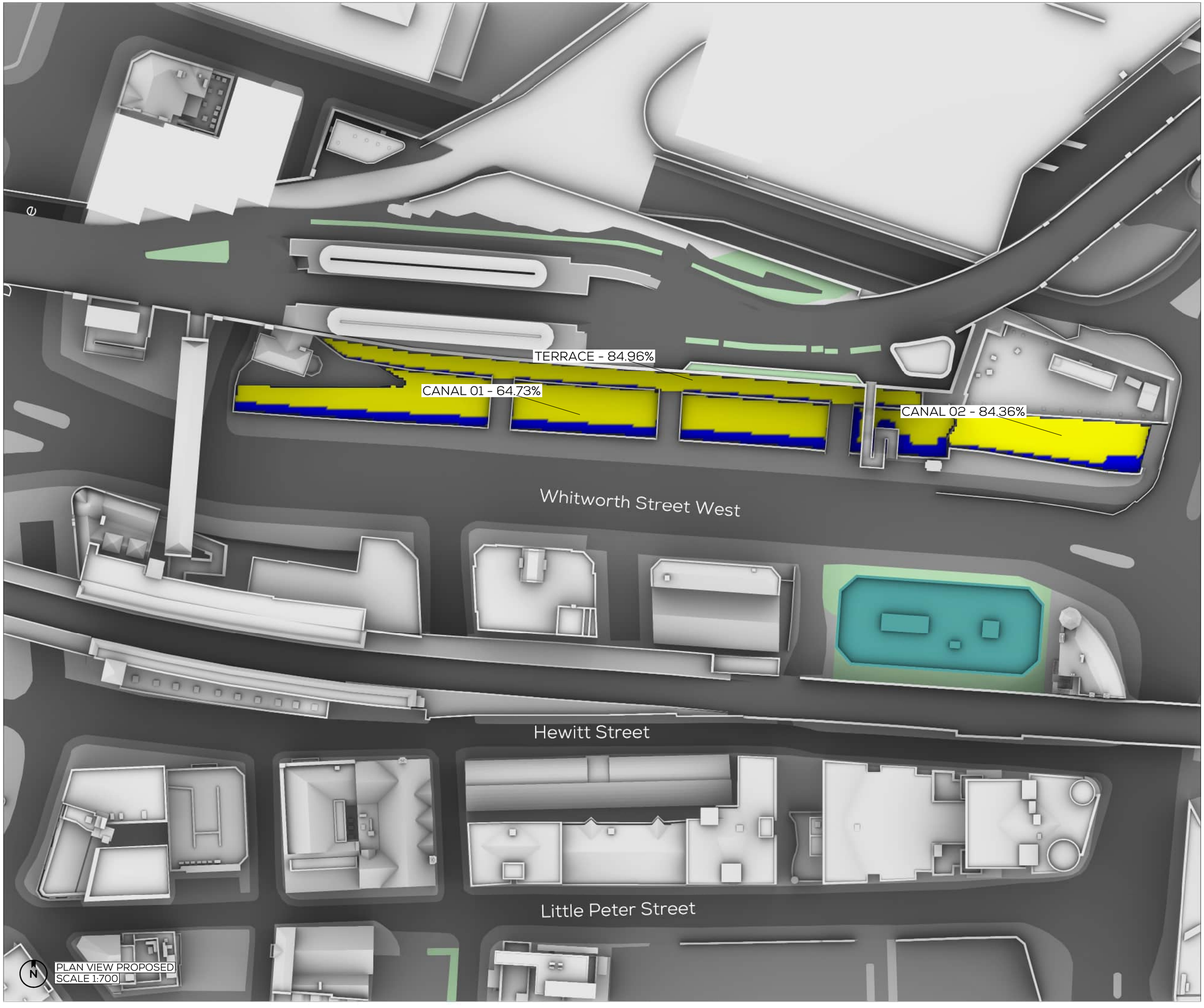
N.B. DO NOT SCALE OFF THIS DRAWING

PROJECT:
10-12 Whitworth Street

DRAWING NAME:
PLAN VIEW EXISTING

DWN BY	SCALE	CHK BY	DATE	REV No.
EW	1:700@A3	KS	6/3/2026	-
PROJ No.	REL No.	ADDR No.	IS No.	DWG No.
20231	05	-	01	07

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SOURCES OF INFORMATION

IR17-20260209- GEOLOCATED 3DMODEL

ALL INFORMATION DISPLAYED IS SUBJECT TO A COMPLETE VERIFIABLE SITE SURVEY BEING UNDERTAKEN. GIA TAKES NO RESPONSIBILITY ON THE ACCURACY OR RELIABILITY OF THE DISPLAYED DATA SINCE A VERIFIED SITE SURVEY WAS NOT MADE AVAILABLE PRIOR TO THE GENERATION OF SUCH INFORMATION.

AREA THAT RECEIVES MORE THAN 2 HOURS OF DIRECT SUNLIGHT ON 21 MARCH

AREA THAT RECEIVES LESS THAN 2 HOURS OF DIRECT SUNLIGHT ON 21 MARCH

NOTES:
Proposed
ALL HEIGHTS AND DIMENSIONS GIVEN IN m AOD

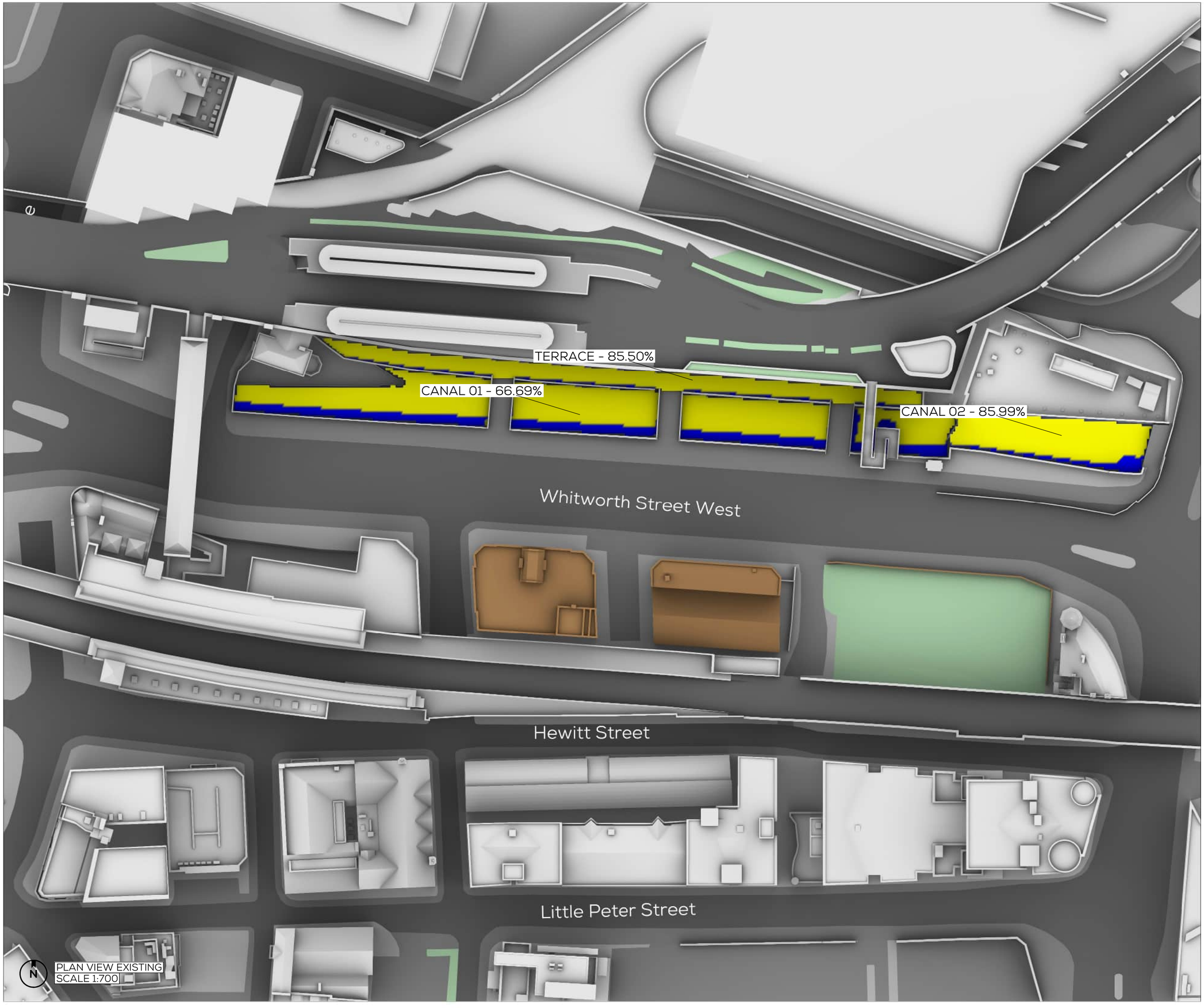
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PROJECT:
10-12 Whitworth Street

DRAWING NAME:
PLAN VIEW PROPOSED

DWN BY	SCALE	CHK BY	DATE	REV No.
EW	1:700@A3	KS	6/3/2026	-
PROJ No.	REL No.	ADDR No.	IS No.	DWG No.
20231	05	-	01	08

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AREA THAT RECEIVES MORE THAN 2 HOURS OF DIRECT SUNLIGHT ON 21 MARCH

AREA THAT RECEIVES LESS THAN 2 HOURS OF DIRECT SUNLIGHT ON 21 MARCH

NOTES:
Existing
ALL HEIGHTS AND DIMENSIONS GIVEN IN m AOD

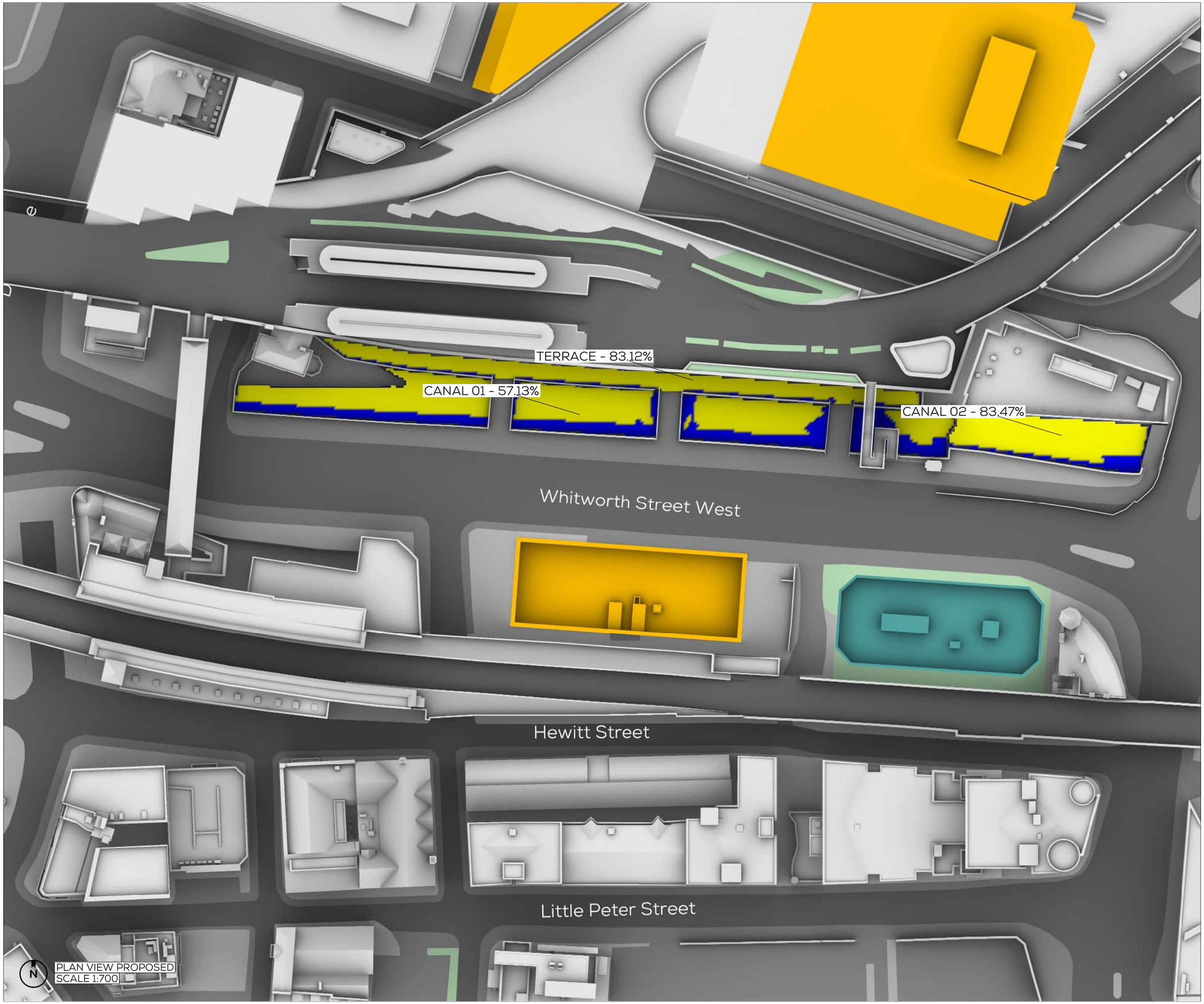
N.B. DO NOT SCALE OFF THIS DRAWING

PROJECT:
10-12 Whitworth Street

DRAWING NAME:
PLAN VIEW EXISTING

DWN BY	SCALE	CHK BY	DATE	REV No.
EW	1:700@A3	KS	6/3/2026	-
PROJ No.	REL No.	ADDR No.	IS No.	DWG No.
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SOURCES OF INFORMATION

IR17-20260209- GEOLOCATED 3DMODEL

ALL INFORMATION DISPLAYED IS SUBJECT TO A COMPLETE VERIFIABLE SITE SURVEY BEING UNDERTAKEN. GIA TAKES NO RESPONSIBILITY ON THE ACCURACY OR RELIABILITY OF THE DISPLAYED DATA SINCE A VERIFIED SITE SURVEY WAS NOT MADE AVAILABLE PRIOR TO THE GENERATION OF SUCH INFORMATION.

AREA THAT RECEIVES MORE THAN 2 HOURS OF DIRECT SUNLIGHT ON 21 MARCH

AREA THAT RECEIVES LESS THAN 2 HOURS OF DIRECT SUNLIGHT ON 21 MARCH

NOTES:
Proposed
Consented
ALL HEIGHTS AND DIMENSIONS GIVEN IN m AOD

N.B. DO NOT SCALE OFF THIS DRAWING

PROJECT:
10-12 Whitworth Street

DRAWING NAME:
PLAN VIEW PROPOSED

DWN BY	SCALE	CHK BY	DATE	REV No.
EW	1:700@A3	KS	6/3/2026	-
PROJ No.	REL No.	ADDR No.	IS No.	DWG No.
20231	05	-	02	08

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Appendix 9.4

Characterisation Study

Unlocking potential for a better built environment

DAYLIGHT & SUNLIGHT

Daylight, Sunlight and Density in Manchester City Centre

March 2026

DAYLIGHT, SUNLIGHT AND DENSITY IN MANCHESTER CITY CENTRE

1.1 Manchester city centre is in high demand for residential accommodation. In 1990, there were 500 people residing in the city centre. Now there is a population of over 100,000, which is forecasted to surpass 600,000 by the end of the decade.

1.2 The built environment in Manchester city centre has therefore had to change substantially in recent years to accommodate this demand, and to continue the pace of growth that has been experienced, space must be used efficiently and densely.

1.3 It is difficult to argue that the high-rise densification of Manchester has not positively impacted day-to-day life, supporting restaurants, shops and creating new communities. Manchester is rightfully lauded as an example of an ambitious city that is making good on those ambitions.

1.4 The demand for city centre accommodation continues to outstrip supply and this can only be met by the densification of the city centre. Density, however, brings inevitable compromise, including in daylight and sunlight levels.

1.5 A reasonable resident could not expect to receive the same levels of daylight and sunlight in a residential suburb, such as Didsbury, than in a densely populated city centre area such as Ancoats, which was recently voted 'one of the coolest neighbourhoods' by TimeOut magazine, or Piccadilly East's recent resurgence, recently being included on the Sunday Times' 'Best places to live' list.

1.6 So, are suburban levels of daylight needed to make a city centre development a successful and desirable place to live?

1.7 The NPPF (National Planning Policy Framework) states that sites must be used efficiently and acknowledges that flexibility on daylight and sunlight guidance should be applied in the context of the character and nature of the development site. Understanding the context of a development site is therefore a key factor when considering the appropriateness of the daylight and sunlight levels that would be retained in existing residential buildings neighbouring new developments.

1.8 Any keen photographer will know that daylight levels change from season to season, month to month, indeed minute to minute. So, to mitigate this ever-changing baseline, the impracticality of measuring light levels in every surrounding home before a development is built, and the impossibility of measuring light levels after a development is built, when technical daylight and sunlight studies are undertaken on a proposed scheme, these are undertaken by reference to the BRE Guide: Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice (2022). Part of these daylight studies assess the amount of a standard overcast sky that can be seen from the middle point of a neighbouring buildings window by using a method known as 'VSC' (Vertical Sky Component). The VSC level is not influenced by the size of the window and there are no separate targets accounting for variables such as room use, depth, layout or internal reflectance. VSC is illustrated as a percentage, and whilst there is an explicit VSC target, 27%, the BRE Guide and the NPPF both acknowledge that the retained VSC levels should be considered in the context of the development.

1.9 Whilst the magnitude of change in daylight levels between existing and proposed conditions is also relevant, it is heavily influenced by the existing daylight levels, the architecture of the neighbouring building, like deep reveals or overhanging balconies, and whether the neighbouring site is significantly underdeveloped in the context of the location. This makes direct comparisons between the magnitude of impact for different sites very difficult.

1.10 The amount of daylight in someone's home is an emotive subject, and it is appreciated that VSC is difficult to visualise as a residential occupier. This difficultly can cause frustration, and it would be reasonable for a neighbour to ask,

"What does it mean for me?"

"Will I need to use my lights more often?"

"Will I still be able to enjoy my home in the same way?"

1.11 GIA have substantial experience in completed daylight and sunlight analyses in Manchester over the last 10 years. As a result, we have been able to compile a substantial number of contextual VSC analyses across Manchester and Salford. As part of our work, we have undertaken contextual analyses of a large sample of established residential neighbourhoods in Manchester city centre to help understand what levels of VSC are currently achieved, to give the reader a practical frame of reference for what those VSC daylight levels mean in real terms when considering whether the impact caused by a development is material in the context of planning balance, and the specific location.

1.12 The photographs below show the example locations that have been analysed, and the analysis images. The elevations analysed are naturally those facing on to recent and proposed developments.

1.13 The coloured windows illustrate the levels of VSC against the scale below. VSC is not influenced by the size of the window, and so the analyses undertaken considers the levels of VSC at each storey, rather than at every specific window. Naturally, the VSC levels are lowest near the ground and then improve as you move up the building. The table figures and summary table represent an average across the façade, for ease of comparison.

ADDRESS	RETAINED VSC DAYLIGHT LEVEL
Deansgate Quay Apartments, Deansgate	3.0%
Boxworks Apartments, Worsley Street	5.1%
The Wentworth Apartments, Houldsworth Street	5.9%
Hill Quays Apartments, Great Jackson Street	6.2%
MoHo Apartments, Arundel Street	6.4%
Lumiere Apartments, River Place	7.1%
Anvil Street, McIntosh Village	8.0%
The Ropeworks Apartments, Little Peter Street	9.4%
Oxford Place Apartments, Mallard Street	10.2%
12 Thomas Street Apartments, Northern Quarter	10.2%
Princess House Apartments, Oxford Road	11.9%
Manchester New Square	13.4%
The Hacienda Apartments, Whitworth Street West	13.6%
The Birchin Apartments, Church Street	14.2%
Vox Apartments, Trentham Street	15.6%
Timberwharf Apartments, Worsley Street	17.6%
Britannia Mills Apartments, Ellesmere Street	18.0%
Deansgate Square Apartments, Great Jackson Street	19.8%

VSC

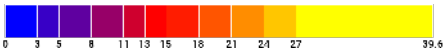




Figure 01: Deansgate Quay Apartments Image

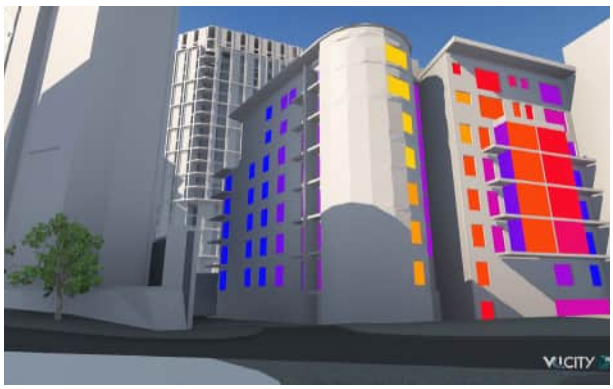


Figure 02: Deansgate Quay Apartments Context

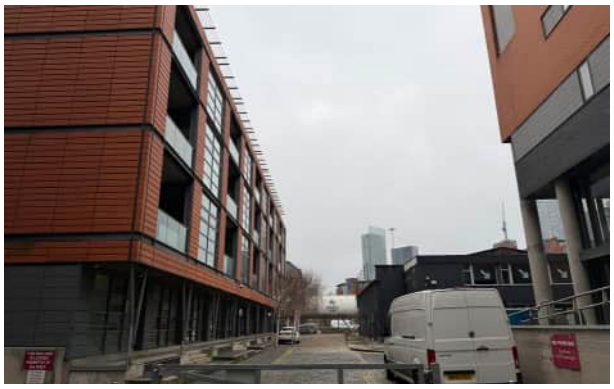


Figure 03: Boxworks Apartments Image



Figure 04: Boxworks Apartments Context

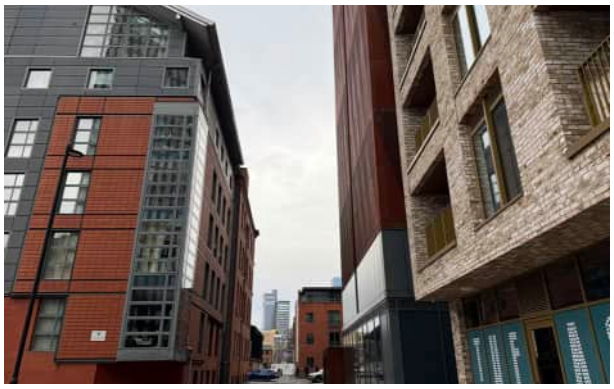


Figure 05: The Wentworth Apartments Image



Figure 06: The Wentworth Apartments Context



Figure 07: Hill Quays Apartments Image

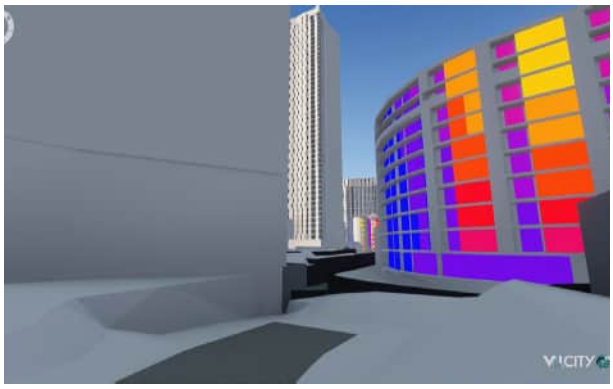


Figure 08: Hill Quays Apartments Context



Figure 09: MoHo Apartments Image

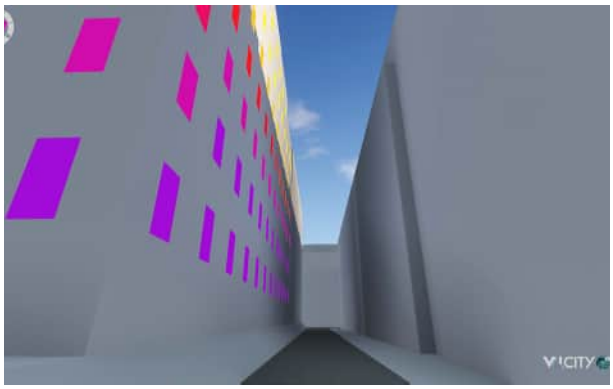


Figure 10: MoHo Apartments Context



Figure 11: Lumiere Apartments Image

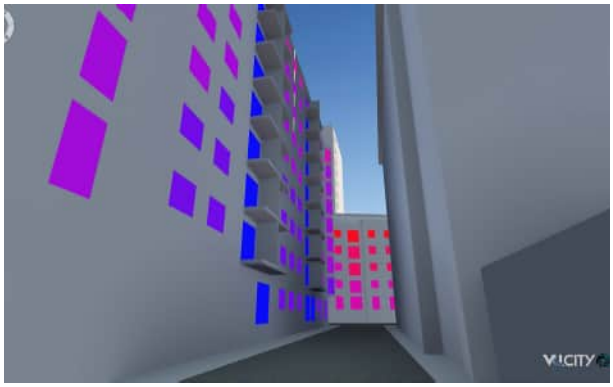


Figure 12: Lumiere Apartments Context



Figure 13: Anvil Street Image



Figure 14: Anvil Street Context



Figure 15: The Ropeworks Apartments Image



Figure 16: The Ropeworks Apartments Context

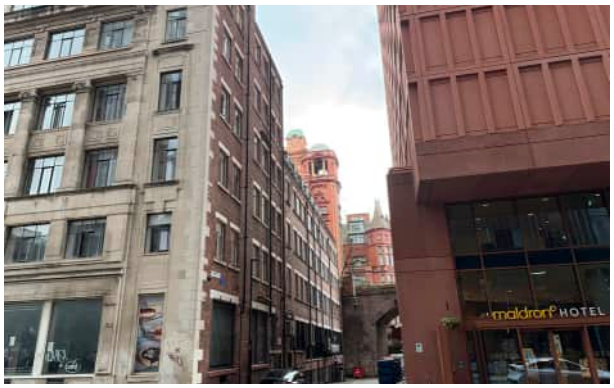


Figure 17: Oxford Place Apartments Image

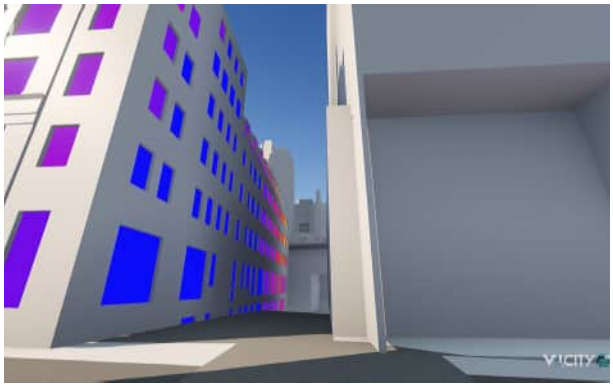


Figure 18: Oxford Place Apartments Context

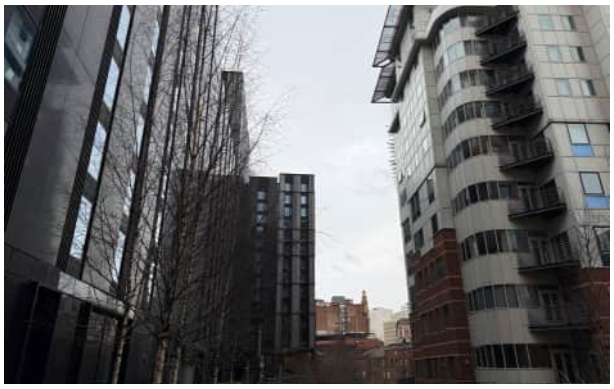


Figure 19: Princess House Apartments Image

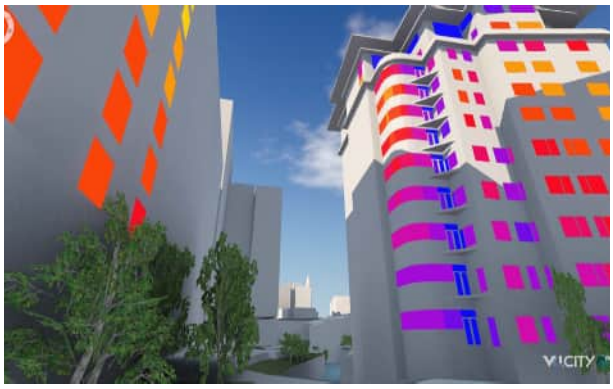


Figure 20: Princess House Apartments Context



Figure 21: Manchester New Square Image

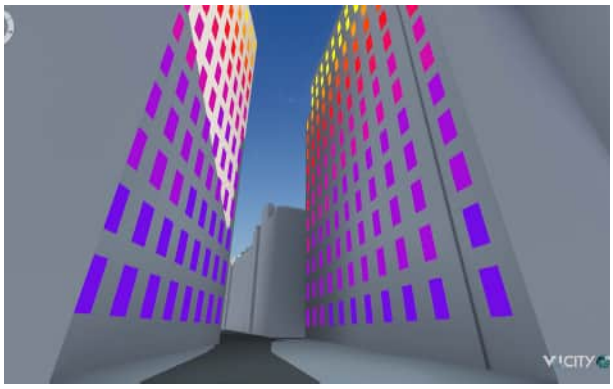


Figure 22: Manchester New Square Context



Figure 23: The Hacienda Apartments Image



Figure 24: The Hacienda Apartments Context



Figure 25: The Birchin Apartments Image



Figure 26: The Birchin Apartments Context



Figure 27: Vox Apartments Image



Figure 28: Vox Apartments Context



Figure 29: Timberwharf Apartments Image

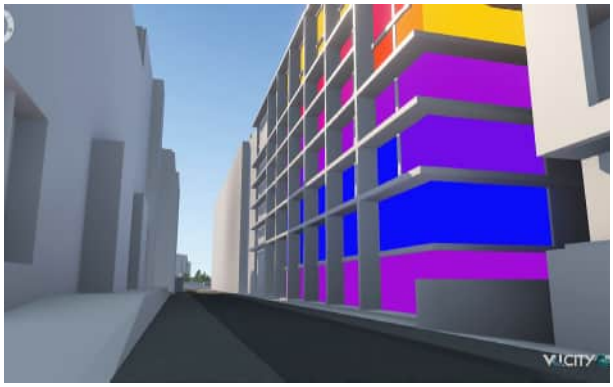


Figure 30: Timberwharf Apartments Context



Figure 31: Britannia Mills Apartments Image



Figure 32: Britannia Mills Apartments Context



Figure 33: Deansgate Square Apartments Image

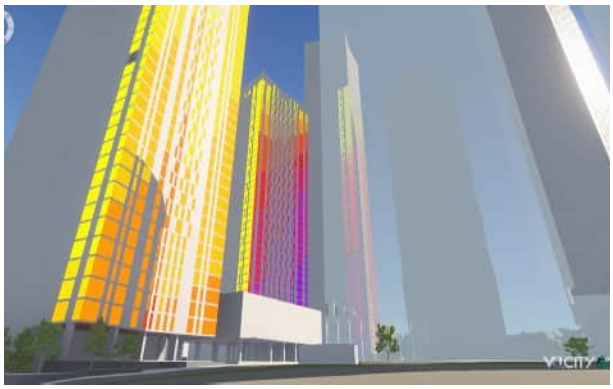


Figure 34: Deansgate Square Apartments Context



Figure 35: 12 Thomas Street Apartments Image



Figure 36: 12 Thomas Street Apartments Context

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What we do:

Building Surveying
Daylight & Sunlight
Light Obstruction Notices
Measured Surveys
Party Wall & Neighbourly Matters
Rights of Light
Solar PV
Wind Analysis

Where we are:

Belfast
Birmingham
Bristol
Dublin
London
Manchester

GIA SURVEYORS LIMITED incorporated and registered in England and Wales with company number **14032506** whose registered office is at **The Whitehouse, Belvedere Road, London SE1 8GA**

Appendix 10.1

Legislation, Policy and Guidance

Appendix 10.1: Legislation, Policy and Guidance

Legislation & Policy

National Planning Policy

National Planning Policy Framework (NPPF) (2024)

The relevant paragraphs of the NPPF are as follows:

Paragraph 135 states that:

"*Planning policies and decisions should ensure that developments:*

- *will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;*
- *are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;*
- *are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);*
- *establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;*
- *optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and*
- *create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience*."

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

Regional Planning Policy

Places for Everyone Joint Development Plan (2024)

16.12. Places for Everyone (2024) Policy JP-P-1 "Sustainable Places" states that "all development […] should be consistent with: […] comfortable and inviting, with indoor and outdoor environments: […] addressing microclimate issues such as sunlight, indoor air quality, overheating, shade, wind and shelter".

Local Planning Policy

Manchester Core Strategy (2012 – 2027)

Manchester's Local Development Framework, Core Strategy Policy EN 2 relates to Tall Buildings. Policy EN2 – Tall Buildings, which states that, by their very size, tall buildings can have a significant impact on the local environment and its micro-climate. It is therefore expected that this impact be modelled and that submissions for tall buildings also include appropriate measures to create an attractive, pedestrian friendly local environment. This policy is still part of the Manchester Core Strategy following the adoption of the 2024 Addendum to the Manchester Core Strategy 2024.

Paragraph 12.4 supports this stating "Tall buildings by their very nature can dominate the street scene and be highly visible over long distances. They can also have an impact on the local micro-climatic conditions, for example, by creating wind tunnels. It is for these reasons that it is considered particularly

important that they are designed to the highest quality, both in terms of appearance and their impact on the functioning of surrounding space."

Guidance

National Planning Practice Guidance (2021)

The NPPG identifies the potential for tall and large buildings to affect the wind microclimate. The National Design Guide (2021) states in Paragraph 71 that: "*Proposals for tall buildings (and other buildings with a significantly larger scale or bulk than their surroundings) require special consideration. This includes their […] environmental impacts, such as […] wind. These need to be resolved satisfactorily*".

Historic England Advice Note 4: Tall Buildings, 2022

The Historic England Advice Note 4: Tall Buildings (2022) states in Section 3.3 that:

"The following factors need to be considered to determine the impacts a tall building could have upon the historic environment[…] 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."

Building Aerodynamics, T. Lawson, 2001

Building Aerodynamics by Tom Lawson sets out the Lawson Comfort Criteria for defining the suitability of wind conditions, as well as guidance on how to apply the criteria. The Lawson Comfort Criteria has been used to assess pedestrian comfort within the application Site and surrounding area, in line with industry standards.

The assessment was performed using the London Docklands Development Corporation (LDDC) variant of the Lawson Comfort Criteria.

Appendix 10.2

Wind Microclimate Detailed Methodology

Appendix 10.2: Wind Microclimate Detailed Methodology

The present assessment is based on Boundary Layer Wind Tunnel Testing of the proposed development. The assessment is based on 1:300 scale boundary layer wind tunnel testing, carried out in the 10 X 5 wind tunnel in the Aeronautical Engineering Department of Imperial College.

Wind speed measurements were made using "Irwin" probes, which measure simultaneous fluctuating pressures at ground level and at 1.5m above ground level at full scale, to provide fluctuating omnidirectional wind speeds at 1.5m above ground level. Pressure measurement was done using an electronically scanned pressure system that allows up to 512 channels of pressures to be sampled simultaneously at high speeds in order to capture rapid fluctuation of the signals.

As the present assessment was conducted at 1:300 scale, the wind tunnel speed was set at circa at a wind speed equivalent to 15 m/s at full scale (over which safety impacts are noted) so that 48 seconds data acquisition time at 600 Hz would be equivalent to 160 minutes of full scale data acquisition at 2 Hz.

Fluctuating pressures measured through long tubes are subjected to distortion by what commonly known as "organ pipe" effect, which leads to certain frequencies getting amplified or attenuated depending on the geometry of the long tube.

The measured data of this study were digitally corrected by applying a recursive filter, which was calibrated to correct for the distortion caused by the tube length and characteristics used in the assessment.

The speed-up factor time histories were analysed using Extreme Value Analysis to derive statically stable gust wind speeds for each measurement location and wind direction.

- The wind tunnel model of the Existing Site is shown in Figure 1
- The wind tunnel model of the Proposed Development is shown in Figure 2
- The wind tunnel model of the Existing Site in Existing Surrounds is shown in Figure 3
- The wind tunnel model of the Proposed Development in Existing Surrounds is shown in Figure 4
- The wind tunnel model of the Proposed Development in Cumulative Surrounds is shown in Figure 5

Figure 1 Wind Tunnel Model of Existing Site

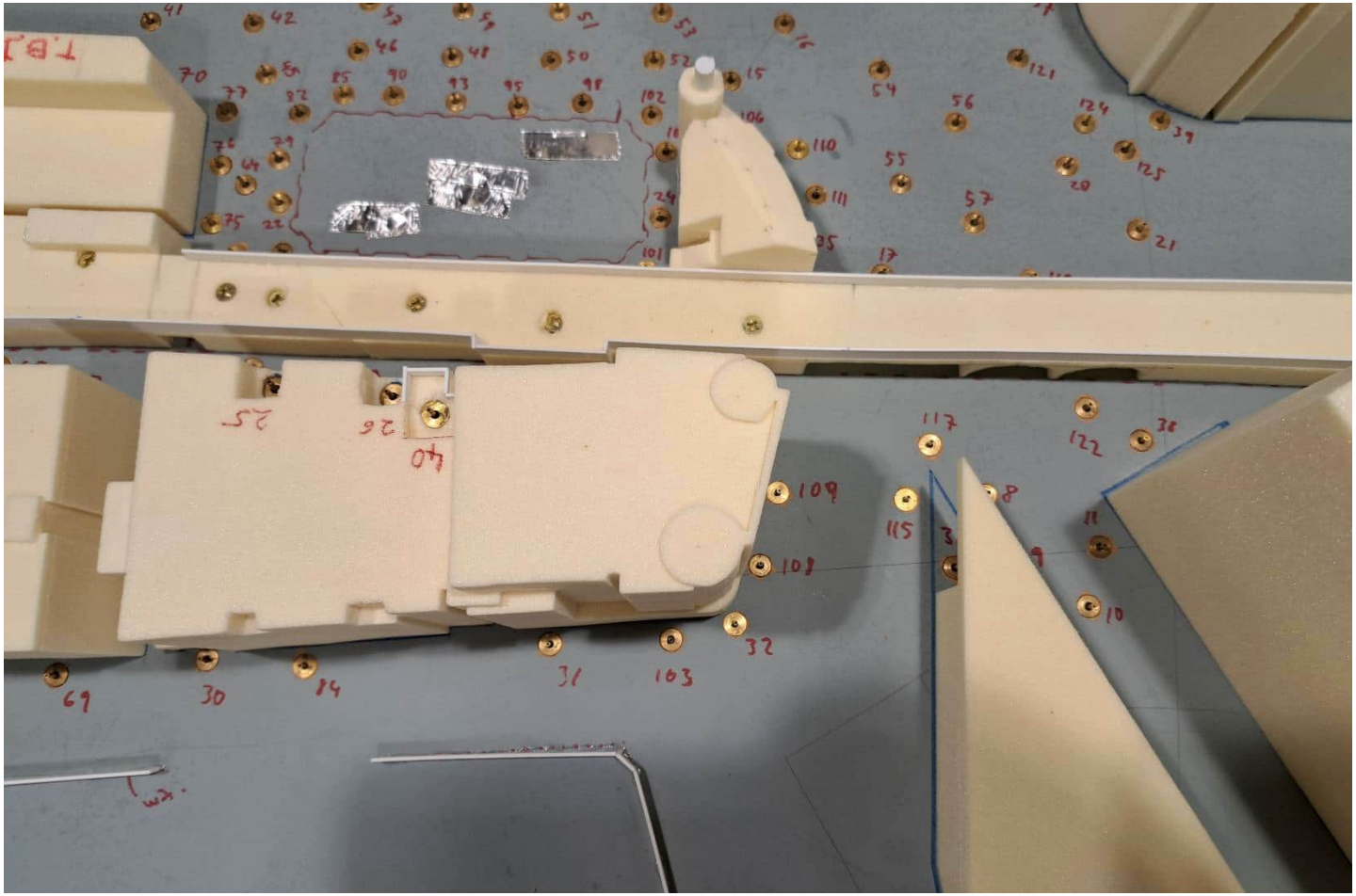


Figure 2 Wind Tunnel Model of Proposed Development



Figure 3 Wind Tunnel Model of Existing Site with Existing Surrounds

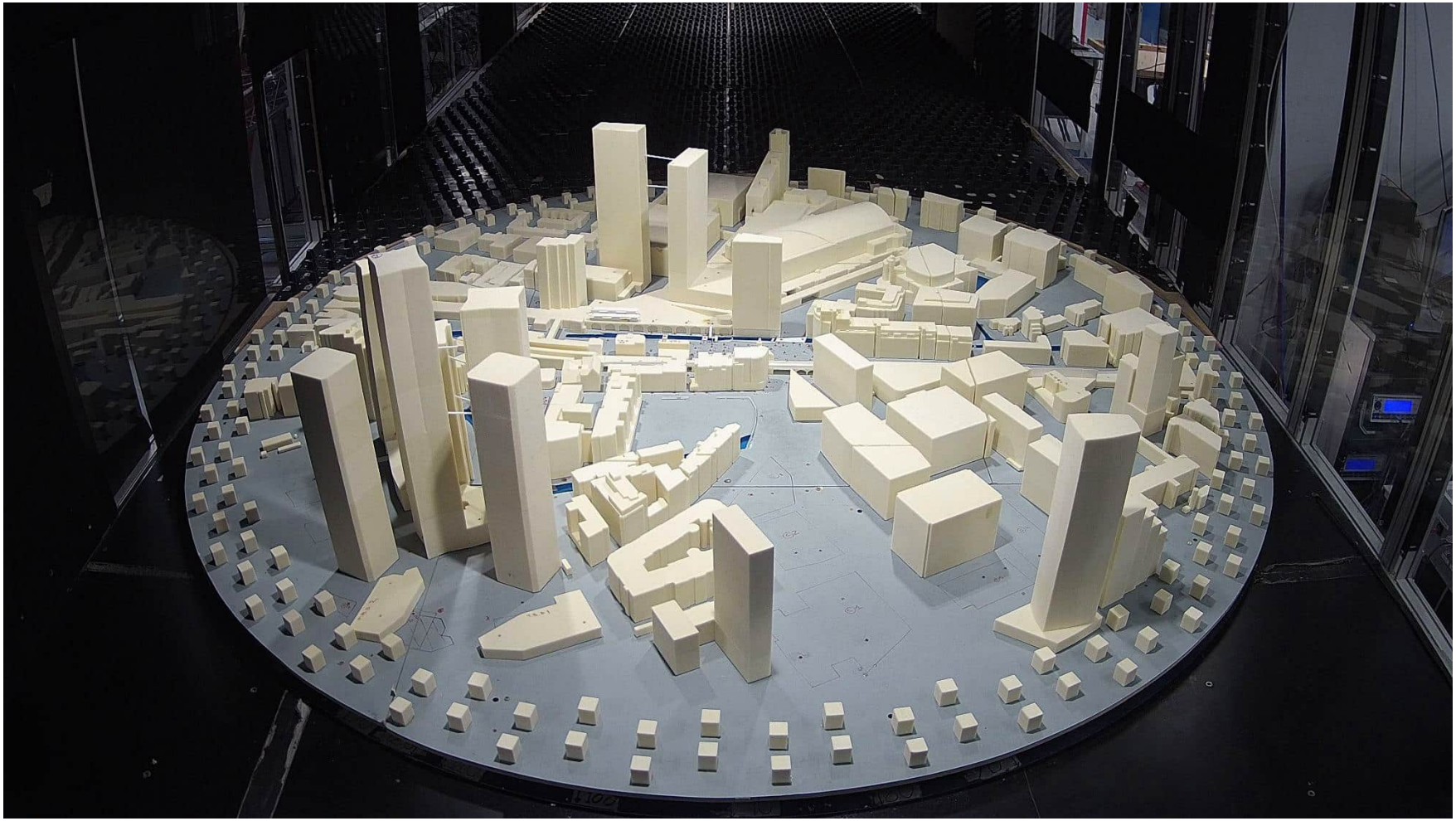


Figure 4 Wind Tunnel Model of Proposed Development with Existing Surrounds

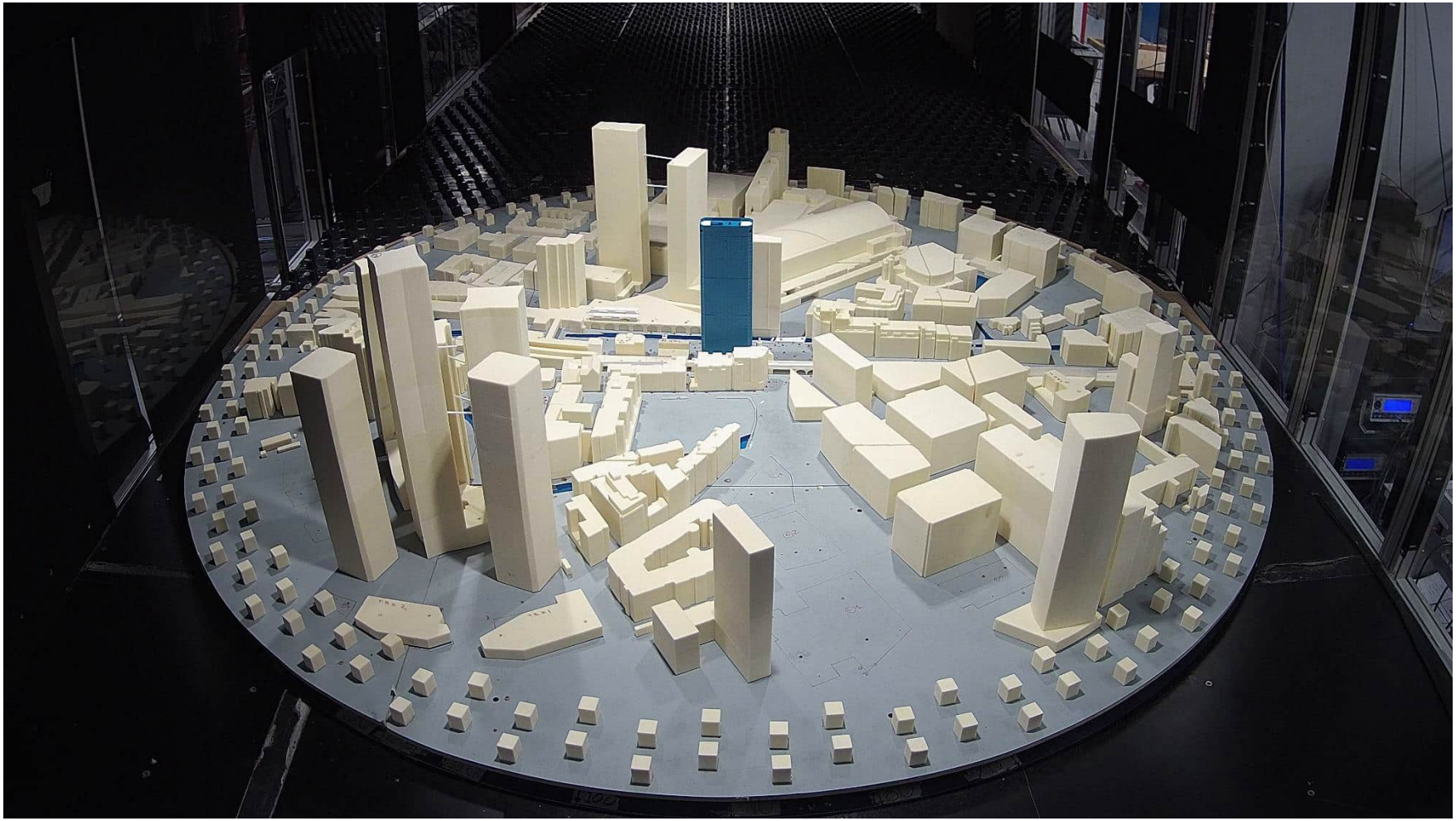
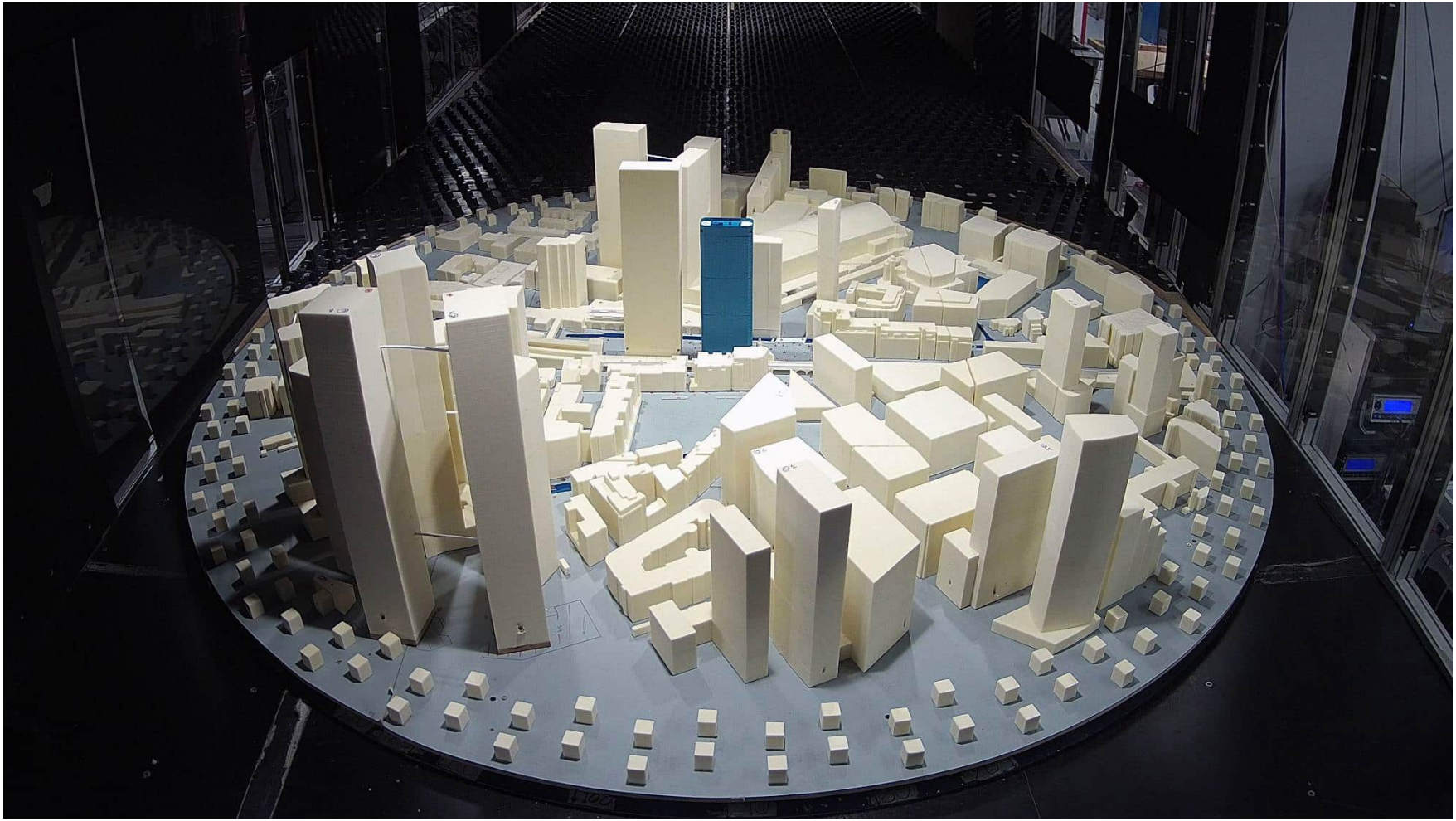


Figure 5 Wind Tunnel Model of Proposed Development with Cumulative Surrounds



~30 years of wind data were obtained for Manchester International Airport, as shown in Figure 6. Target wind profiles for the site, from each wind direction, were generated using sectoral analysis of the terrain surrounding the site with ESDU 2010 Item01008 'Computer program for wind speeds and turbulent properties: flat or hilly sites in terrain with roughness changes'. The target wind profile, compared to the wind speeds and turbulence intensities measured from the wind tunnel are shown in Figure 7 and *Figure 8.*

Figure 6 Seasonal Wind Roses for Manchester International Airport

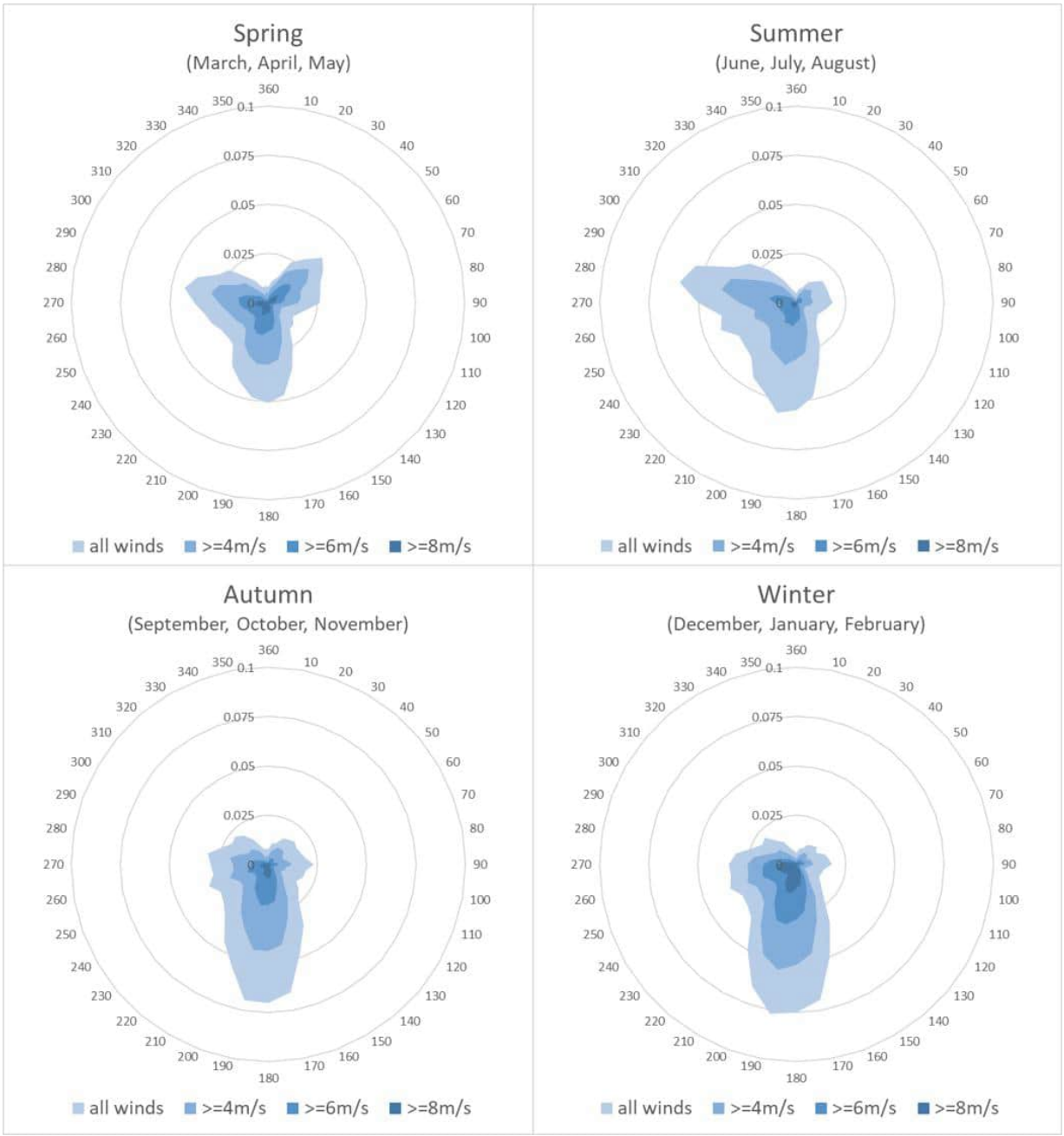


Figure 7 Wind Profile (Velocity) for Central Manchester

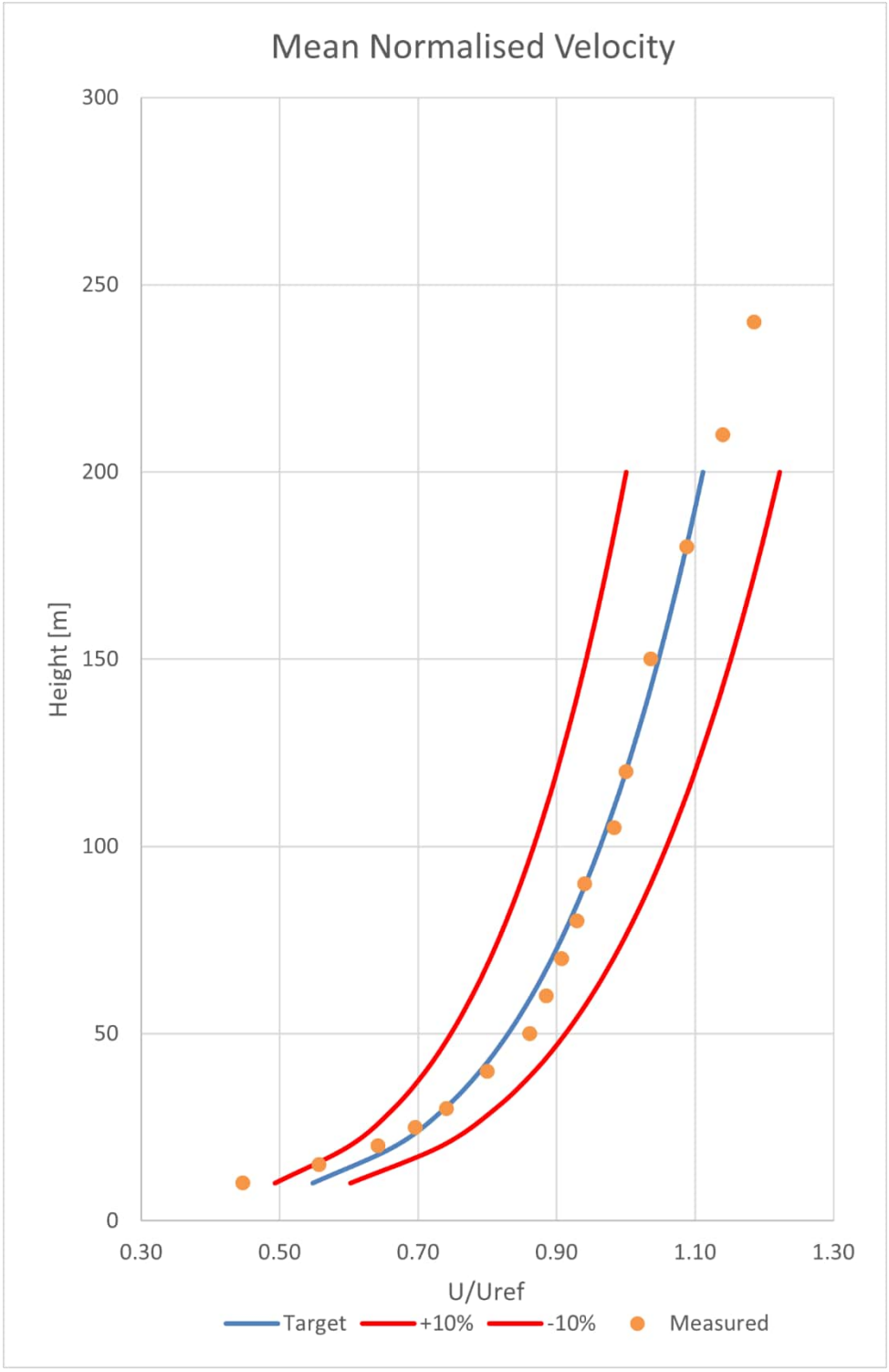
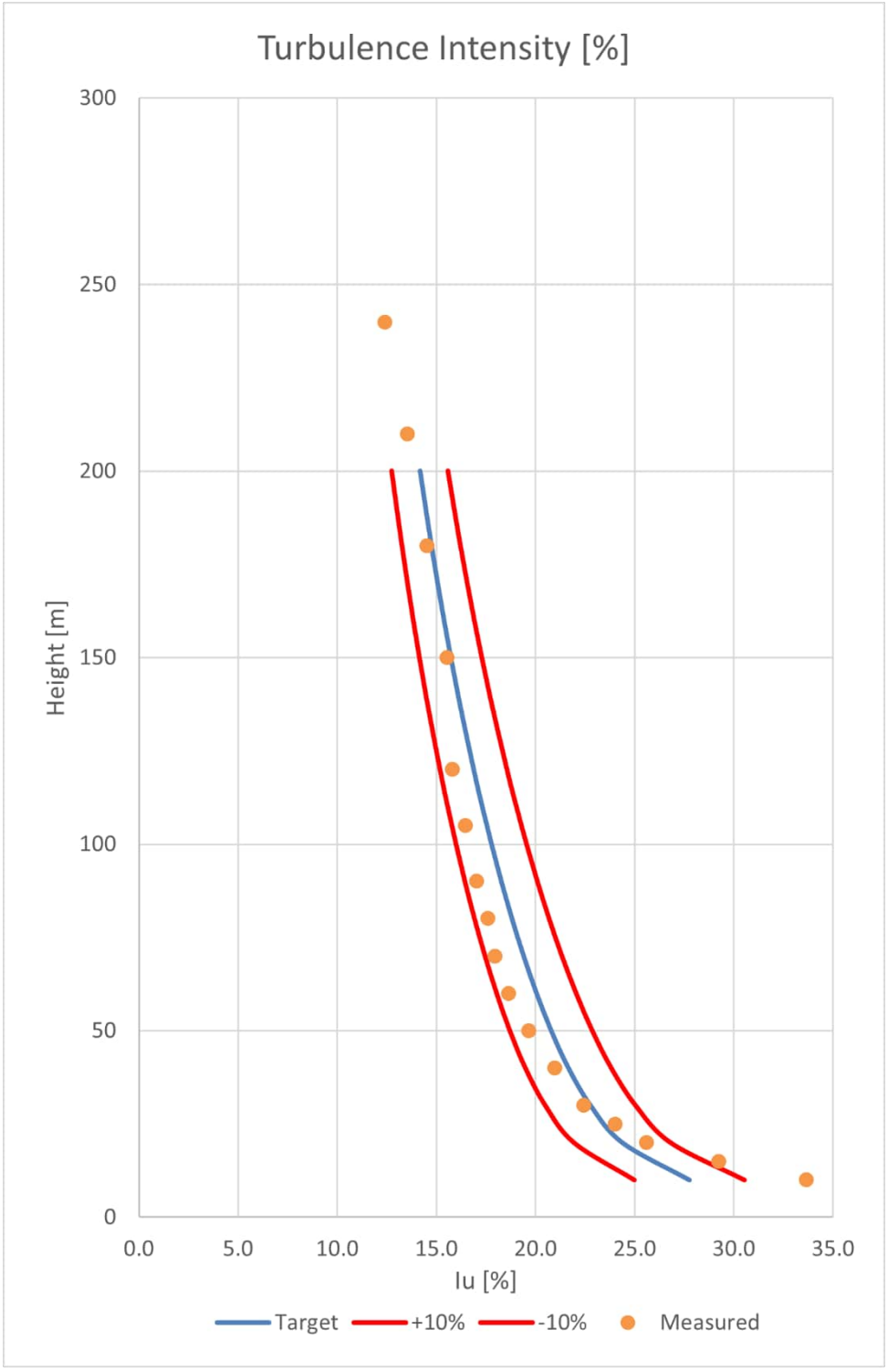


Figure 8 Wind Profile (Turbulence Intensity) for Central Manchester



Appendix 10.3

CFD Context for Entrance Locations

Appendix 10.3: CFD Context for Entrance Conditions

Computational Fluid Dynamics (CFD) testing was undertaken (for the Configuration 2 set-up) to provide greater context to the conditions for the entrances to the Proposed Development, where the wind tunnel results showed conditions which were only suitable for leisure walking at probes 98 and 24 (which represent 2 of the entrances to the Proposed Development).

CFD Windiest Season Comfort at Ground Level for Proposed Development with Existing Surrounds are shown in Figure 1

The wind tunnel probe locations for probes 98 and 24 are marked with the numbers of the probes, the actual entrance locations are marked X.

It is apparent that, although the probe locations show conditions which are suitable for leisure walking (in accordance with wind tunnel results), the actual conditions for the entranceways themselves would be located within pockets of conditions which are suitable for standing. This is the target condition, therefore the conditions for these entrances would actually be suitable for the intended use.

The methodology used for the CFD studies is as follows:

The CFD was performed using OpenFOAM.

Meshed using a hybrid mesh of hexahedral, polyhedral, tetrahedral and prismatic elements:

- On site building edge length: 0.05m - 0.25m
- Surrounding context edge length: 0.25m - 1m

Prismatic cells were used in the boundary layer region, with 4 layers of cells growing with an expansion ratio of 1.15 and aspect ratios between 0.1 and 0.4.

Buildings within 400m of the site were included.

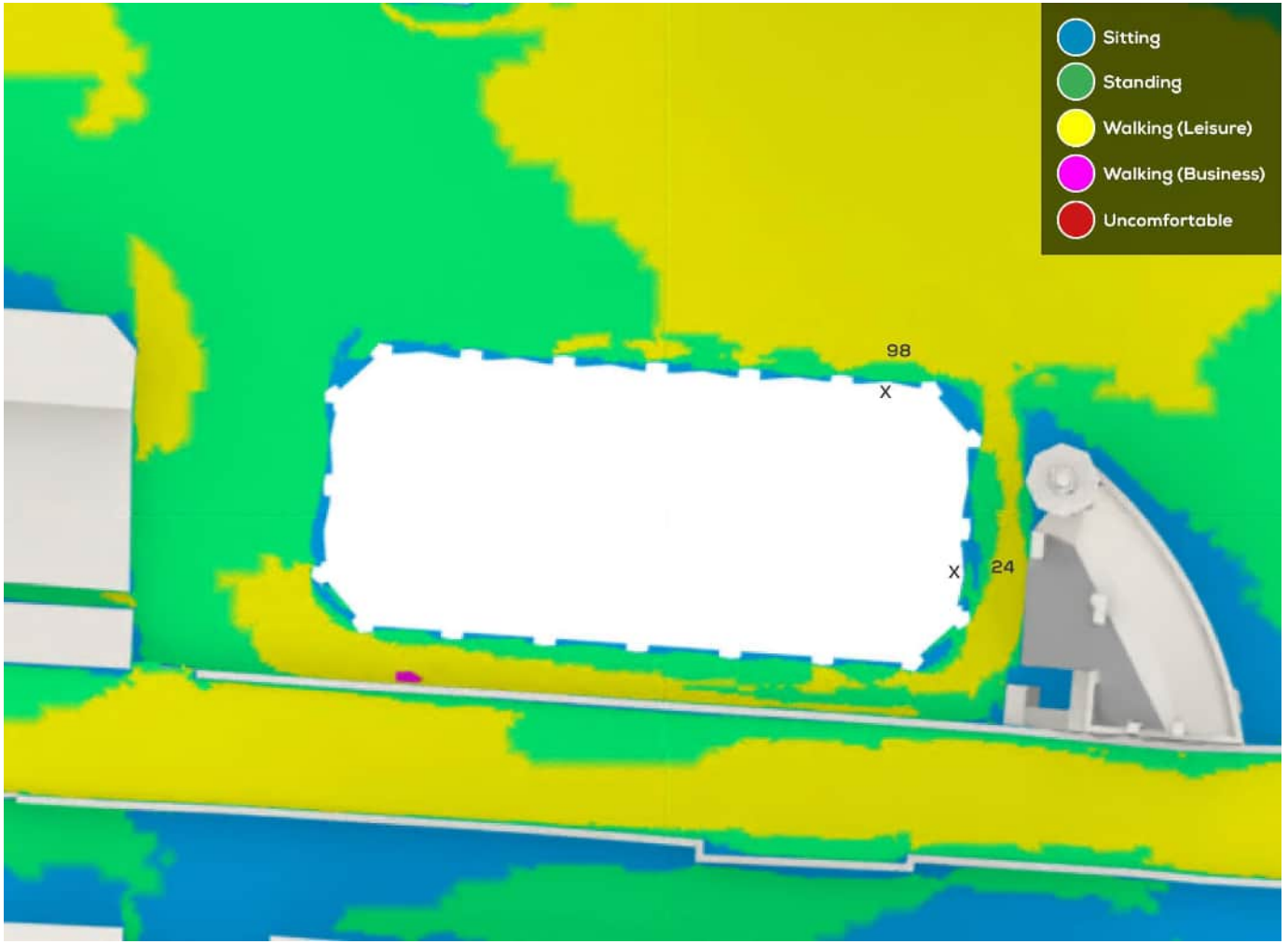
Run using the SST turbulence model with high Re wall functions to ensure mesh suitability.

The simulations were steady state and isothermal.

2nd order discretisation schemes were used.

The wind speed is corrected into a “gust-equivalent” mean. The gust-equivalent mean is calculated using an empirical relationship between the gust and mean ratios recorded at over 13,000 data points from wind tunnel tests. This method is found to give a significant correlation improvement over the more traditional methods based on the CFD turbulent kinetic energy field.

Figure 1 CFD Windiest Season Comfort at Ground Level for Proposed Development with Existing Surrounds



Appendix 10.4

Impact of Reduced Embedded Wind Mitigation

Appendix 10.4: Impact of Reduced Embedded Wind Mitigation

Two version of the wind mitigation measures (two 50% porous screens, 2400mm tall, at the south and east of the site) were tested. These are a fully extended screen beyond the red line boundary of the site Figure 1 and a restricted screen that lies within the site ownership boundary Figure 2. The ES chapter presents the restricted screens and this appendix supports the results of extended the screen if this is required.

A comparison of wind tunnel results with the “full” and “restricted” screens is shown in Figure 3 to Figure 6. It is apparent that, while there are some probes that become a category windier due to the use of the “restricted” screens, this does not fundamentally alter the wind conditions on or around the site and the suitability of conditions would not be affected.

Figure 1 Full length Wind Mitigation Screens (“full screens”)

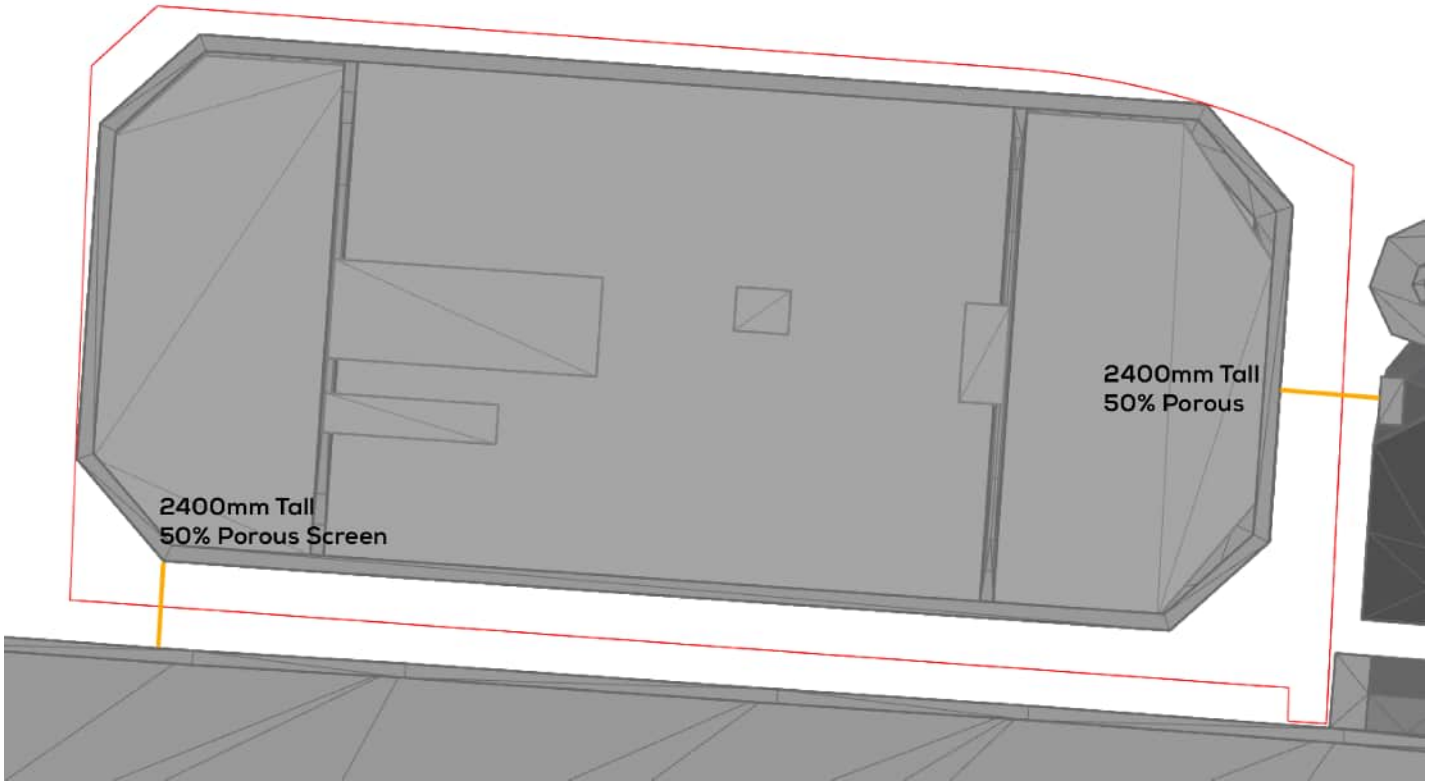


Figure 2 Embedded Wind Mitigation Screens as Tested for ES Chapter ("restricted screens")

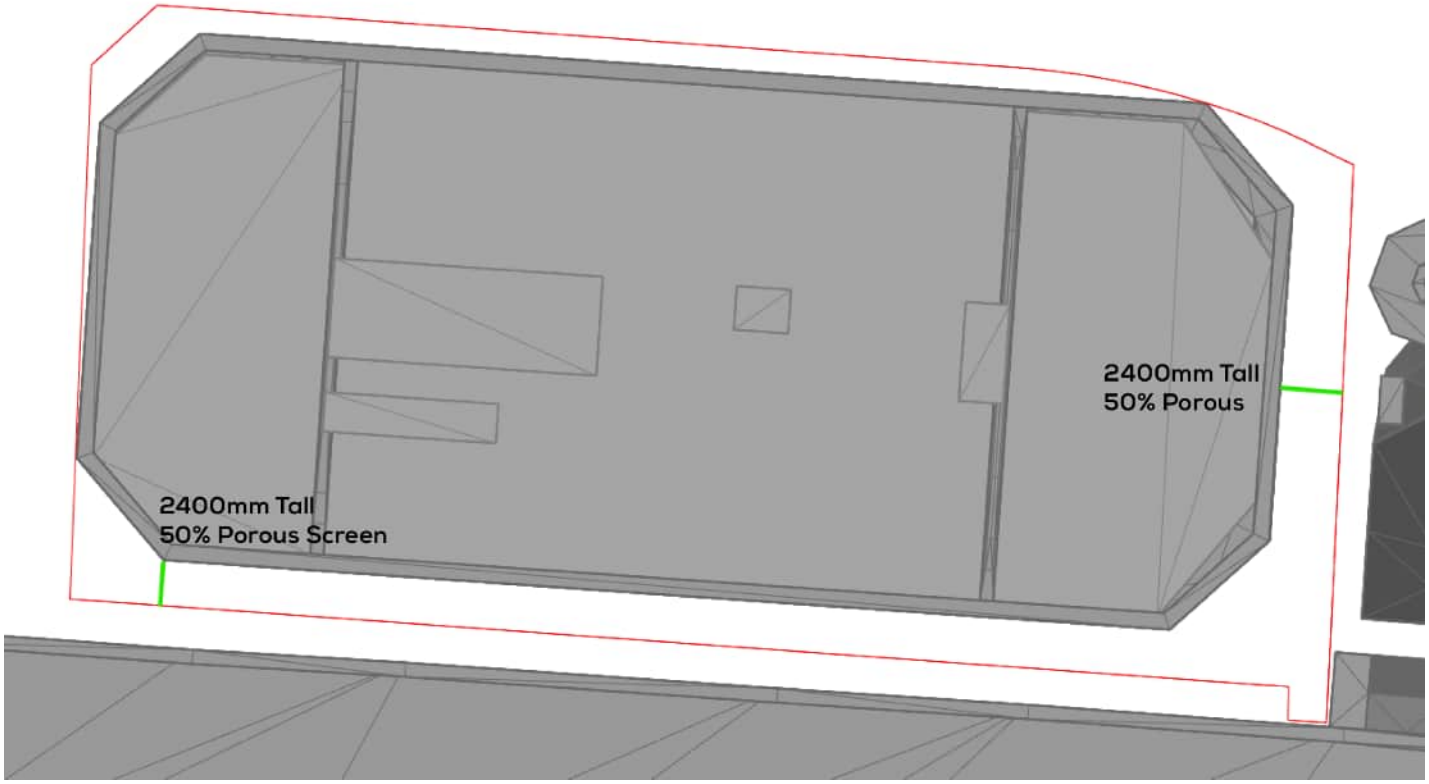


Figure 3 Windiest Season Comfort at Ground Level for Proposed Development with Existing Surrounds (Full Screens)



Figure 4 Windiest Season Comfort at Ground Level for Proposed Development with Existing Surrounds (Restricted Screens)



Figure 5 Summer Comfort at Ground Level for Proposed Development with Existing Surrounds (Full Screens)



Figure 6 Summer Comfort at Ground Level for Proposed Development with Existing Surrounds (Restricted Screens)



Appendix 10.5

Wind Microclimate Figures



Figure 10.1
Sensitive Wind Receptors

Project Name
Whitworth Street West, Manchester

Client
Atri7 6 Limited

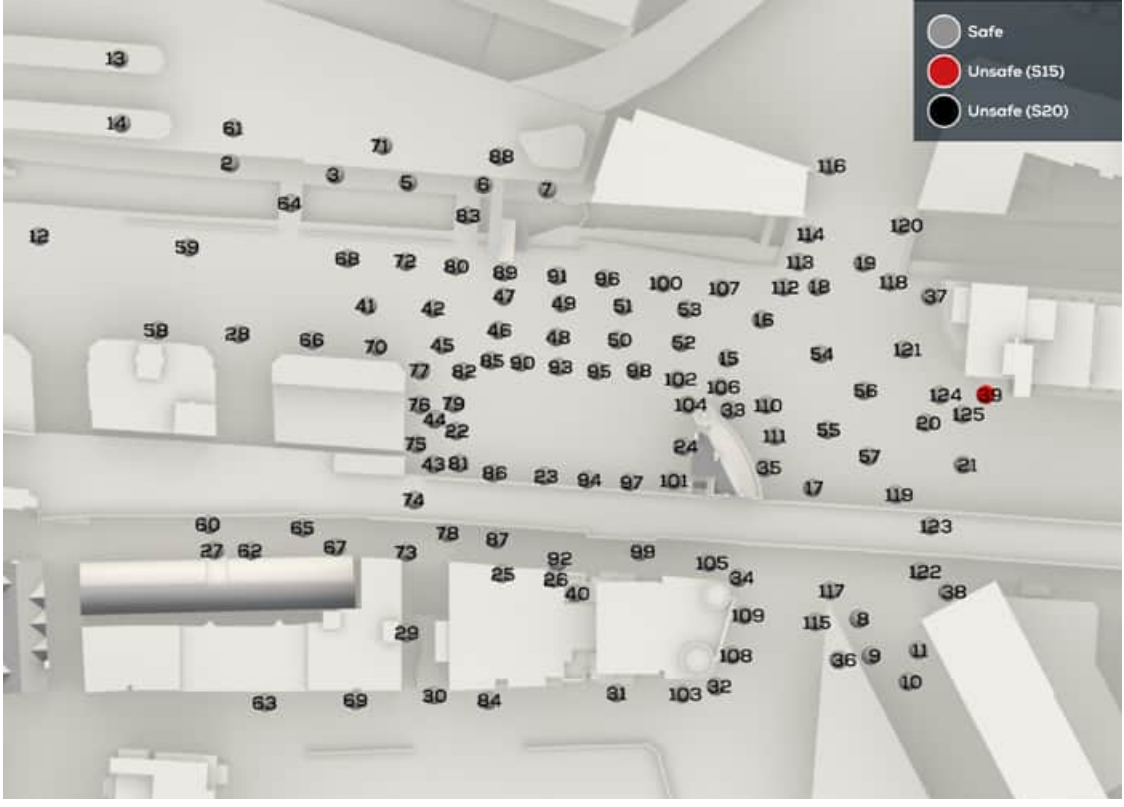


Figure 10.2
Strong Winds for Scenario 1 (Existing Baseline)

Project Name
Whitworth Street West, Manchester

Client
Atri7 6 Limited



Figure 10.3
Windiest Season Wind Comfort for Scenario 1 (Existing Baseline)

Project Name
Whitworth Street West, Manchester

Client
Atri7 6 Limited



Figure 10.4
Summer Wind Comfort for Scenario 1 (Existing Baseline)

Project Name
Whitworth Street West, Manchester

Client
Atri7 6 Limited

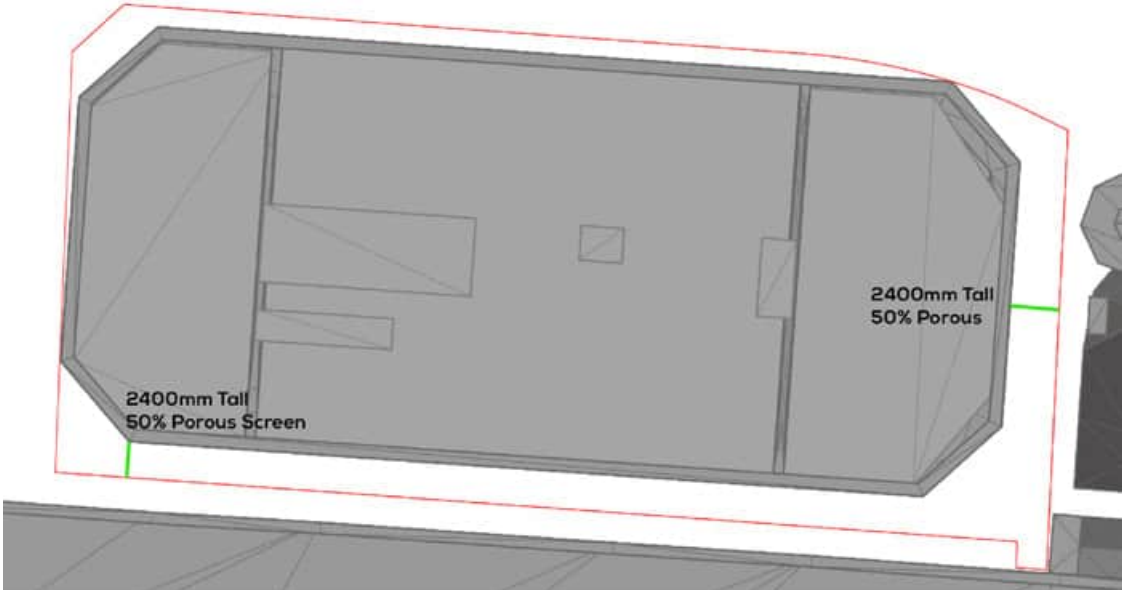


Figure 10.5
Embedded Wind Mitigation

Project Name
Whitworth Street West, Manchester

Client
Atri7 6 Limited



Figure 10.6
Strong Winds for Scenario 2 (Existing Baseline + Proposed Development)

Project Name
Whitworth Street West, Manchester

Client
Atri7 6 Limited



Figure 10.7
Windiest Season Wind Comfort for Scenario 2 (Existing Baseline + Proposed Development)

Project Name
Whitworth Street West, Manchester

Client
Atri7 6 Limited

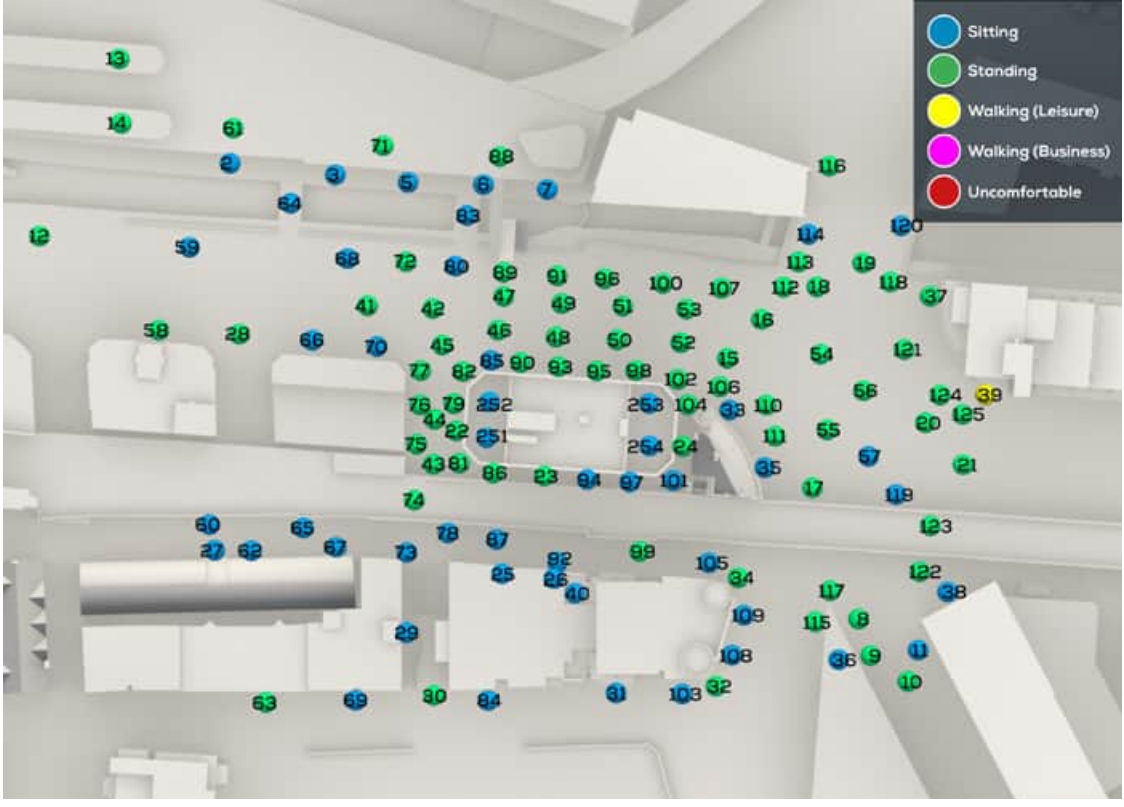


Figure 10.8
Summer Wind Comfort for Scenario 2 (Existing Baseline + Proposed Development)

Project Name
Whitworth Street West, Manchester

Client
Atri7 6 Limited

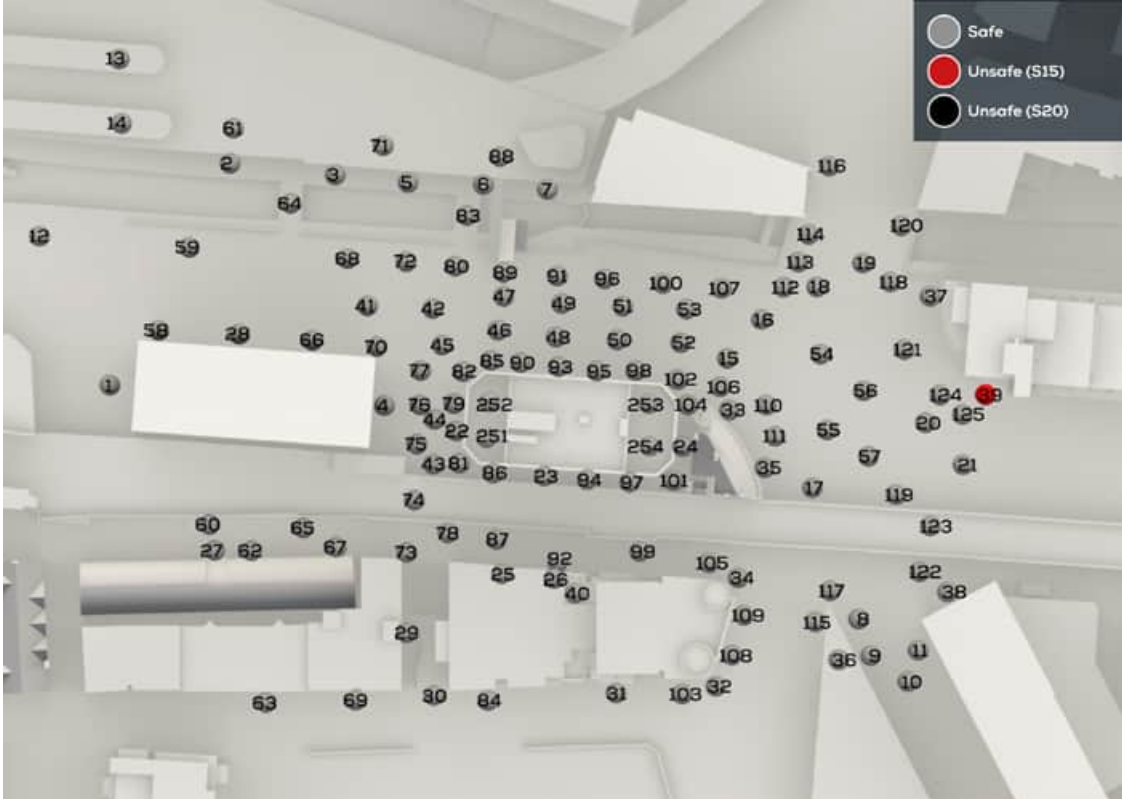


Figure 10.9
Strong Winds for Scenario 3 (Existing Baseline + Proposed Development + Cumulative Schemes)

Project Name
Whitworth Street West, Manchester

Client
Atri7 6 Limited

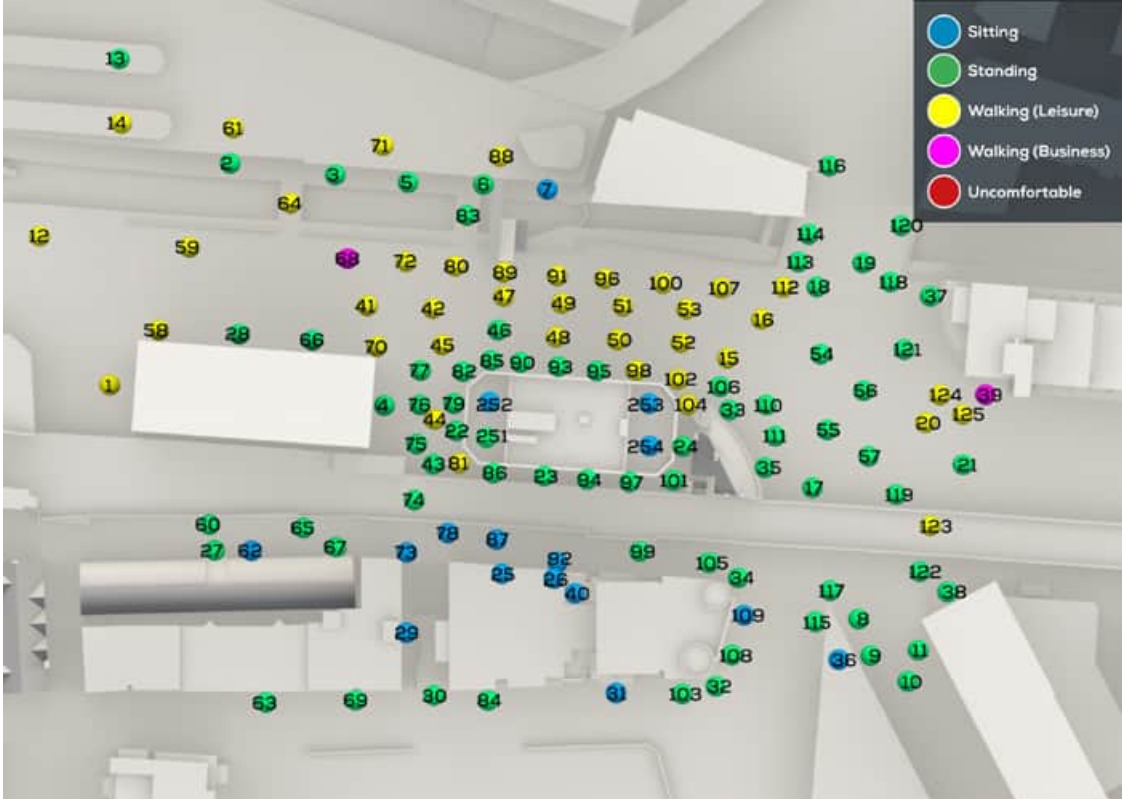


Figure 10.10
Windiest Season Wind Comfort for Scenario 3 (Existing Baseline + Proposed Development + Cumulative Schemes)

Project Name
Whitworth Street West, Manchester

Client
Atri7 6 Limited

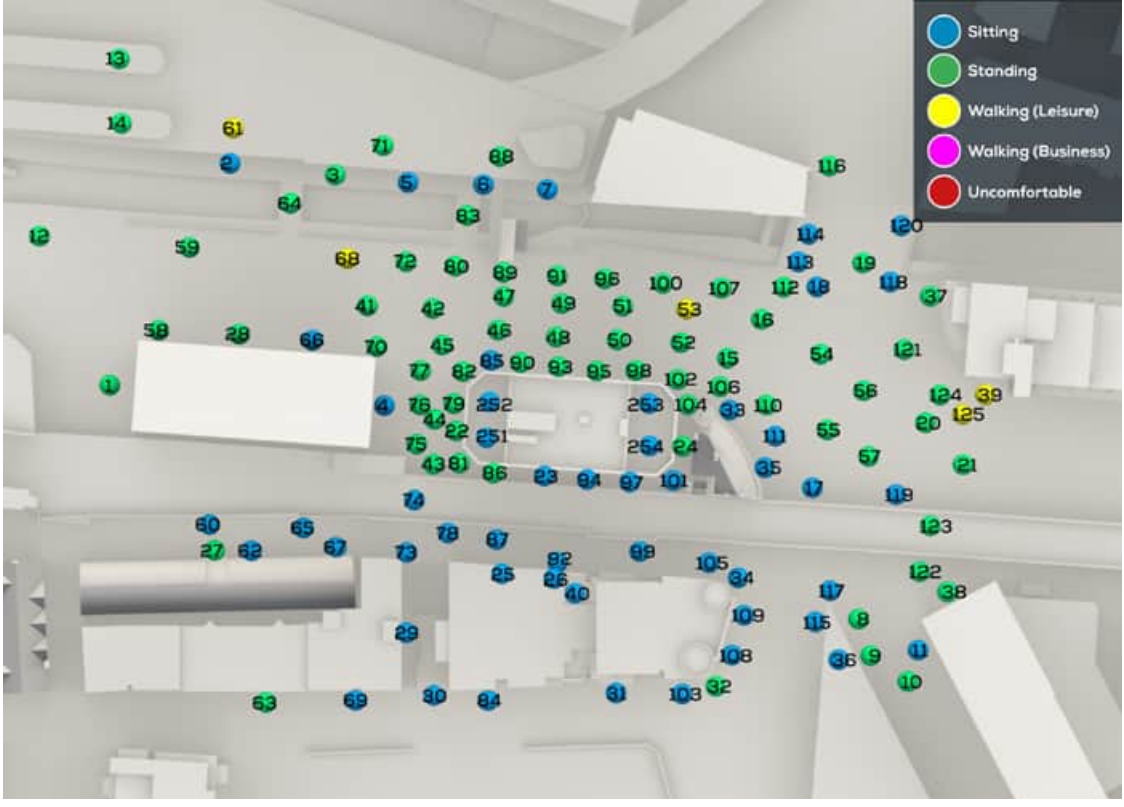


Figure 10.11
Summer Wind Comfort for Scenario 3 (Existing Baseline + Proposed Development + Cumulative Schemes)

Project Name
Whitworth Street West, Manchester

Client
Atri7 6 Limited

Appendix 11.1

Legislation, Policy and Guidance

1 APPENDIX 11.1 LEGISLATION, POLICY AND GUIDANCE

1.1 Legislation, Policy and Guidance

1.1.1 The following section describes the relevant legislation, policy and guidance to which regard has been had in undertaking the assessments.

Planning Policy

1.1.2 The applicable planning policy is summarised as follows:

National Level

National Planning Policy Framework

1.1.3 The current version of the National Planning Policy Framework (NPPF) was published in December 2024. The NPPF is a material consideration in the determination of all planning applications. Relevant sections include:

1.1.4 Achieving Sustainable Development (Chapter 2) which can be summarised at a high level as meeting the needs of the present without compromising the ability of future generations to meet their own needs. To do this the planning system has three overarching objectives:

- ***An economic objective*** - to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;
- **A social objective** - to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being and;
- **An environmental objective** - to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

1.1.5 Delivering a sufficient supply of homes (Chapter 5) in order to meet an area's identified housing need, including with an appropriate mix of housing types for the local community is the overall aim.

1.1.6 Chapter 6 of the document sets out the approach to building a strong, competitive economy and states that planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development.

1.1.7 Making Effective Use of Land (Chapter 11) sets out that planning policies and decisions should promote an effective use of land in meeting the need for homes and other uses and should give substantial wight to the value of using suitable brownfield land within settlements for homes and other identified needs, proposals for which should be approved unless substantial harm would be caused, and support appropriate opportunities to remediate despoiled, degraded, derelict, contaminated or unstable land. Promotion and support should also be given to the development of under-utilised land, especially if this would help to meet identified needs for housing.

1.1.8 In December 2025, the Government published a draft of the NPPF for consultation. The consultation ran until 10th March 2026, and the Government has confirmed that the revised version will not be published until at least Summer 2026. The consultation version is not considered to comprise a material planning consideration.

City-Regional Level

Greater Manchester Combined Authority Places for Everyone Plan (2024)

1.1.9 Places for Everyone (PfE) is a long-term plan for jobs, new homes, and sustainable growth prepared between 9 of the 10 Greater Manchester local authorities (Stockport not included). The plan was adopted and came into force in March 2024.

1.1.10 PFE does not contain any specific PBSA policy. Policy JP-H3 notes that housing provision for specific groups, such as students, will be addressed through district local plans. Policy JP-P5 seeks to support the continued growth and success of the university sector, including through continuing to help develop Greater Manchester as the UK's best destination for students.

1.1.11 Supporting text acknowledges the importance of the universities and knowledge economy, with activity primarily focused within the City Centre and the Oxford Road Corridor.

1.1.12 Retaining students and having a stronger international outlook is identified as an essential aspect of delivering Greater Manchester's ambition of being a top global city.

1.1.13 Relevant policies within the PfE Plan considered relevant to the proposed development are:

- **Policy JPStrat 1 (Core Growth Area)** looks to protect and enhance the economic role of the Core Growth Area, with sustainable development supporting major growth in the number of jobs provided across the area providing opportunities to create jobs for local communities. Complementary to this will see the significant increase in the number and range of homes in areas with good connections to employment, training and education facilities
- **Policy JPStrat 2 (City Centre Development)** - the most significant economic location outside of London which should be strengthened considerably as well as the increasingly important residential role of the City Centre to be expanded
- **Policy JP-S1 (Sustainable Development)** sets out how development should aim to maximise its economic, social and environmental benefits simultaneously, minimise its adverse impacts, utilise sustainable construction techniques and actively seek opportunities to secure net gains across each of the different objectives

1.1.14 There is a strong focus in this Plan on directing new housing towards previously-developed sites within the existing urban area. **Policy JP-H4 'Density of New Housing'** will ensure that the most is made of such sites, particularly in more accessible locations, further reducing the need for additional land release. In terms of house types, in order to deliver the necessary densities, an increasing proportion of new dwellings will be in the form of apartments and town houses, continuing recent trends.

Manchester Core Strategy

1.1.15 The Core Strategy was adopted in 2012 and covers the period to 2027. The Core Strategy is the key document within Manchester's Development Plan. An addendum

was published in 2024 following the adoption of the Places for Everyone Plan and partial replacement of some policies.

1.1.16 Manchester City Council has recently undertaken a consultation on its draft Local Plan. However, given the early stage of its preparation, it is not considered a material planning consideration to this application.

1.1.17 The site is unallocated within the adopted Proposals Map whilst the site is located within the City Centre and Regional Centre.

1.1.18 The following policies within the Core Strategy are of relevance to the development:

- **Policy CC1 (Primary Economic Development Focus: City Centre and Fringe) -** states that a provision of a range of economic development uses, such as retail, leisure, entertainment, cultural and tourism facilities will be encouraged in the City Centre, in line with Policy C1, to support the development of a vibrant employment location attractive to businesses, employees and visitors to the City Centre.
- **Policy CC6 (City Centre High Density Development)** - states that City Centre development will generally be high density and is a location where land should be used to maximise its efficiency. The appropriate scale, massing and height of development in the City Centre will significantly exceed what is appropriate elsewhere in the City.
- **Policy CC10 (A Place for Everyone)** - states that development which promotes high standards of accessibility to buildings and across spaces will be supported. The City Centre will be a location which appeals to a wide range of residents and visitors.
- **Policy H12 (Purpose Built Student Accommodation)** - states that provision of new purpose-built student accommodation will be supported where the development satisfies the criteria listed in the policy.

1.1.19 An addendum to the Core strategy was issued in 2024 following the adoption of the Places for Everyone (PfE) Joint Development Plan in March 2024, with several of the Core Strategy policies being partially replaced by PfE policies. None of the above policies however have been changed.

Unitary Development Plan (1995)

1.1.20 The Unitary Development Plan was adopted in 1995. Whilst the Core Strategy replaced a large number of the policies, a number of policies were ‘saved’ and remain relevant considerations.

1.1.21 The relevant policies include:

- Policy DC18.1 - Conservation Areas;
- Policy DC19.1 - Listed Buildings;
- Policy DC20.1 - Archaeology; and
- Policy DC26.1, 26.2 and 26.4 - Development and Noise.

Our Manchester Strategy (2016-2035)

1.1.22 The Manchester Strategy sets the city's overarching priorities for the next ten years and seeks to ensure a growing and more equitable economy that brings better jobs and prospects.

1.1.23 The strategy acknowledges that Manchester is in the top tier of international cities for higher education with around 20,000 students graduating every year with an increasing number choosing to stay to live and work in the city.

1.1.24 The strategy advises that delivering high-density housing developments will ensure that more people accessing jobs live within the city, and that the best use of the space is made, limiting the requirement for green belt development.

1.1.25 Care will also be taken to ensure that homes are good quality and that the scale and heights of buildings are appropriate. This will be guided by the planning process.

1.1.26 The strategy advises that Manchester is developing the highest density housing in the places that are best connected by public transport. This type of urban development allows the city to grow more sustainably and responds to people's desire to be well connected by public transport.

Guide To Development (2007)

1.1.27 The Guide to Development in Manchester SPD was adopted in 2007 and provides guidance on the development principles contained within the Local Development Plan. The second part of the document, which does not have SPD status, provides guidance on the character of different areas within the City, setting the context for new development and highlighting specific issues and priorities.

1.1.28 Key development principles include:

- Design should respect and be informed by location;
- Building height should be carefully considered;

- The impact of car parking areas should be minimised;
- Neighbourhoods should contain a mix of housing;
- New developments should maximise access for disabled people, with the Council expecting developers to comply with the standards contained in 'Design for Access 2'; and
- Adequate provision for refuse and recycling.

1.1.29 The current consultation of the revisions is expected to run until the 10th March 2026, as such, this is not a material planning consideration to this application.

Manchester Residential Quality Guidance

1.1.30 The document adopted in 2017 sets out the qualities, and opportunities that will help to deliver high quality residential development across Manchester.

1.1.31 The guidance states that residential areas should be well connected, with Universities identified as one of the key destinations that we travel to and from. It is therefore important that residential areas are easily walkable and cycle friendly.

1.1.32 The guidance also sets out that developing at an appropriate density is imperative to shaping Manchester's future, ensuring more sustainable patterns of development and reducing the need to travel.

1.1.33 With the exception of areas of existing special character an increase in density should be encouraged in those parts of the city that are well connected to public transport and have greater access to public services, community facilities, amenity and recreation provision.

Manchester Planning and Noise - Technical Guidance (2022)

1.1.34 Technical Guidance was issued by the Council in December 2015. The guidance aims to provide help and advice in relation to noise in a planning context to encourage good acoustic design.

1.1.35 The guidance sets out that if a particular development is for a noise-sensitive end use then consideration of the locality of the proposal is an important aspect of any application.

1.1.36 The noise limits for residential development adopted by the Council is:

- Bedrooms (night-time - 23.00 - 07.00) 30 dB

- Living Rooms (daytime - 07.00 - 23.00) 35 dB
- Gardens and terraces (daytime) 55 dB

1.1.37 Noise conditions included on a planning decision may include recommendations for upgraded sound insulation which can be a vital means of protecting future occupants from transport noise or industrial /commercial noise sources.

Whitworth Street West Strategic Regeneration Framework (2008)

1.1.38 This development framework sets out the economic rationale underpinning the comprehensive development of the Whitworth Street West Area to promote the successful economic expansion of the city centre.

1.1.39 The delivery of a number of new, high-quality, well integrated and connected developments is needed to form a crucial economic and physical bridging point between the established city centre core and the emerging growth areas on the periphery of the city centre. On this basis a series of key themes were identified that could underpin delivery of new development projects as they come forward.

1.1.40 Development sites under consideration included:

- Castlefield Quay
- 2-10 Whitworth Street
- 10-12 Whitworth Street

1.1.41 Development on Whitworth Street West would allow for the introduction of much higher densities of mixed use development than what is in the area which would be integral to the long-term economic enhancement of the city centre.

Appendix 12.1

Legislation Policy and Guidance

APPENDIX 12.1 – LEGISLATION, POLICY AND GUIDANCE

Legislative Framework

- The Climate Change Act 2008 (2050 Target Amendment) Order 2019 introduced a et zero target for at least 100% reduction in GHG emissions (compared to 1990 levels) in the UK by 2050:
    - The Climate Change Act 2008 sets up a framework for the UK to achieve its long-term goals of reducing greenhouse gas emissions by 34% over the 1990 baseline by 2020 and by 80% by 2050 and to ensure steps are taken towards adapting to the impact of climate change. The Act introduced a system of carbon budgeting which constrains the total amount of emissions in a given time period and sets out a procedure for assessing the risks of the impact of climate change for the UK, and a requirement on the Government to develop an adaptation programme.
    - The Climate Change Act 2008 introduced new powers and duties on climate change adaptation and mitigation. Through amendment of the Climate Change Act, the UK committed to achieving net-zero emissions by 2050.
    - The Climate Change Act 2008 sets out the carbon budget for the period 2023-27 as 1,950 million tonnes of carbon (MtCO2e); a 50% reduction in emissions when compared to 1990 levels.
- Planning and Energy Act 2008
    - The Planning and Energy Act 2008 allows local councils to set targets for on-site renewable energy, low carbon electricity and energy efficiency standards in their areas on influence. This allows local planning bodies to ensure a development in their area complies with energy efficiency standards which are beyond those required by building regulations.
- The Carbon Plan: Delivering our low carbon future (2011)
    - This plan established how the UK will achieve decarbonisation within the energy policy framework, to transition to a low carbon grid whilst maintaining energy security and minimising consumer costs.

Planning Policy

- National Planning Policy Framework (2024)
    - National Planning Policy Framework (NPPF), amended in 2024 describes ways in which the challenge of climate change can be met. Section 14 of the NPPF highlights

that planning plays a key role in mitigation against climate change. It states that "*new development should be planned for in ways that:*

- *Avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the planning of green infrastructure; and*
- *Can help to reduce greenhouse gas emissions, such as through its location, orientation, and design. Any local requirements for the sustainability of buildings should reflect the government's policy for national technical standard Local Plan and supplementary guidance.*"

- Manchester Core Strategy 2012-2027 (Amended 2024)
  - Policy EC1: Employment and Economic Growth in Manchester
    - Development proposals should have regard to*:*
      - Climate change resilience demonstrating how CO2 emissions will be minimised with an aim of zero carbon emissions, through energy efficiency, renewable energy and contributing to low and zero carbon decentralised energy infrastructure;
      - Ensuring design makes the best possible use of a site or building in terms of efficient use of space, enhancing the sense of place of the wider area and minimising detrimental impacts on adjacent uses, considers the needs of users/employees of a site/building for access via walking, cycling and public transport and reduction of opportunities for crime by applying current best practice in security design;
      - Flood risk through the Manchester- Salford- Trafford Strategic Flood Risk Assessment (SFRA).
  - Policy C2: District Centres
    - Development proposals should have regard to*:*
      - Promote the development of employment which provides opportunities for local people.
      - Promote the efficient use of land, particularly through considering options for multi-storey development. New development should positively contribute to the reuse and regeneration of land and

premises, together with wider regeneration and investment strategies.

- New development should respect and enhance the character of existing centres.
- New development should deliver improvements to the quality and accessibility of the centre environment. Opportunities should be taken to adopt sustainable building design and practices to assist in adapting to climate change.

- Policy EN4: Reducing CO2 Emissions by Enabling Low and Zero Carbon Development
  - Wherever possible new development and retrofit projects, including energy generation plant, must be located and designed in a manner that allows advantage to be taken of opportunities for low and zero carbon energy supplies.
  - Where possible new development and retrofit projects will be used as a mechanism to help improve energy efficiency and provide low and zero carbon energy supplies to existing buildings.
  - Where appropriate new development and retrofit projects will be required to connect to and / or make contributions to low or zero carbon energy schemes and / or to incorporate provision to enable future connection to any existing / potential decentralised energy schemes.
  - The use of building materials with low embodied carbon in new development and refurbishment schemes.
- Policy EN5: Strategic Areas for low and zero carbon decentralised energy infrastructure
  - Within Manchester it is considered that the following strategic areas, indicated on the key diagram, will have a major role to play in achieving an increase in the level of decentralised, low and zero carbon energy supplies available:
    - The Regional Centre, which also includes the Oxford Road Corridor and Eastlands
    - District Centres and associated major development sites
    - Airport Strategic Site
    - Strategic housing location
    - Strategic employment locations

- Within these areas new development, regeneration, and retrofit projects, will be expected to take place in the context of more detailed proposals for decentralised low and zero carbon energy infrastructure in the form of energy proposals plans. The Council will work with all relevant stakeholders, which may include developers, landowners, residents, community groups, private sector partners, utilities companies, neighbouring authorities, and other public sector bodies, as appropriate, to bring forward such plans.
- Where investment or development is being undertaken into or adjacent to a public building/asset or district heating network, full consideration shall be given to the potential role that these can have in providing an anchor load within a decentralised energy network or in creating opportunities for CO2 reduction funded by contributions.

- Policy EN6: Target Framework for CO2 reductions from low or zero carbon energy supplies
  - The energy statement will be required to be submitted at the outset of any proposed development (outline application or before). Developers will be permitted to use green infrastructure elements such as green roofs, green walls, street trees and waterways to contribute to compliance with CO2 mitigation, subject to the energy statement incorporating evidence such as modelling to demonstrate compliance.
- Policy EN8: Adaptation to Climate Change
  - All new development will be expected to be adaptable to climate change in terms of the design, layout, siting and function of both buildings and associated external spaces. In achieving developments which are adaptable to climate change developers should have regard to the following, although this is not an exhaustive list:
    - Reduction in urban heat island effect through the use of Green Infrastructure such as green roofs, green walls, increased tree cover and waterways
    - The need to control overheating of buildings through passive design
  - Developers will be permitted to use green infrastructure elements such as green roofs, green walls, street trees and waterways to contribute to compliance with CO2 mitigation under Policy EN6, subject to sufficient evidence to quantify their contribution to compliance.

- Policy EN14: Flood Risk
    - In line with the risk-based sequential approach contained within PPS25, development should be directed away from sites at the greatest risk of flooding, and towards sites with little or no risk of flooding; this should take account of all sources of flooding identified in the Manchester-Salford-Trafford Strategic Floor Risk Assessment (SFRA).
    - In CDAs, evidence to justify the surface water run-off approach / rates will be required.
    - The City of Manchester contains many sections of rivers which are culverted or 'hidden'; where these are indicated in the SFRA beneath the proposed development site, further investigation will be required and the development proposal should take this into account; where feasible and appropriate development should seek to open up culverted/hidden rivers to reduce the associated flood risk and danger of collapse, taking advantage of opportunities to enhance biodiversity and Green Infrastructure.

- Greater Manchester Combined Authority, Places for Everyone Joint Development Plan (Adopted 2024)
    - The plan contributes to the achievement of many of the United Nations Sustainable Development Goals and puts focus on how Greater Manchester will tackle climate change. Chiefly, it replaces some of the text within the Manchester Core Plan (2012) with more up to date requirements. Notably in respect of Policy EN 4, the Places for Everyone Joint Development Plan (2024) sets more stringent requirements in respect of energy and sustainability to respond to the declaration of a climate emergency and the net zero ambition.
    - The most significant planning policies are as follows:
        - JP-S1: Sustainable Development - Which acts as an overarching framework policy to ensure the implementation of policies that directly address Greater Manchester's Vision for Climate Change.
        - JP-S2: Carbon and Energy - Establishes de-carbonisation methods for new and existing developments with the aim or delivering net zero by 2038. These include operational energy targets and the promotion of assessing long term life cycle carbon impacts.
    - There is an expectation that new development will, unless it can be demonstrated that it is not practicable or financially viable;

- Be Net zero carbon for whichever which applies:
  - From adoption – to regulated operational carbon emissions;
  - From 2028 – to all emissions 'in construction'.
- From 2025, developments should also calculate and minimise carbon emissions from unregulated emissions alongside regulated emissions. Development proposals should set out how this has been achieved in an energy statement in accordance with the energy hierarchy, which in order of importance seeks to:
  - Minimise energy demand;
  - Maximise energy efficiency;
  - Use renewable energy;
  - Use low carbon energy; and
  - Utilise other energy sources.
- From 2025 any residual carbon emissions that cannot be fully mitigated on-site should be offset, in agreement with the relevant local planning authority through a financial contribution to a carbon offset fund. As an interim measure, development should be consistent with the 2022 Part L Building Regulations unless superseded by changes to building regulations and/or national or local planning policies.
- Development will be expected to incorporate adequate electric vehicle charging points, in line with Part S of the Building Regulations, unless superseded by relevant Local Plan policies, to future proof for the likely long-term demand, taking account of the potential maximum energy demand for the site;
- Where practicable, development will prioritise connection to a renewable energy/heating/cooling network in the first instance or a low carbon energy/heating/cooling network that is adaptable to non-fossil fuels at a later date.
- Residential developments will be expected to achieve energy demand reductions in terms of space heat demand; hot water energy demand and the delivery of on-site renewable energy generation.
- For renewable energy generation priority should be given to PV installation where technically feasible, alternative technologies will be appropriate where the equivalent generation is evidenced.
- Applications should include a detailed energy statement to demonstrate via site relevant evidence how the development has sought to maximize reductions in

carbon emissions in line with relevant policy targets, including the minimisation of overheating risks and appropriate measures for post occupancy evaluation.

- Whole life cycle emissions should be considered where possible. Districts may set out specific carbon emission reduction and energy demand targets within Local Plans.
- Policy JP-S3: Heat and Energy Networks
  - This policy encourages the connection of developments to district heating schemes, where they exist and is feasible to utilise them.
- Policy JP-S6: Resource Efficiency
  - This policy focuses on the shift towards a circular economy within the city.

Guidance

- The Carbon Plan: Delivering our low carbon future (2011) details a method for the UK to achieve decarbonisation within the framework of its energy policy, to transition to a "more efficient, low carbon and sustainable economy" which is less reliant on imported fuels and less exposed to higher and more volatile energy prices". Targets are set for "all buildings" to "have an emissions footprint close to zero" by 2050, to be met by means of better insulation, better energy efficiency, and utilising low carbon energy sources.
- Institute of Environmental Management & Assessment (IEMA) Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance (2022) assists sustainability practitioners in assessing emissions, climate change mitigation and reporting. It provides guidance on the evaluation of the significance of the Proposed Development's GHG emissions.
- Institute of Environmental Management & Assessment (IEMA) Environmental Impact Assessment Guide to Climate Change Resilience & Adaptation (2020) provides a framework for the effective consideration of climate change resilience and adaptation within the Environmental Impact Assessment process.
- British Standard BS EN15978:2011 (Sustainability of construction works – Assessment of environmental performance of buildings – Calculation method) (2011) is a European Standard for quantifying and reporting various environmental information of a building.
- RIBA 2030 Climate Challenge - Version 2 (2021), is a set of voluntary performance targets for Embodied Carbon, operational energy and water use. The targets have been developed and updated in Version 2 (2021) to align with a challenging but possible trajectory needed to achieve a net zero carbon UK building stock by 2050.

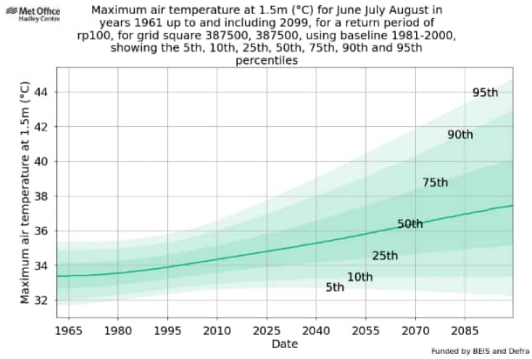
- UK Net Zero Carbon Buildings Standard (UKNZCBS) – Version 1 was released in March 2026 and is a newly created set of carbon performance requirements for net zero carbon aligned buildings that could enable the UK real estate sector to stay within its share of the national carbon and energy budgets.
- BREEAM UK New Construction - Version 6.1 (2024) contains guidance on Life Cycle Assessments (LCAs) in the Mat 01 credit section, which sets out a standardised methodology for undertaking BREEAM-compliant LCAs, at RIBA Stage 2, and RIBA Stage 4. Following this methodology ensures this assessment examines the embodied carbon impacts of the proposed development, across its service life, and rewards BREEAM Credits essential to achieving higher BREEAM Assessment ratings.

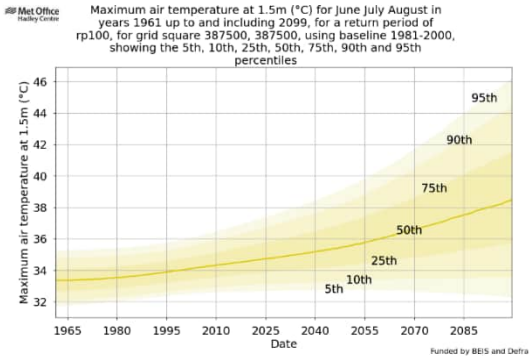
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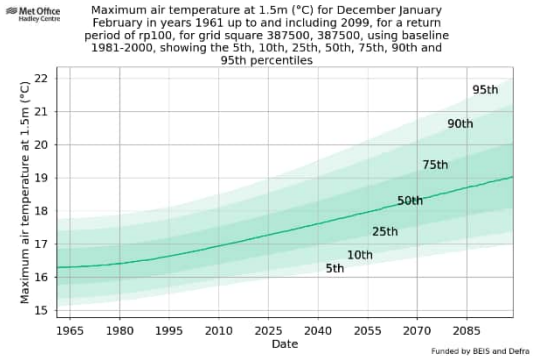
UKCP18 UK Climate Projection Graphs

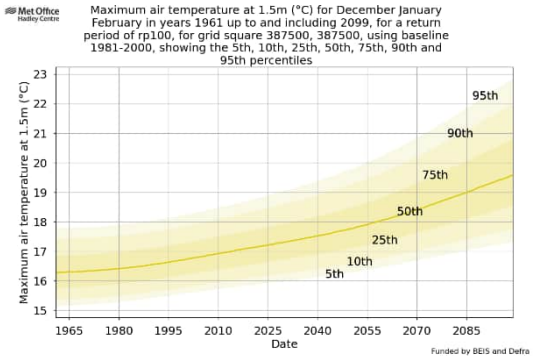
APPENDIX 12.2 – UKCP18 UK CLIMATE PROJECTION GRAPHS

Maximum summer (top) and winter (bottom) air temperature, 1961-2099 (projected), RCP 4.5 (left) and RCP6.0 (right) [1]

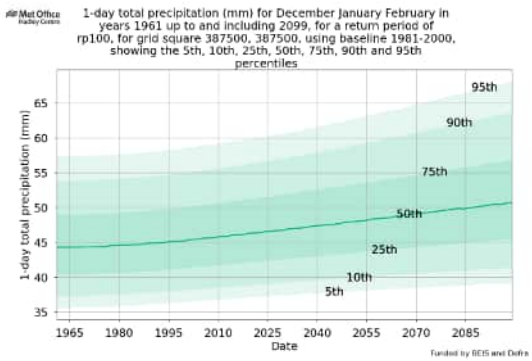


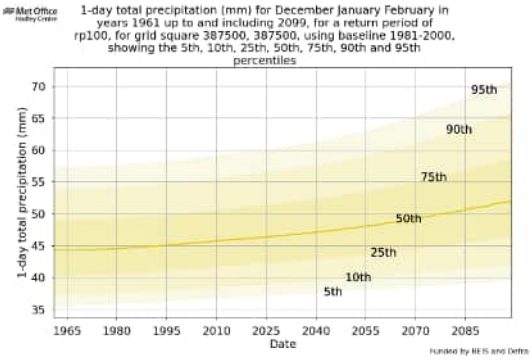


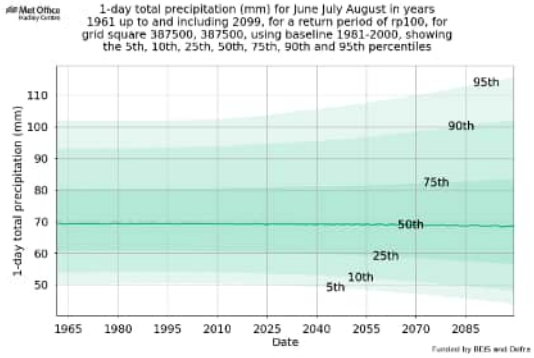


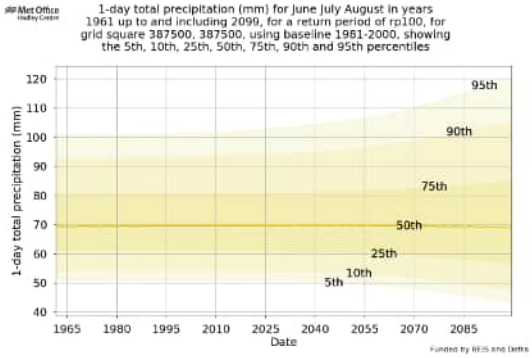


Wettest days 1961-2099 (projected), Summer (top) and Winter (bottom); RCP 4.5 (left) and RCP 6.0 (right)









[1] https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/index

Appendix 12.3

Climate Change Adaptation Report

Appendix 10.3: CFD Context for Entrance Conditions

Computational Fluid Dynamics (CFD) testing was undertaken (for the Configuration 2 set-up) to provide greater context to the conditions for the entrances to the Proposed Development, where the wind tunnel results showed conditions which were only suitable for leisure walking at probes 98 and 24 (which represent 2 of the entrances to the Proposed Development).

CFD Windiest Season Comfort at Ground Level for Proposed Development with Existing Surrounds are shown in Figure 1

The wind tunnel probe locations for probes 98 and 24 are marked with the numbers of the probes, the actual entrance locations are marked X.

It is apparent that, although the probe locations show conditions which are suitable for leisure walking (in accordance with wind tunnel results), the actual conditions for the entranceways themselves would be located within pockets of conditions which are suitable for standing. This is the target condition, therefore the conditions for these entrances would actually be suitable for the intended use.

The methodology used for the CFD studies is as follows:

The CFD was performed using OpenFOAM.

Meshed using a hybrid mesh of hexahedral, polyhedral, tetrahedral and prismatic elements:

- On site building edge length: 0.05m - 0.25m
- Surrounding context edge length: 0.25m - 1m

Prismatic cells were used in the boundary layer region, with 4 layers of cells growing with an expansion ratio of 1.15 and aspect ratios between 0.1 and 0.4.

Buildings within 400m of the site were included.

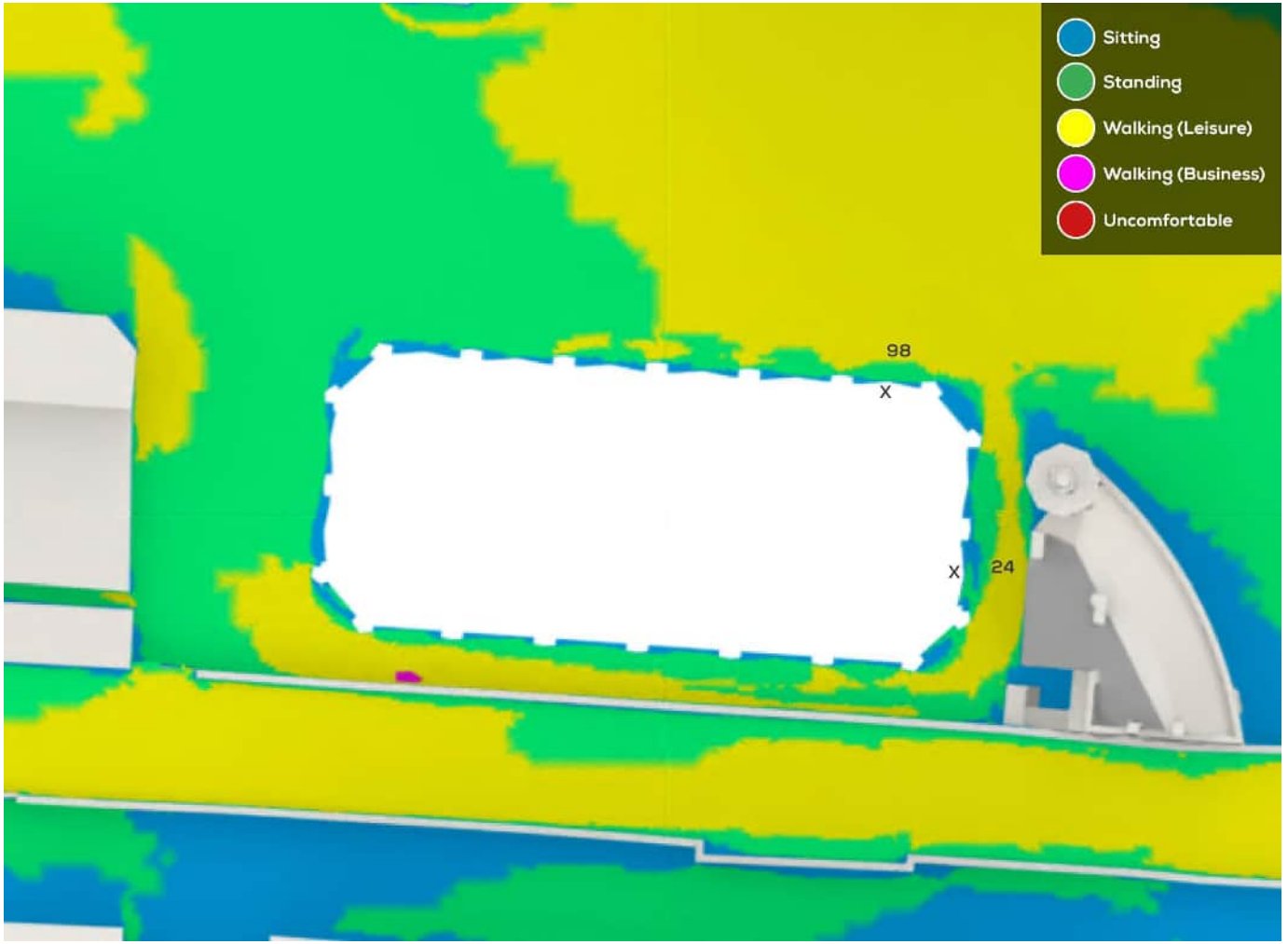
Run using the SST turbulence model with high Re wall functions to ensure mesh suitability.

The simulations were steady state and isothermal.

2nd order discretisation schemes were used.

The wind speed is corrected into a “gust-equivalent” mean. The gust-equivalent mean is calculated using an empirical relationship between the gust and mean ratios recorded at over 13,000 data points from wind tunnel tests. This method is found to give a significant correlation improvement over the more traditional methods based on the CFD turbulent kinetic energy field.

Figure 1 CFD Windiest Season Comfort at Ground Level for Proposed Development with Existing Surrounds



Appendix 12.4

MET Office Data UK Climate Projection Graphs

APPENDIX 12.4 – MET OFFICE DATA UK CLIMATE PROJECTION GRAPHS

Appendix D.1 – Average Climate Data, 1981-2010, Woodford							
Period	***MaxTemp (degC)***	***MinTemp (degC)***	***Days of air frost (days)***	***Sunshine (hours)***	***Rainfall (mm)***	***Days of rainfall ≥1 mm (days)***	***Monthly mean wind speed at 10 m (knots)***
Year	13.23	5.52	44.8	1372.58	867.05	151.72	7.52
Jan	6.91	0.84	9.63	43.83	81.5	15.77	8.83
Feb	7.21	0.97	10.3	69.82	51.46	10.96	8.54
Mar	9.68	2.38	5.43	97.67	58.61	12.8	8.75
Apr	12.33	3.59	2.63	137.12	61.42	11.82	7.23
May	15.88	6.73	0.27	185.88	54.77	10.85	7.08
Jun	18.44	9.02	0	163.68	64.46	9.7	6.7
Jul	20.23	11.69	0	171.74	67.25	11.74	6.7
Aug	20.1	11.27	0	161.62	79.43	12.81	6.63
Sep	17.37	9.22	0.07	133.32	79.58	12.08	6.52
Oct	13.53	6.67	1.43	89.68	98.83	14.43	7.72
Nov	9.57	2.96	4.93	63.66	79.9	14.39	7.42
Dec	7.08	0.57	10.1	54.55	89.84	14.37	8.12

Appendix D.2 – Average Climate Data, 1971-2000, England NW and N Wales													
	Jan	***Feb***	***Mar***	***Apr***	***May***	***Jun***	***Jul***	***Aug***	***Sep***	***Oct***	***Nov***	***Dec***	***Calendar Year***
MaxTemp (degC)	6.08	6.27	8.28	10.78	14.43	16.7	18.88	18.58	15.89	12.49	8.81	6.9	12.04
MinTemp (degC)	0.95	0.91	2.18	3.32	5.91	8.64	10.9	10.74	8.77	6.27	3.32	1.8	5.33
Days of air frost (days)	11.52	10.65	7.31	4.52	1.13	0.06	0	0	0.13	1.53	5.93	9.51	52.29
Sunshine (hours)	42.76	62.51	91.73	140.12	186.93	167.89	174.9	161.72	119.62	87.5	54.12	36.32	1326.11
Rainfall (mm)	133.46	96.08	108.07	74.16	72.09	82.29	79.94	100.12	110.57	134.31	138.43	145.58	1275.1
Days of rainfall ≥1 mm (days)	16.53	12.59	14.79	11.61	11.5	12.17	11.22	12.94	13.24	15.54	16.34	16.34	164.79
Mean windspeed (knots)	11.62	11.23	11.28	9.48	8.84	8.46	8.12	8.07	8.91	9.75	10.71	11.14	9.8

Appendix D.3 – Average Climate Data, 1981-2010, England NW and N Wales													
	Jan	***Feb***	***Mar***	***Apr***	***May***	***Jun***	***Jul***	***Aug***	***Sep***	***Oct***	***Nov***	***Dec***	***Calendar Year***
MaxTemp (degC)	6.42	6.6	8.74	11.4	14.8	17.17	19.08	18.71	16.29	12.74	9.15	6.7	12.35
MinTemp (degC)	1.17	0.94	2.38	3.68	6.35	9.07	11.21	11.05	9.1	6.48	3.66	1.31	5.56
Days of air frost (days)	10.94	11.25	6.92	3.94	0.89	0.03	0	0	0.08	1.59	5.12	10.98	51.76
Sunshine (hours)	45.51	69	98.67	146.86	186.94	167.32	171.62	159.13	122.4	89.83	53.89	40.46	1351.64
Rainfall (mm)	134.5	96.82	105.13	78.43	76.45	83.11	88.97	103.3	108.28	147.17	138.93	143.71	1304.79
Days of rainfall ≥1 mm (days)	16.25	12.37	14.49	12.29	11.81	11.98	12.3	13.52	12.83	16.32	16.62	15.91	166.7
Mean windspeed (knots)	11.55	11.17	11.06	9.29	8.71	8.25	8.11	8.06	8.6	9.67	10.07	10.19	9.56

Appendix 13.1

Solar Glare Methodology

Unlocking potential for a better built environment

ES APPENDIX 13.1

SOLAR GLARE METHODOLOGY

10-12 Whitworth Street West, Manchester

Atri7 6 Limited

27 April 2026

GIA No: **20231**

1 INTRODUCTION

GIA have assessed the proposed scheme in order to ascertain whether solar reflections given off the proposed building's facade will be visible from sensitive viewpoints which may affect road users and train drivers.

1.1 GLARE

Glare is a phenomenon occurring in the eye that is caused by the presence of bright light sources within the visual field. It can lead to visual discomfort and, if the glare source is very bright compared to its surrounding, even be disabling in the sense that objects become hard or impossible to see (Fig. 01 and Fig. 02). This is because they are cloaked by the high intensity glare source, whose light gets scattered within the eye.

The CIE 146:2002 Collection on Glare expresses the latter type of glare more formally as:

"Disability glare is glare that impairs vision (CIE, 1987). It is caused by scattering of light inside the eye [...]. The veiling luminance of scattered light will have a significant effect on visibility when intense light sources are present in the peripheral visual field and the contrast of objects to be seen is low. "

"Disability glare is most often of importance at night when contrast sensitivity is low and there may well be one or more bright light sources near to the line of sight, such as car headlights, streetlights or floodlights. But even in daylight conditions disability glare may be of practical significance: think of traffic lights when the sun is close to them, or the difficulty viewing paintings hanging next to windows."

Glare is of particular concern if it affects drivers of motor vehicles or trains, since it might impair the visibility of signals and traffic signs, potentially putting the driver, passengers or other parties at risk.

1.2 GLARE FROM REFLECTED SUNLIGHT

Whether or not a sun reflection will cause an instance of glare depends upon a number of factors, these are summarised below:

- The location of the observer and his view direction;
- The sun's position in the sky, which changes not only with the hour of the day, but with the seasons too;
- The location and orientation of the reflective surface, e.g. a glazed facade, in relation to the observer's view direction;
- The specific quality of the reflective surface, e.g. sheen, specularity, etc.;
- The observer's physiology, e.g. age and eye pigmentation; and
- The background brightness defining the state of adaptation in the observer's eye;

This final point is an important one as the same brightness which could cause glare against a dark background may be perfectly acceptable when looked against a light one. A typical example of adaptation is illustrated in Fig. 01 and Fig. 02 where the same headlights cause glare at night whereas they do not during daytime hours.

Understanding whether solar glare is likely to occur is based on the observer's position and view direction. Given the transitory nature of the phenomenon, due to the sun's constant movement, any glare assessment should be carried out for a number of representative locations and view directions.

Such studies are often carried out with the help of sun path protractors or with the aid of a full three-dimensional computer simulation.



Fig. 01: Headlights at night



Fig. 02: Headlights during day

2 GUIDANCE

In the UK, guidance that is relevant to glare assessments is limited to a short section in the BRE's guidance "Site Layout Planning for Daylight and Sunlight: a guide to good practice" (BR209 - 2022 edition). It suggests that:

"If it is likely that a building may cause solar dazzle the exact scale of the problem should be evaluated. This is done by identifying key locations such as road junctions and windows of nearby buildings, and working out the number of hours of the year that sunlight can be reflected to these points. BRE Information Paper IP 3/87 gives details."

BR IP3/87 provides more detailed instructions on why and how solar dazzle can be calculated:

"Glare or dazzle can occur when sunlight is reflected from a glazed facade. For vertical façades this problem usually occurs only when the sun is low in the sky; but some types of modern design incorporate sloping glazed façades which can, under certain circumstances, reflect unwanted high altitude sunlight into the eyes of motorists, pedestrians and people in nearby buildings."

Both BR 209 and BR IP3/87 only deal with geometrical considerations of glare by identifying when and where reflections occur.

The City of London (CoL) published their own guidance in the from of a Planning Advice Note in July 2017. The aim was to establish "Guidelines and best practice for assessing solar glare in the City of London".

The CoL Guidelines distinguish between discomfort glare and disability glare.

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

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

"Discomfort glare is a less dangerous problem because it does not impair the ability to see. It can be important where work involves continuous viewing of the outdoor space from a fixed vantage point, for example in security surveillance."

Because discomfort glare a) does not impair the ability to see; and b) it only needs to be looked at where work involves continuous viewing of the outdoor space from a fixed vantage point – which is clearly to the case for a train driver – GIA's solar glare assessments do not assess disability glare.

The CoL Guidelines also explains with regard to disability glare that:

"If the reflected sun would be visible close to the driver's line of sight, then either a more detailed calculation of solar glare is required, or measures should be taken to reduce the glare."

3 GIA'S APPROACH AND METHODOLOGY

Following the guidance documents referenced above, GIA have developed specialised computer software to undertake reflected glare assessments.

The preparation of reflected solar glare assessments is based upon the steps described below:

- The construction of a 3d-computer model that includes the proposed building and its relevant setting (Paragraph 3.1);
- The physically accurate description of the reflective surface properties (Paragraph 3.2);
- Rendering of stills of the solar reflections (Paragraph 3.3);
- Masking the images to represent the Human Field of View (Para. 3.4); and
- Image analysis of the Static Assessment (Paragraph 3.5)
- The limitations of this apprach and methodology are set out in Paragraph 3.8.

3.1 3D-COMPUTER MODEL

The detailed geometry of the proposed building, and specifically of its facade and glazing configuration, is provided by the project architects either in 2d format (i.e. plans, sections and elevation drawings) or 3d format as a computer model. The received information is processed by GIA and prepared for assessment with our proprietary software. GIA also prepares the context 3d-model from photogrammetry and high resolution stereoscopic aerial photographs, including details relevant for assessment such rail tracks, sleepers, gantries and signals as well as road junctions and traffic lights. An example of the detailes included in the solar glare context 3d-model is provided in Fig. 03, Fig. 04 and Fig. 05.

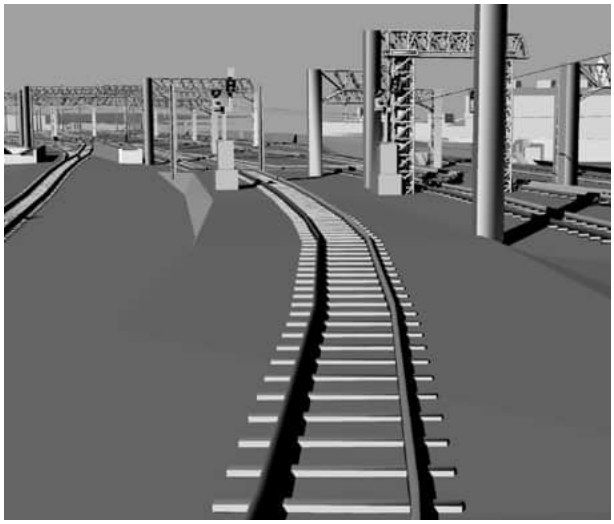


Fig. 03: Computer model of train tracks & signals from photogrammetry

3.2 REFLECTIVE SURFACE PROPERTIES

The static assessment assumes all potential reflective portions of the Proposed Development as "mirrors", therefore portraying an absolute worst-case scenario which is however aimed at identifying whether a reflection can occur or not.



Fig. 04: High-resolution aerial photograph



Fig. 05: High-resolution aerial photograph (close-up)

3.3 RENDERING OF STILLS

As mentioned above, glare is a phenomenon that depends on the observer's location, but also on his view direction.

For road drivers, sensitive viewpoints around the site are selected in locations where reflected solar glare may cause adverse impacts to those travelling towards the Proposed Development. The viewpoints are generally located at the minimum stopping distance and at the driver's eye height. The focal point is a relevant traffic element, such as signals or incoming traffic.

The stopping distance is calculated as the combination of thinking and breaking distances $D_{total} = D_{thinking} + D_{breaking} = V*T + V^2/(2\mu*g)$, where each component is:

V = Relevant vehicle speed, typically the road speed limit.

T = Thinking time (0.67 sec)

μ = Breaking effort (considered 0.65 for cars, 0.5 for buses and 0.031 for trains)

g = Gravity acceleration.

The height of the viewpoint is considered to be 1.5 m for cars, 2.0 m for buses, 2.2 m from trams and 2.75 m for trains.Atri7 6 Limited

I.e. A viewpoint for car driving at 30 mph would be placed at 23m from a traffic light and at 1.5 m above the ground (see Fig. 06).

For train drivers, the view direction is defined by the rail tracks. UK recommendations set the eye level of the driver at 2.75 m above the rails. The view point is centred between the tracks for ease of reference. Although train drivers sit slightly to the left within the cabin, this bears no material effect on the analysis of the images as the signals are visible at a distance of hundreds of metres at which point the slight shift in the cabin equates to a very small angular change. Fig. 07 shows the typical set up of our viewpoints. Actual trains and driver's cabin are not included in our 3d computer model.

Individual virtual cameras located accordingly in our 3d computer model are spaced between 1 and 3m apart in the direction of travel. Before the stills are compiled, a human field of view mask is overlayed onto them in order to define the angular distance between the instance of reflection and the observer's line of sight.

This procedure allows for the assessment of entire stretches of railway tracks providing a complete overview of potential risks as well as information about signal sighting.

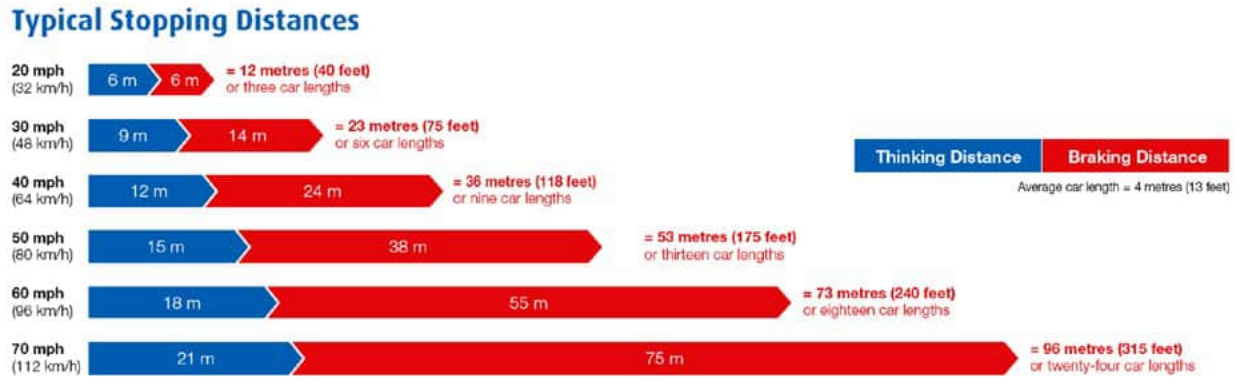


Fig. 06: Typical car stopping distances for various speed limits

3.4 HUMAN FIELD OF VIEW

The field of view is the angular extent within which objects can be observed by one or both eyes. Owing to the arrangement of the human eyes, the stereoscopic visual field extends to approximately 60° either side on the vertical and 90° either side on the horizontal.

In the United Kingdom, the minimum field requirement for driving is 60° either side of the vertical meridian, and 20° above and below horizontal.

The fovea centralis is the central area of the retina. It extends about 3° in all directions. The fovea is responsible for sharp vision that is used for reading, driving, and any other activity where visual detail is important. Fig. 08 shows our typical field of view overlay.

The CIE 146:2002 suggests that occurrences at angles beyond 30° would be of little significance in most situations, but may be relevant in exceptional circumstances. Any reflection within 30° is looked at in greater detail in terms of its duration, size of the reflective surface and where appropriate, predicted intensity.

3.5 STATIC ASSESSMENT

The methodology described below is aimed at addressing the occurrence and duration throughout the year and the location of this occurrence in respect of a driver's line of sight. This will inform the necessity of implementing mitigations at either early or detailed design stage.

For this purpose the glazed facade of the Proposed Development is assumed to have the same properties of a mirror, i.e. it is fully reflective and all of its reflected component is specular. This therefore portrays a worst-case scenario.

The potential for reflected solar glare or dazzle from the glazed or reflective façades of the development are assessed using specialist lighting software.

In Stage 1, stills or a computer animation are generated with which the potential for the occurrence of reflected sunlight is evaluated with regards to the times of the year and hours of the day when this may happen, as well as its relative location to the observer's line of sight.

In order to achieve this, the yearly sun path is mapped onto the sky and colour-coded so that the hours of the day and the period of the year can be distinguished. This sun path is picked up by the reflective elements of the proposed buildings in our rendered stills.

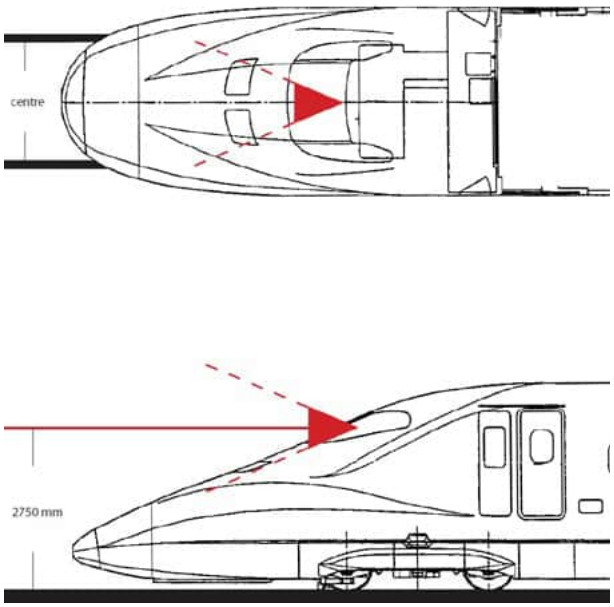


Fig. 07: Driver Viewpoint

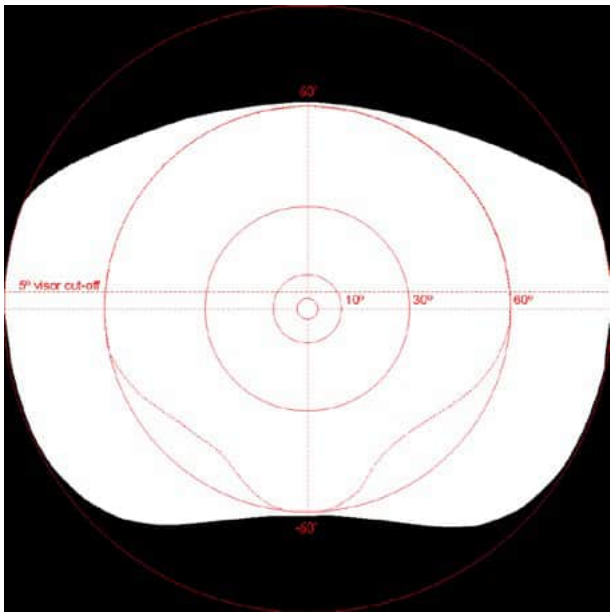


Fig. 08: Typical human field of view

Fig. 09 shows the colour coded sunpaths projected onto the sky dome to visualise the time of day and season during which solar reflections occur.

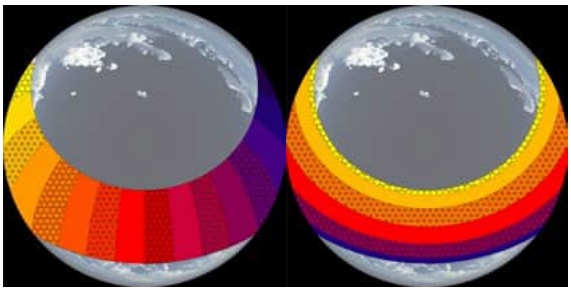


Fig. 09: Stage 1 - Colour coded sunpath for time of day and seasons

Two identical viewpoints are rendered as shown in Fig. 10 and Fig. 11: one focusing on the times of the day when the reflection would be visible, and the second looking at the months throughout the year.

The following guidance is used to determine whether an intensity study is necessary:

- Solar reflections are visible within 30° to 10° of the driver's line of sight for a long period of time (large reflective surface) or between 10° to 5° for a short period of time;
- Solar reflections are visible within 10° and 5° of the driver's line of sight occurring for a long period of time;
- Solar reflections are visible within 5° of a driver's line of sight;

3.6 LIMITATIONS

Great care is taken in identifying typical viewpoints around a new development. However, this does not guarantee that all sensitive locations where reflected solar glare could present a particular risk are covered, especially where these are farther away from the site.

IMPORTANT: The hours shown in the diagrams and described in the text reflect solar time and therefore do not take British Summer Time into account.

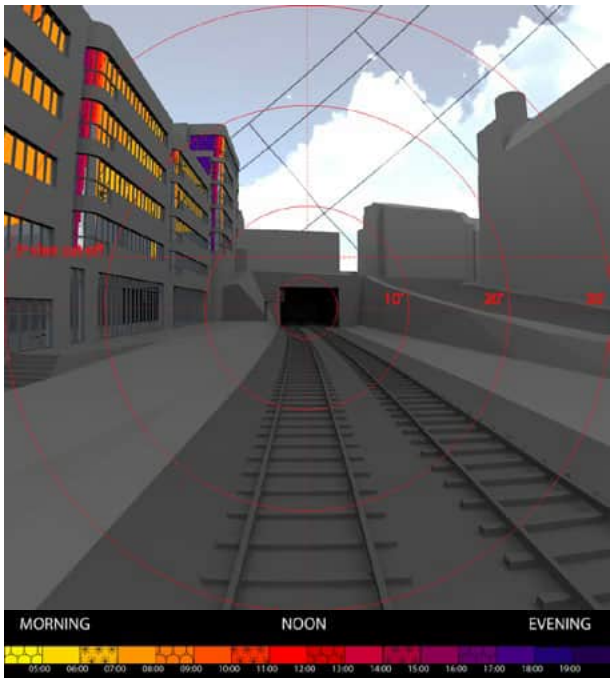


Fig. 10: Stage 1 Example - Hours

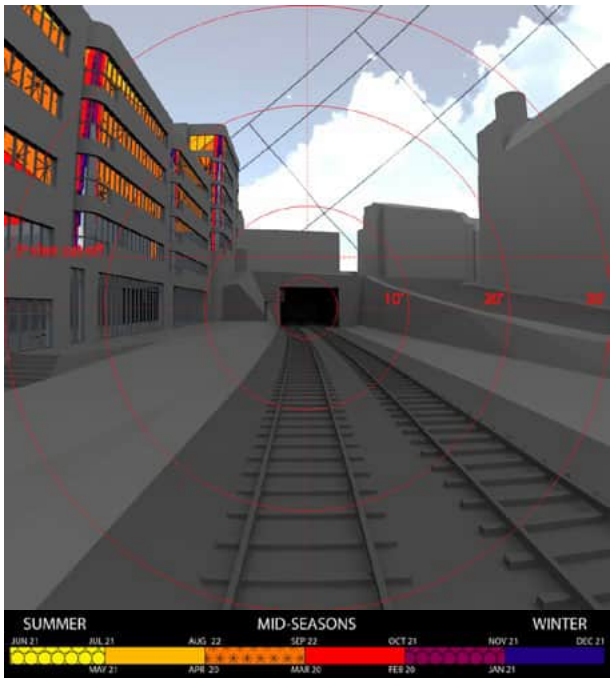


Fig. 11: Stage 1 Example - Months

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Light Obstruction Notices
Measured Surveys
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Where we are:

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Manchester

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Appendix 13.2

Solar Glare Assessment

Unlocking potential for a better built environment

ES APPENDIX 13.2

SOLAR GLARE ASSESSMENT

10-12 Whitworth Street West, Manchester

Atri7 6 Limited

27 April 2026

GIA No: **20231**

PROJECT DATA:

Client	**Atri7 6 Limited**
Architect	**CW Architects**
Project Title	**10-12 Whitworth Street West, Manchester**
Project Number	**20231**

REPORT DATA:

Report Title	**Solar Glare Assessment**
GIA Department	**Daylight Department**
Dated	**27 April 2026**
Prepared by	**RL / CN**
Checked by	**KST**
Type	**APPENDIX 13.2**

Revisions	No:	Date:	Notes:	Signed:

SOURCES OF INFORMATION:

Information Received	**IR-16-20231**
Release Number	**Rel-03_20231**
Issue Number	**01**
Site Photos	**GIA / Google**
3D models	**VU.CITY**
OS Data	**FIND Maps**

DISCLAIMER:

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OS 100047514

CONTENTS

1 SCENARIO OVERVIEW 2

2 LOCATION OF SENSITIVE POINTS 4

3 SOLAR GLARE ASSESSMENT 6

4 SCENARIO WITH 2-4 WHITWORTH STREET WEST 58

1 SCENARIO OVERVIEW

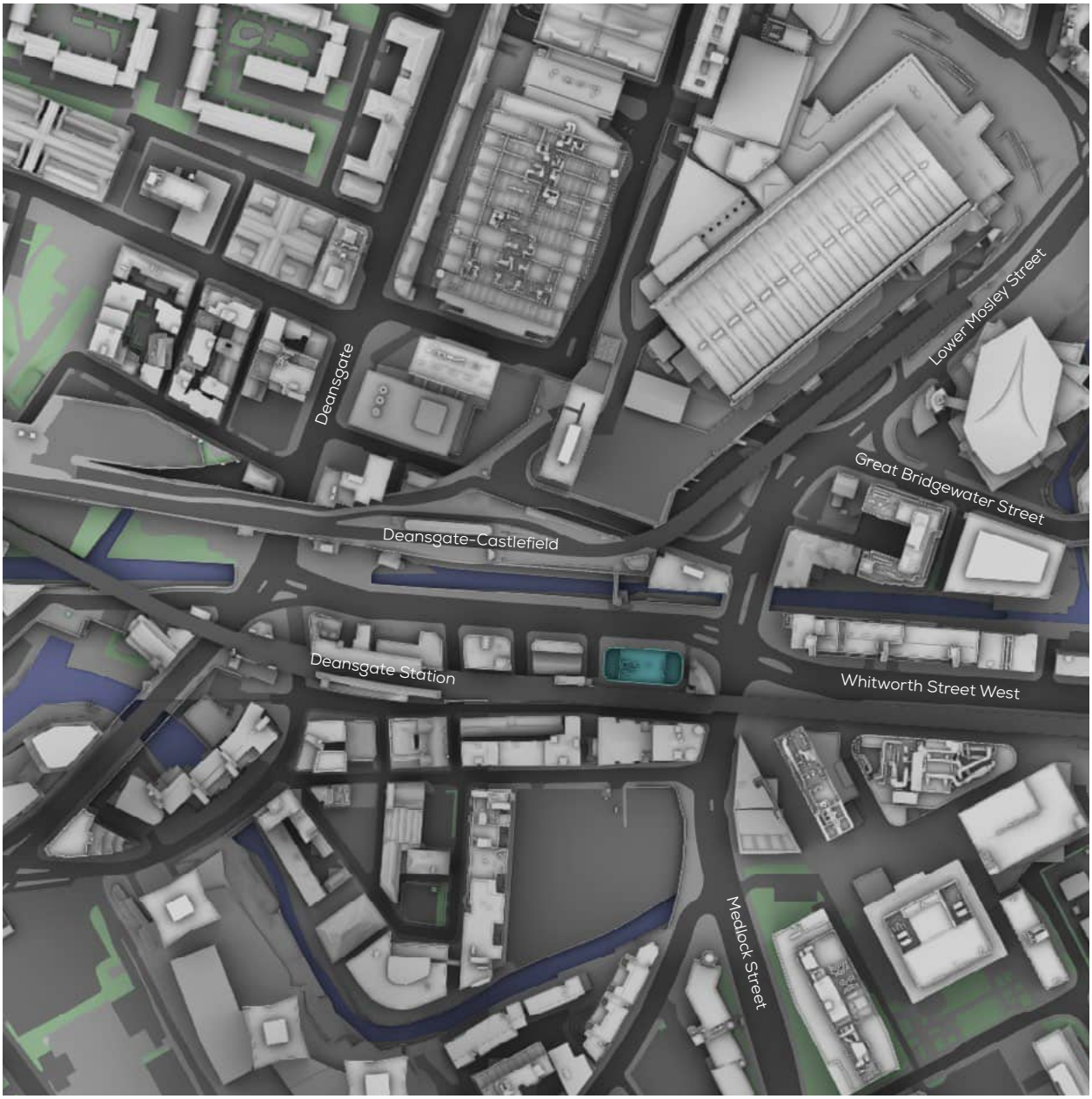


Fig. 01: Site Overview - Top

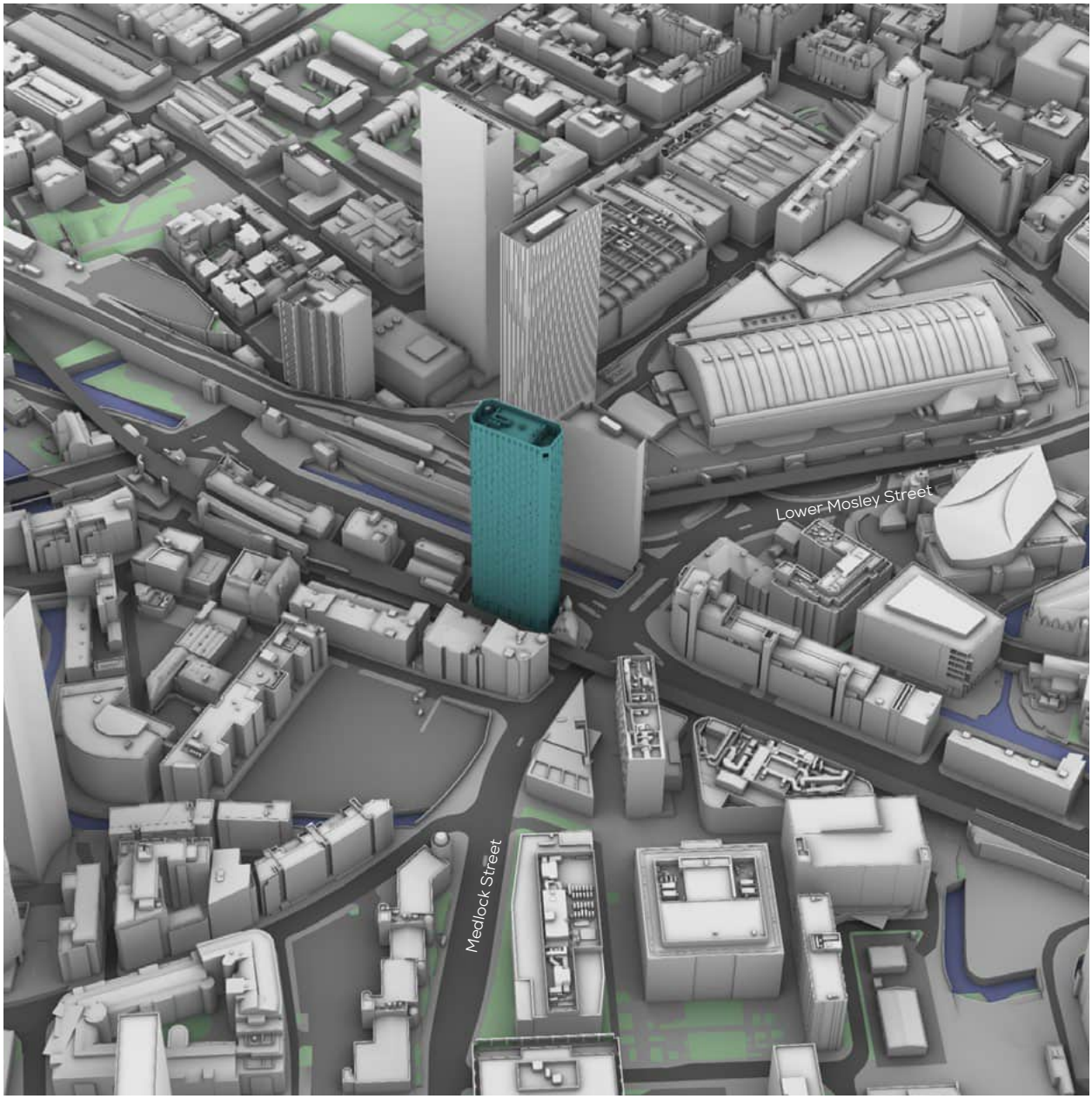


Fig. 02: Site Overview - Perspective

2 LOCATION OF SENSITIVE POINTS

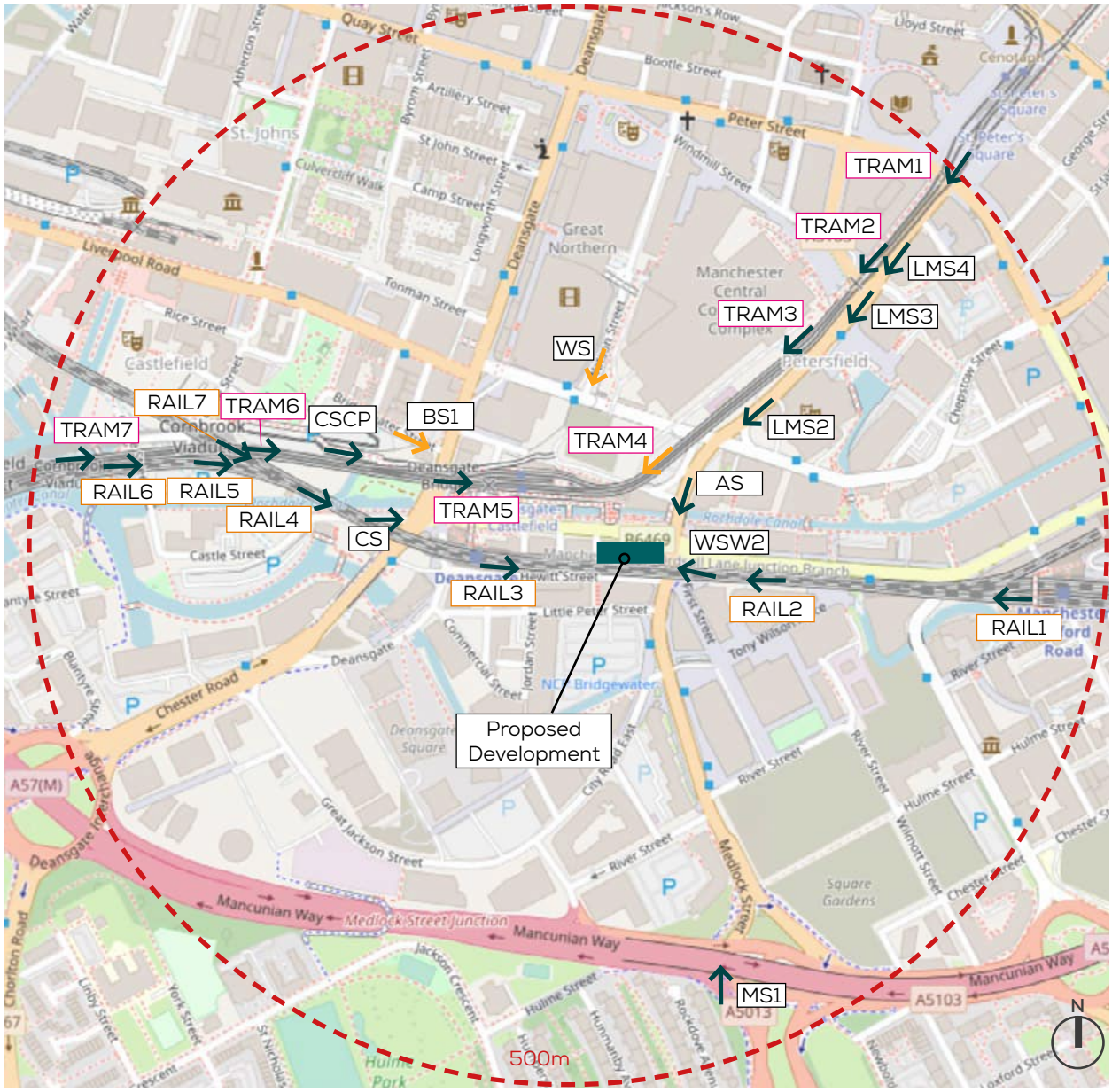


Fig. 03: Receptor Map

→ Building visible from the viewpoint

→ Building not visible from the viewpoint

Viewpoints Key

CS - Castle Street junction with Bridgewater Viaduct

CSCP - Collier Street Car Park pedestrian crossing

BS1 - Bridgewater Street junction with Deansgate

WS - Watson Street junction Great Bridgewater Street

LMS4 - Lower Mosley Street junction with Bishopsgate

LMS3 - Lower Mosley Street pedestrian crossing

LMS2 - Lower Mosley Street junction with Great Bridgewater Street

AS - Albion Street junction with Whitworth Street West junction

WSW2 - Whitworth Street West junction with Albion Street

MS1 - Medlock Street junction

TRAM 1-4 - selected viewpoints on the tram tracks (Southbound to Deansgate-Castlefield)

TRAM 5-7 - selected viewpoints on the tram tracks (Eastbound to Deansgate-Castlefield)

RAIL 1-2 - selected viewpoints on the train tracks (Westbound to Deansgate)

RAIL 3-6 - selected viewpoints on the train tracks (Eastbound trains from Trafford Park to Deansgate)

RAIL 3, 4 & 7 -selected viewpoints on train tracks (Eastbound trains from Salford to Deansgate)

3 SOLAR GLARE ASSESSMENT

60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT CS - LOOKING FORWARD

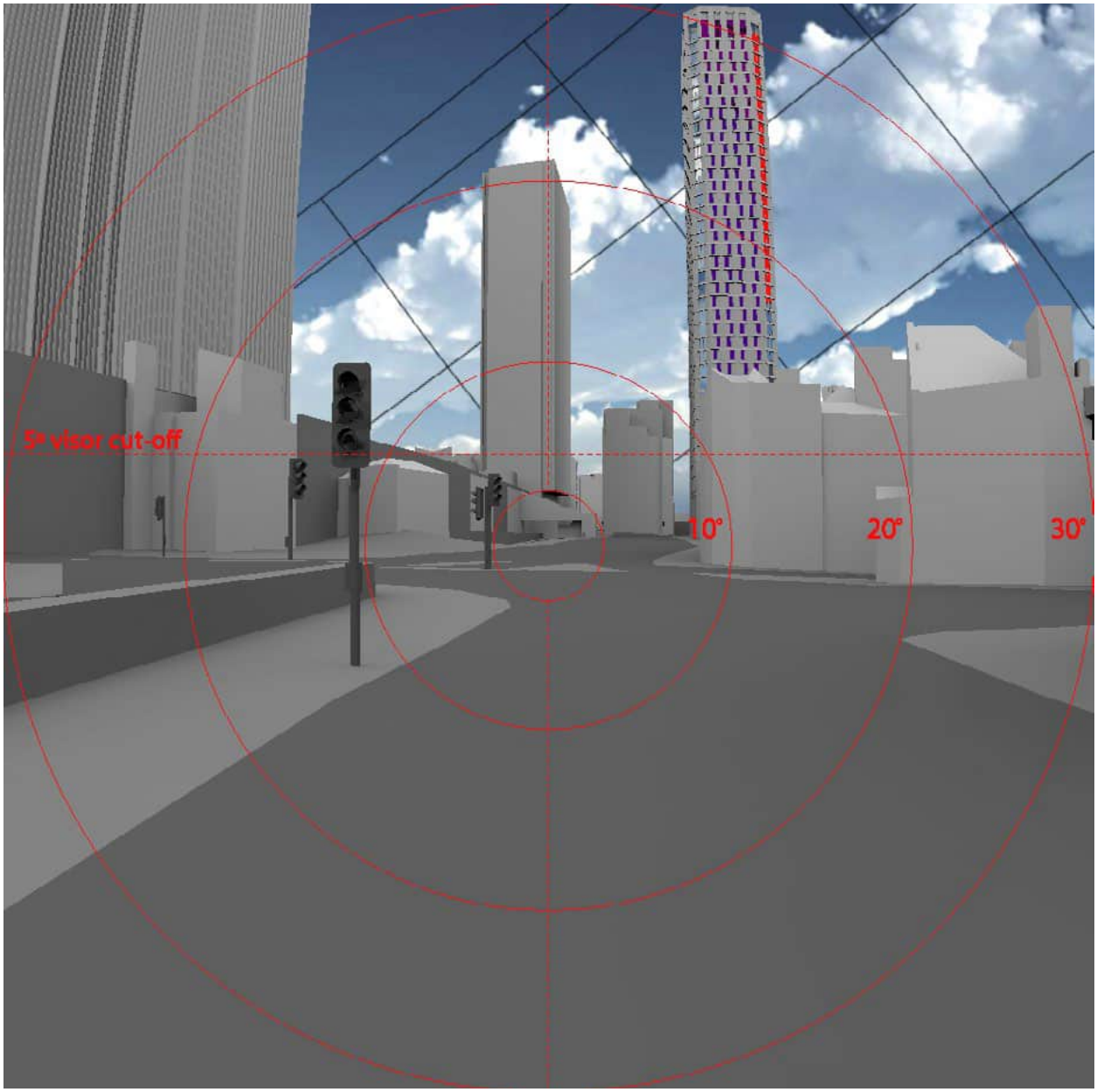
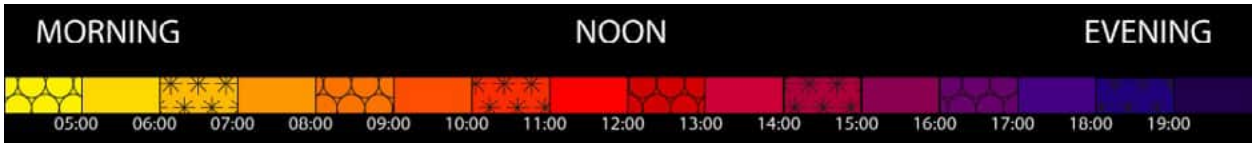


Fig. 04: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT CS - LOOKING FORWARD

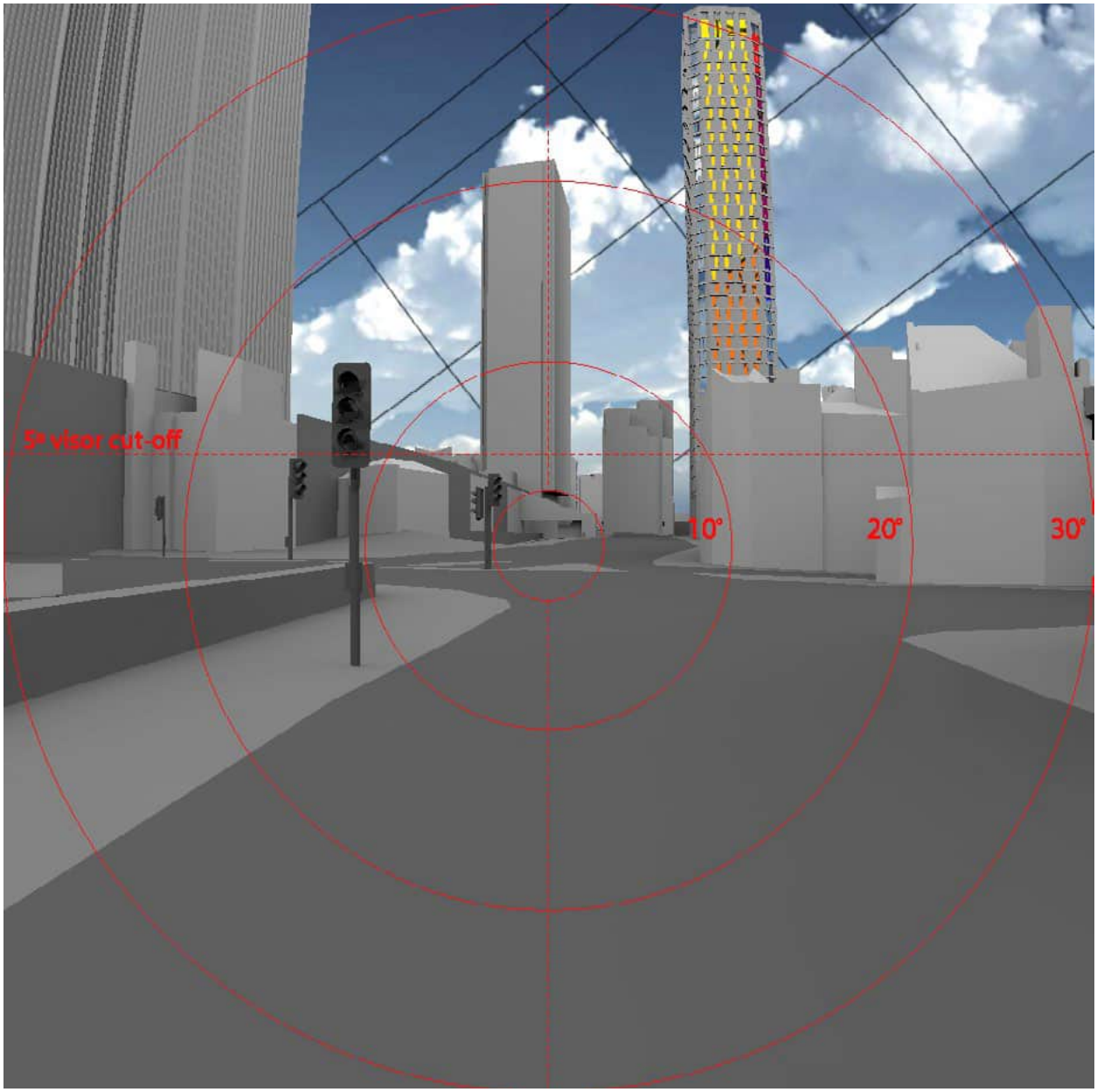


Fig. 05: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT CSCPa - LOOKING FORWARD

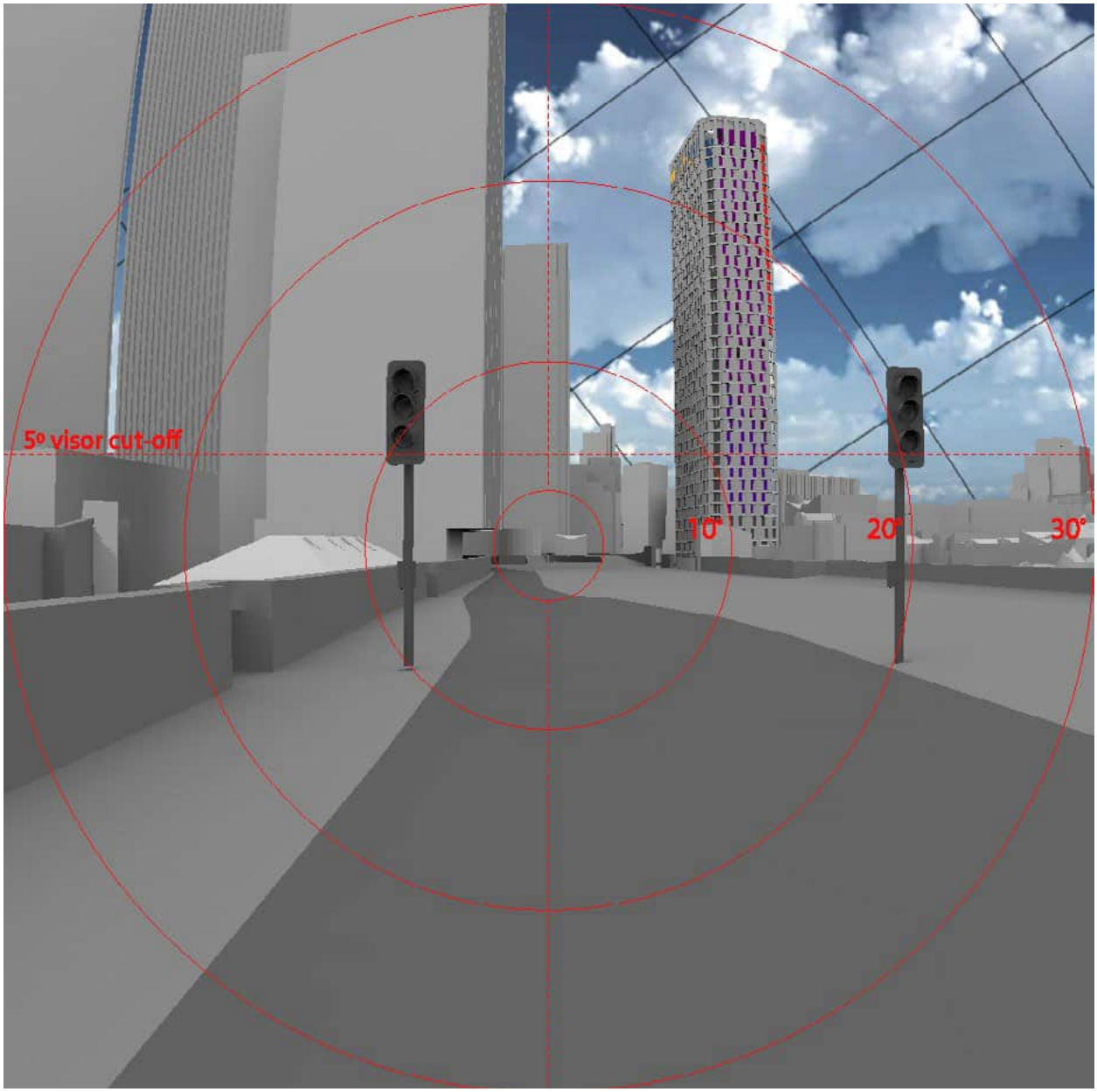
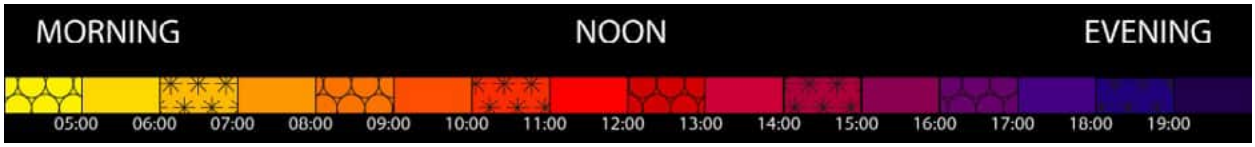


Fig. 06: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT CSCPa - LOOKING FORWARD

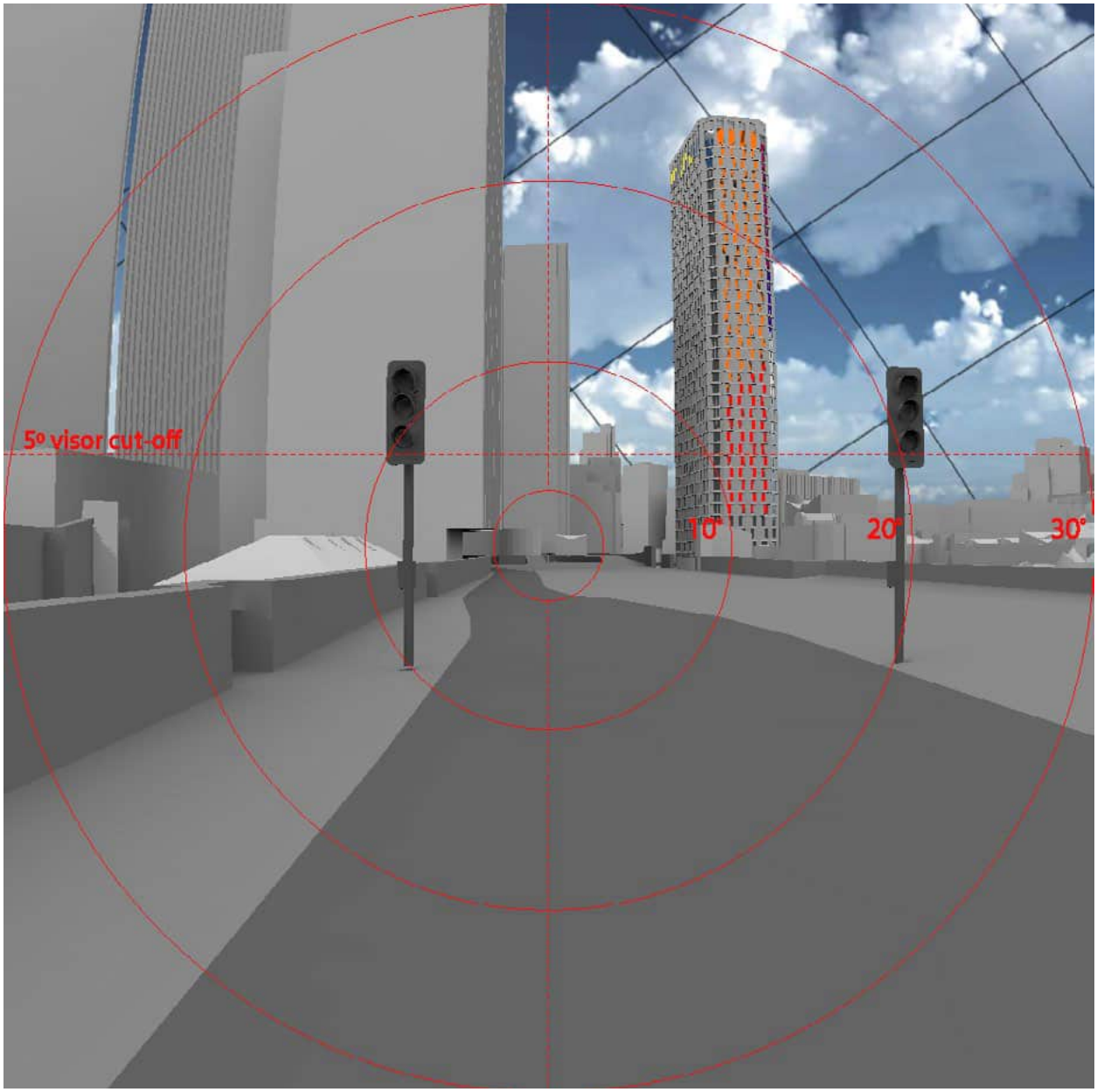


Fig. 07: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT CSCPb - LOOKING AT RIGHT TRAFFIC LIGHTS

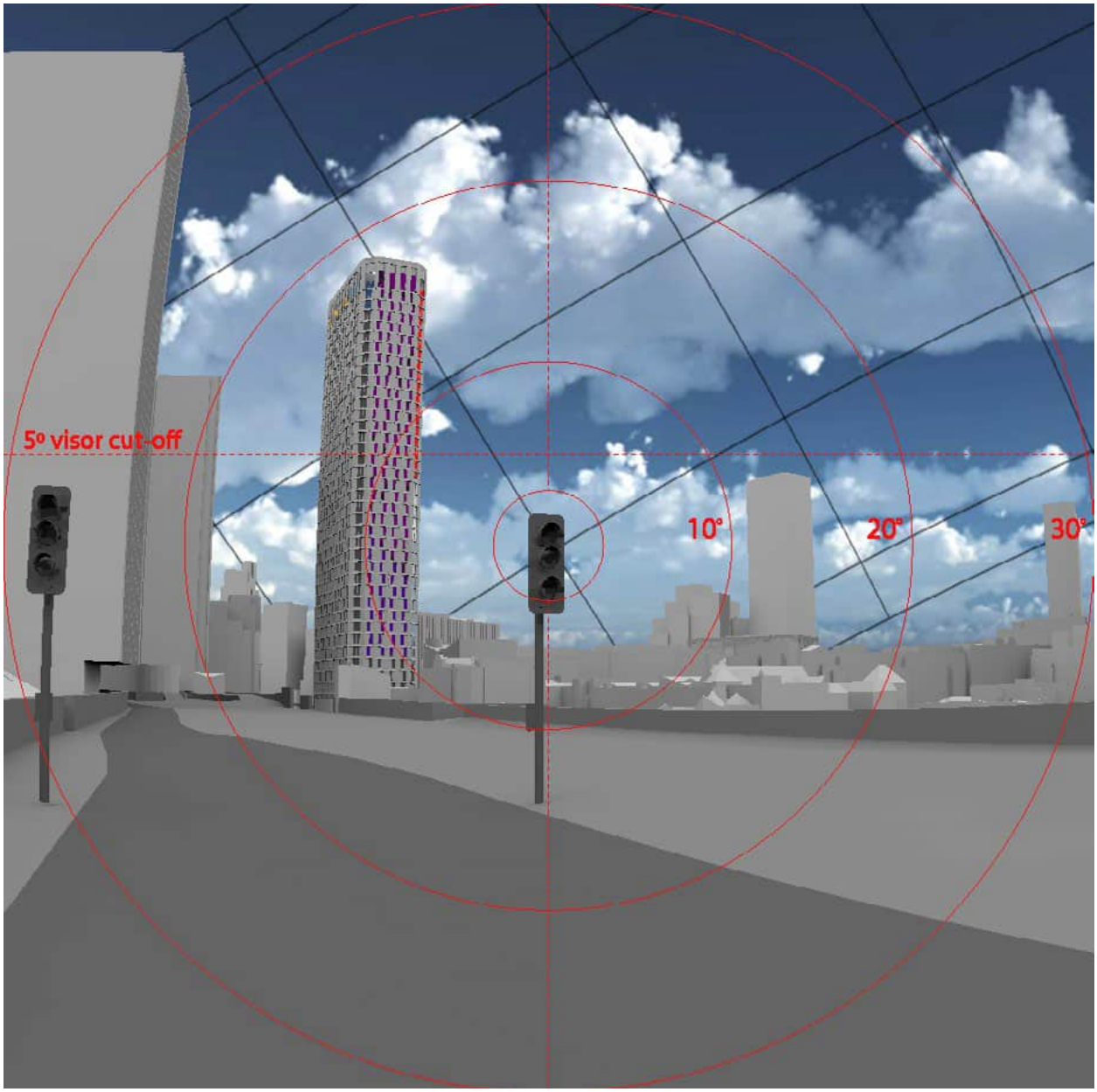
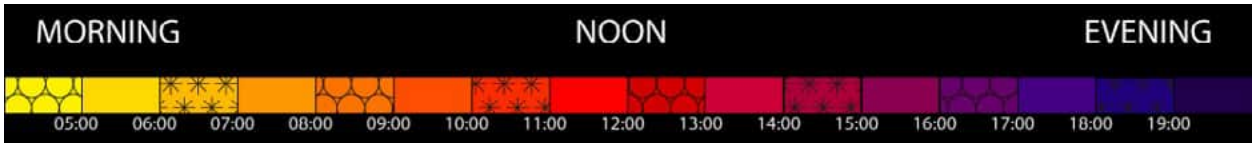


Fig. 08: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT CSCPb - LOOKING AT RIGHT TRAFFIC LIGHTS

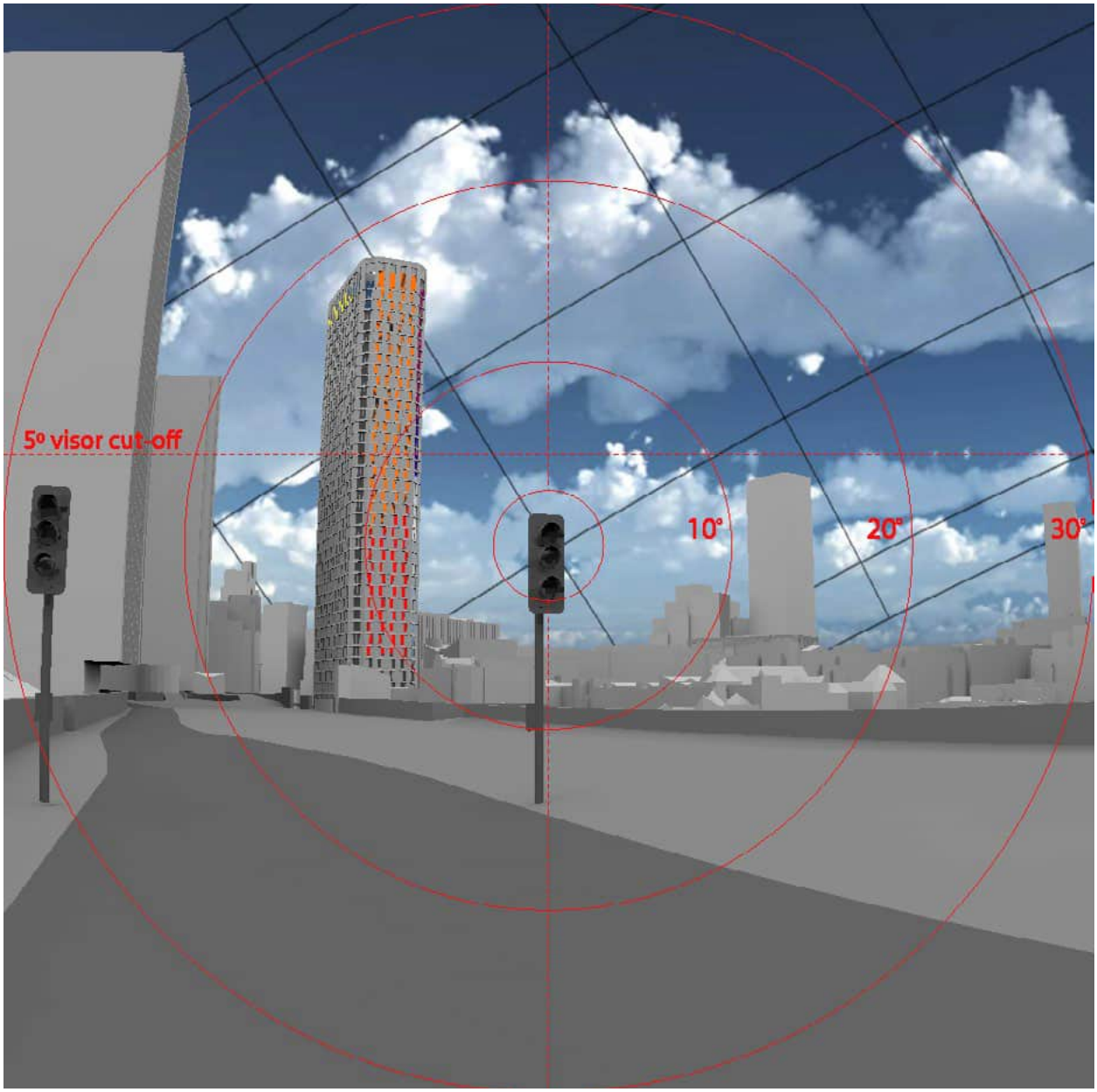


Fig. 09: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT LMS4a - LOOKING FORWARD

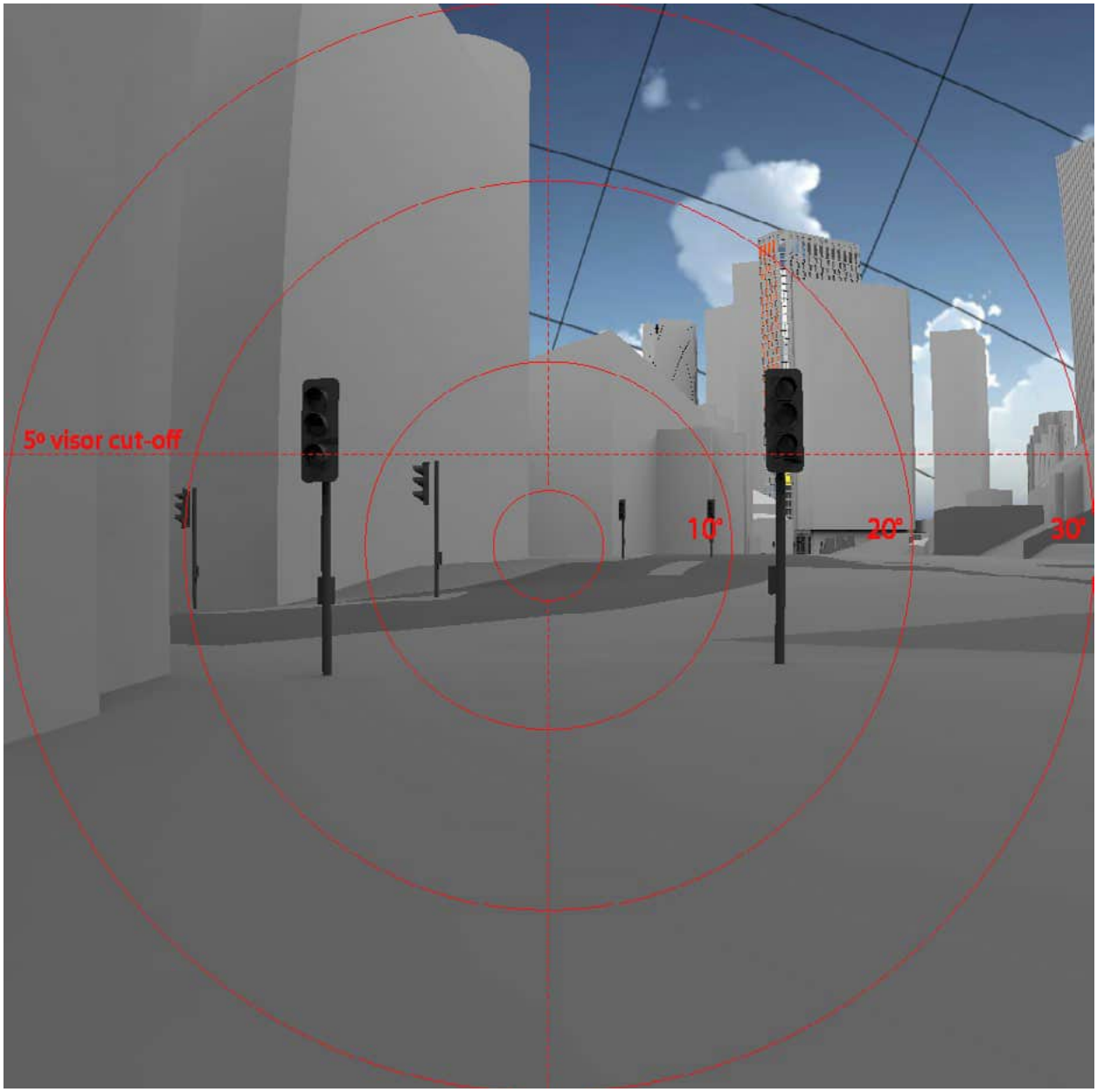
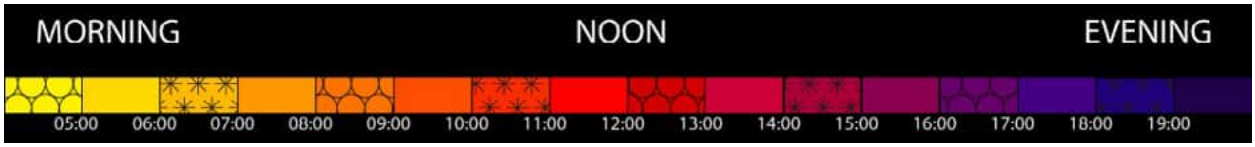


Fig. 10: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT LMS4a - LOOKING FORWARD

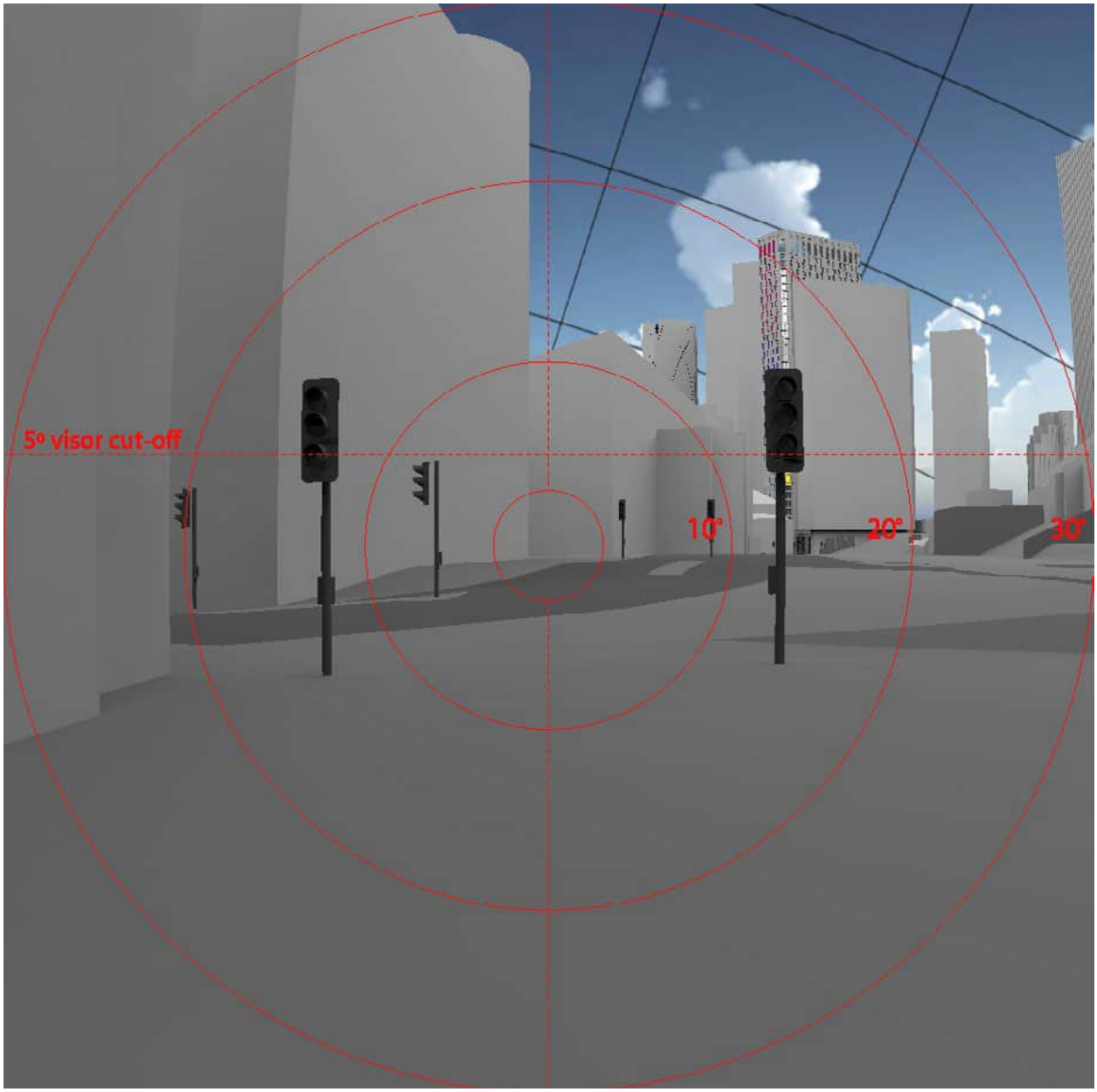


Fig. 11: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT LMS4b - LOOKING AT RIGHT TRAFFIC LIGHTS

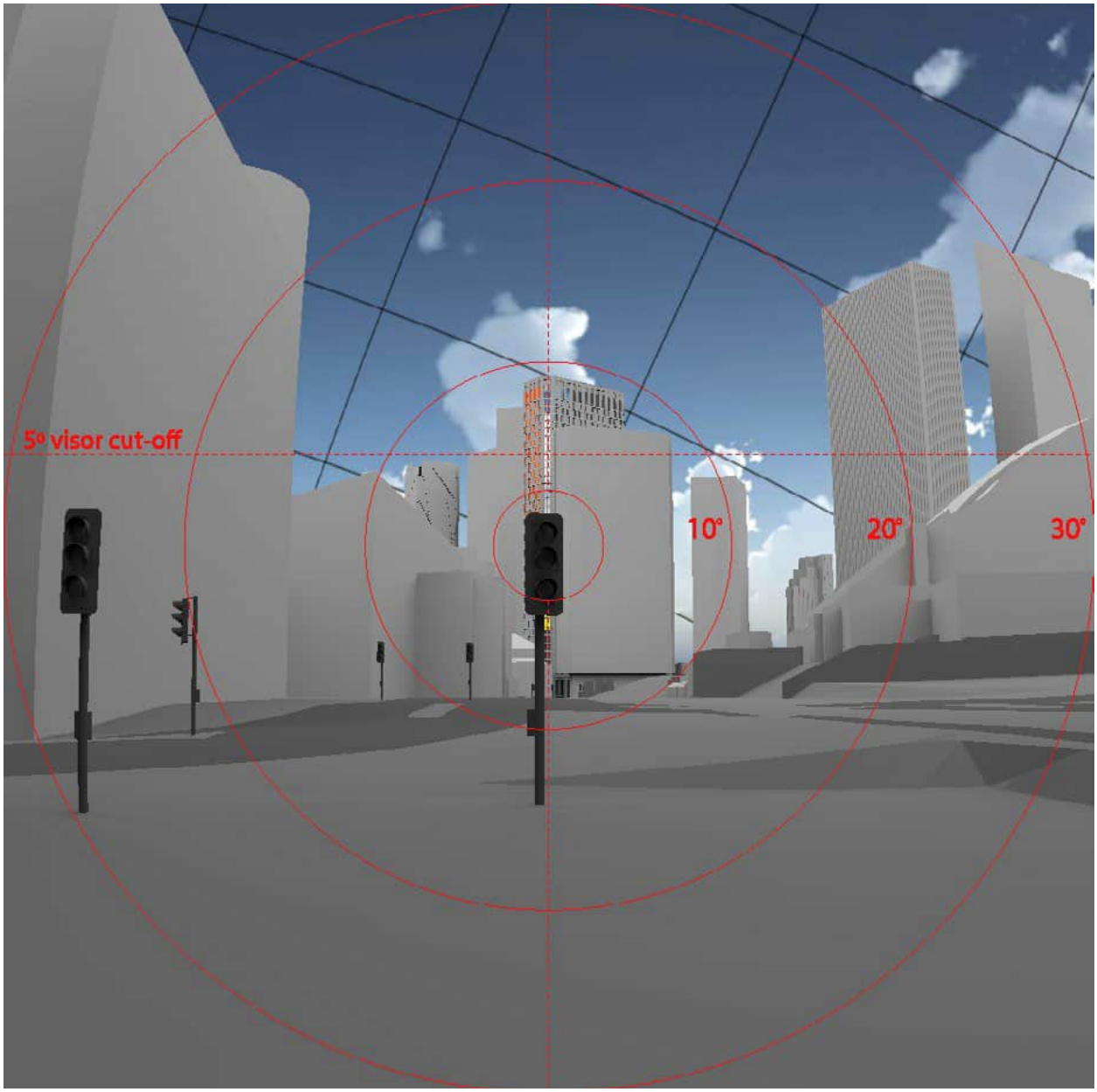
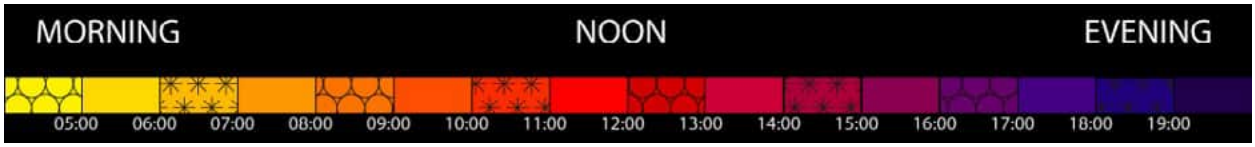


Fig. 12: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT LMS4b - LOOKING AT RIGHT TRAFFIC LIGHTS

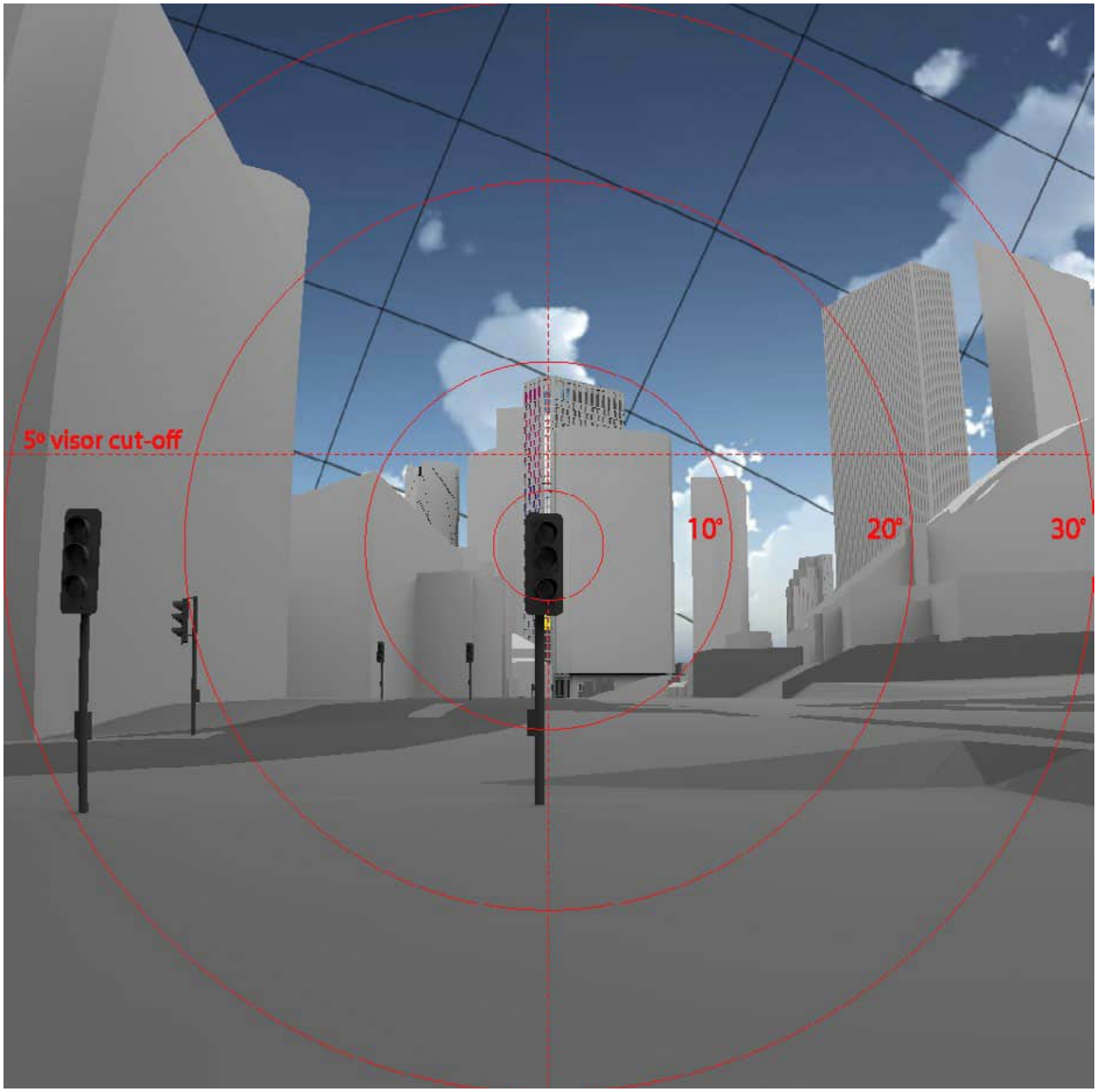


Fig. 13: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT LMS3 - LOOKING FORWARD

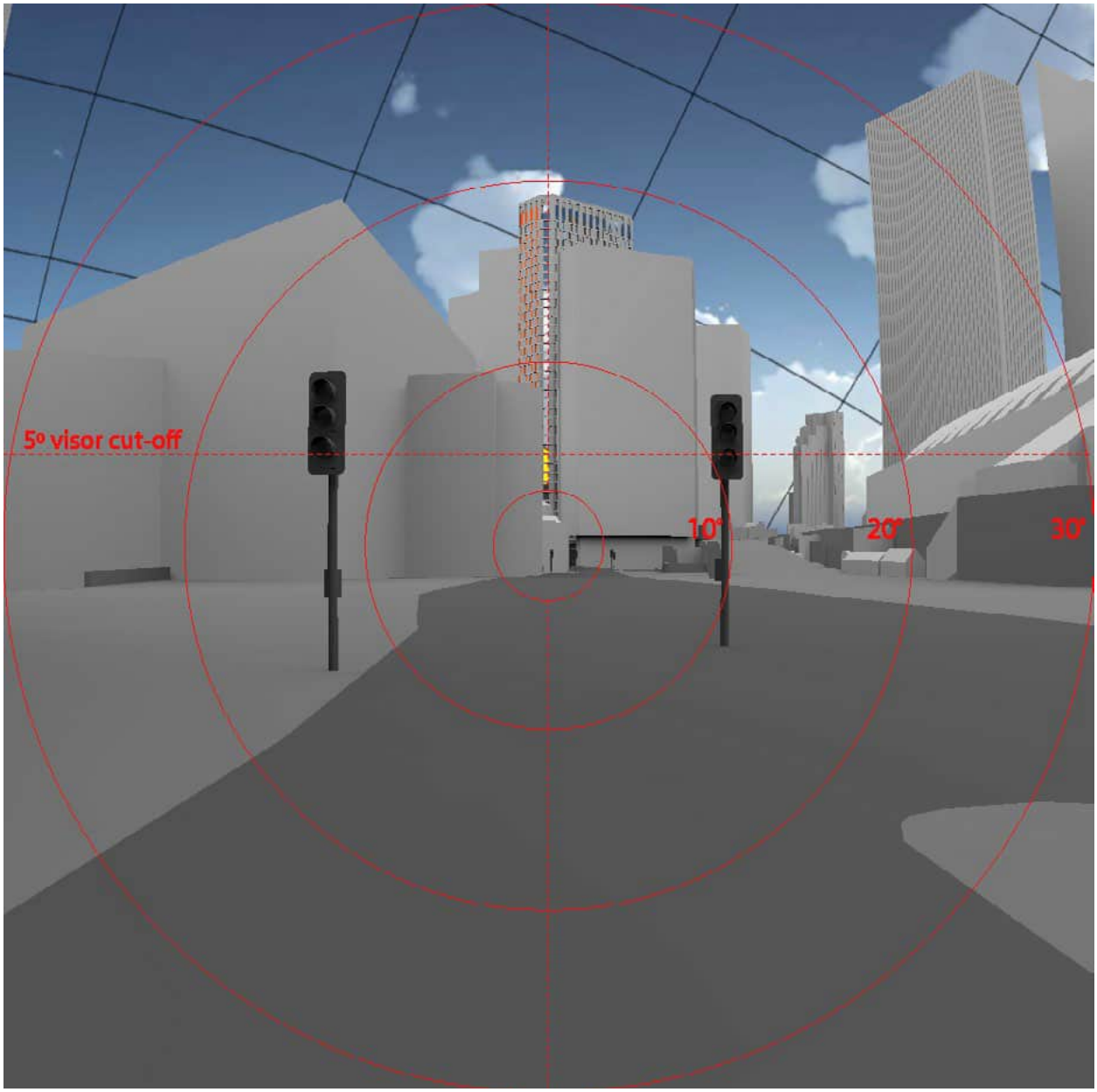
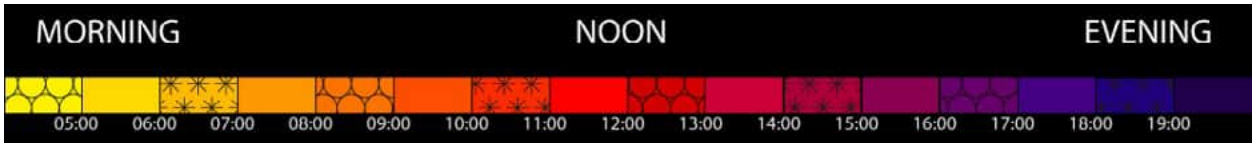


Fig. 14: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT LMS3 - LOOKING FORWARD

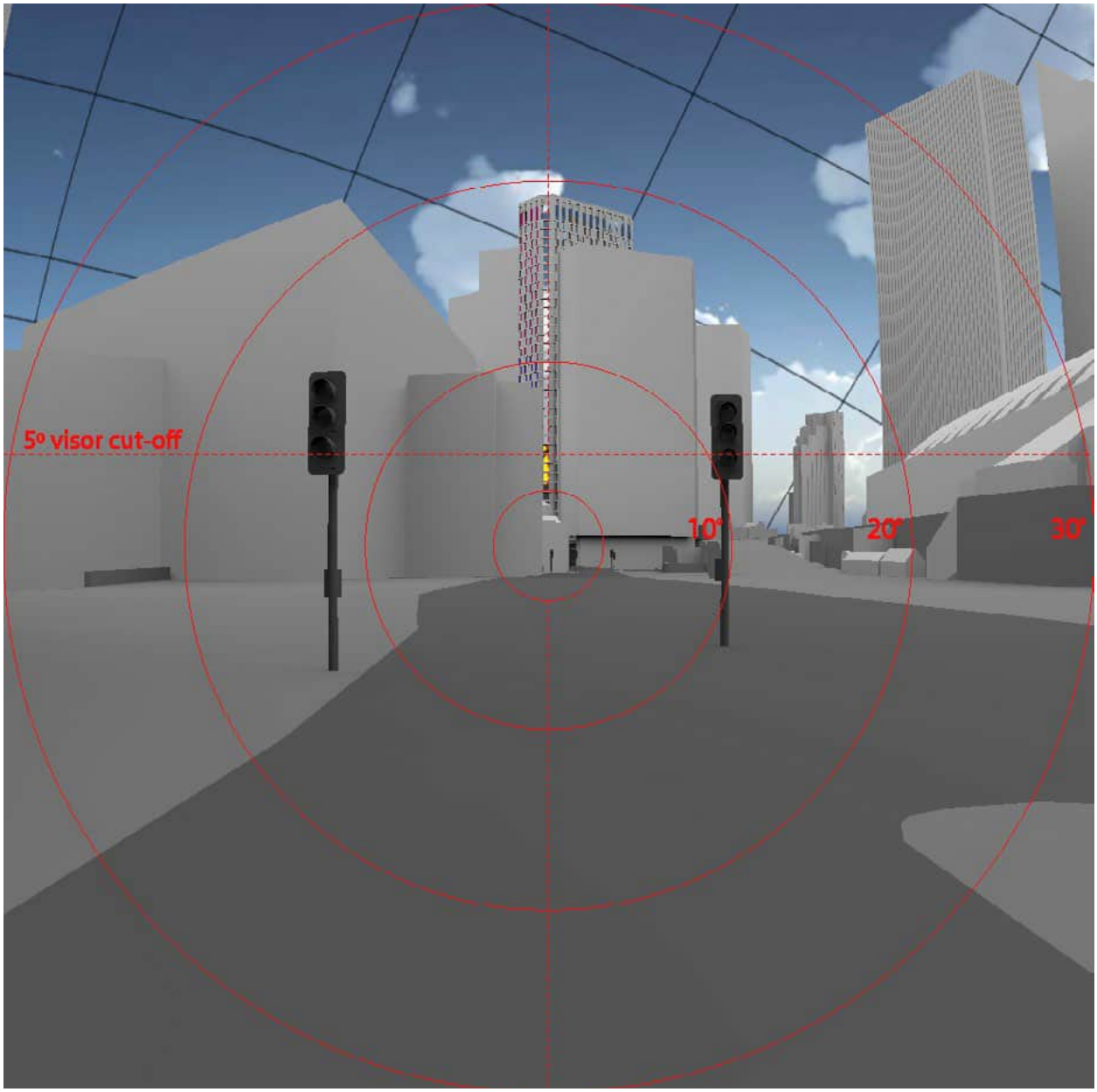


Fig. 15: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT LMS2a - LOOKING FORWARD

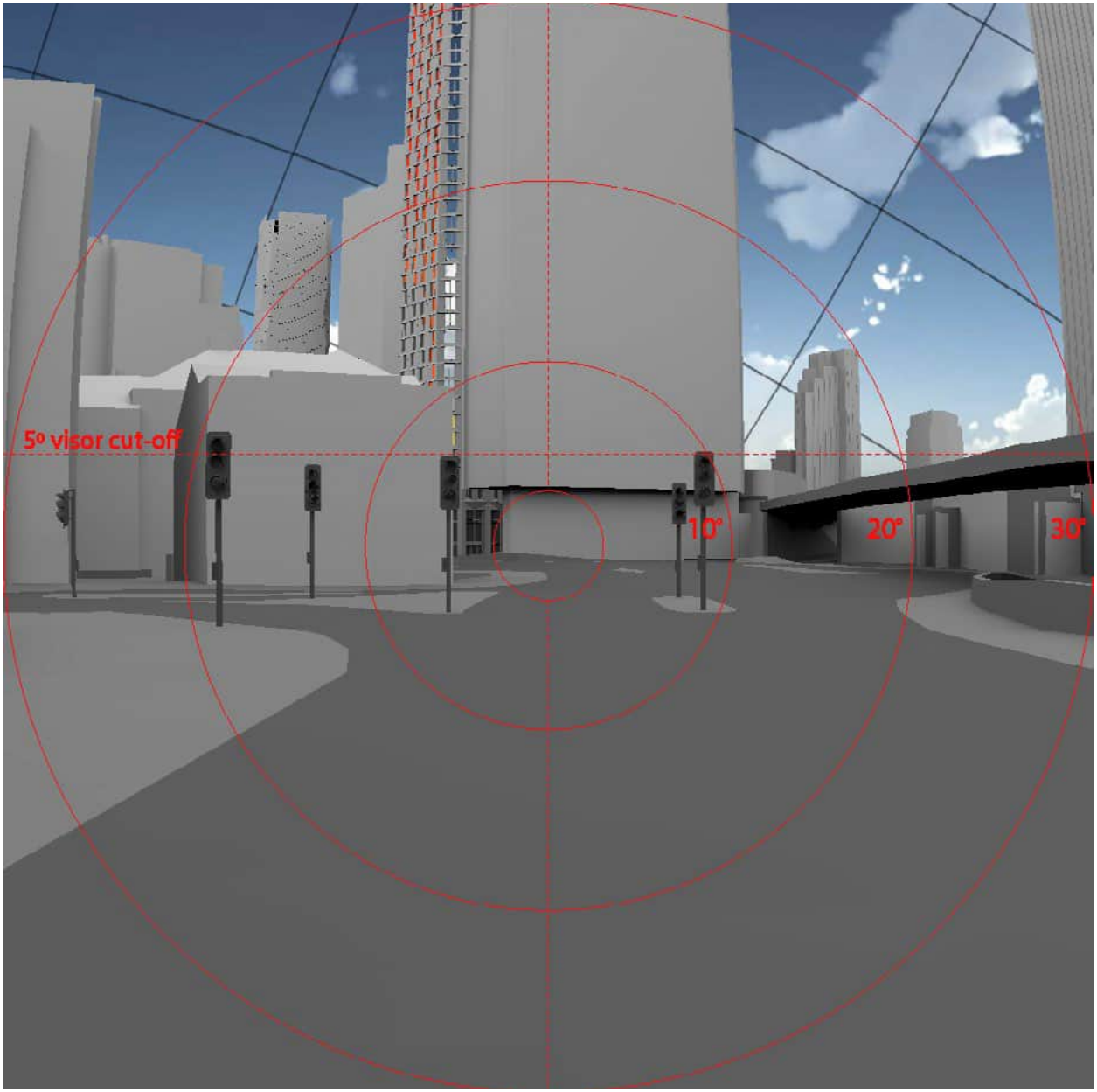
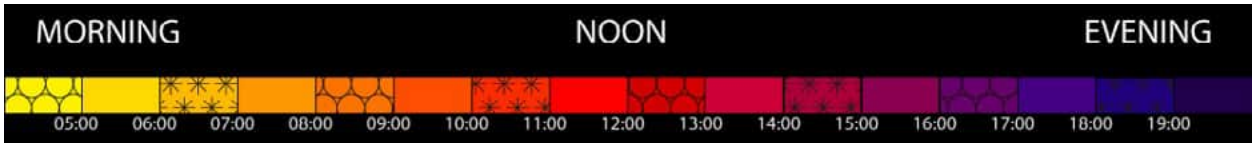


Fig. 16: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT LMS2a - LOOKING FORWARD

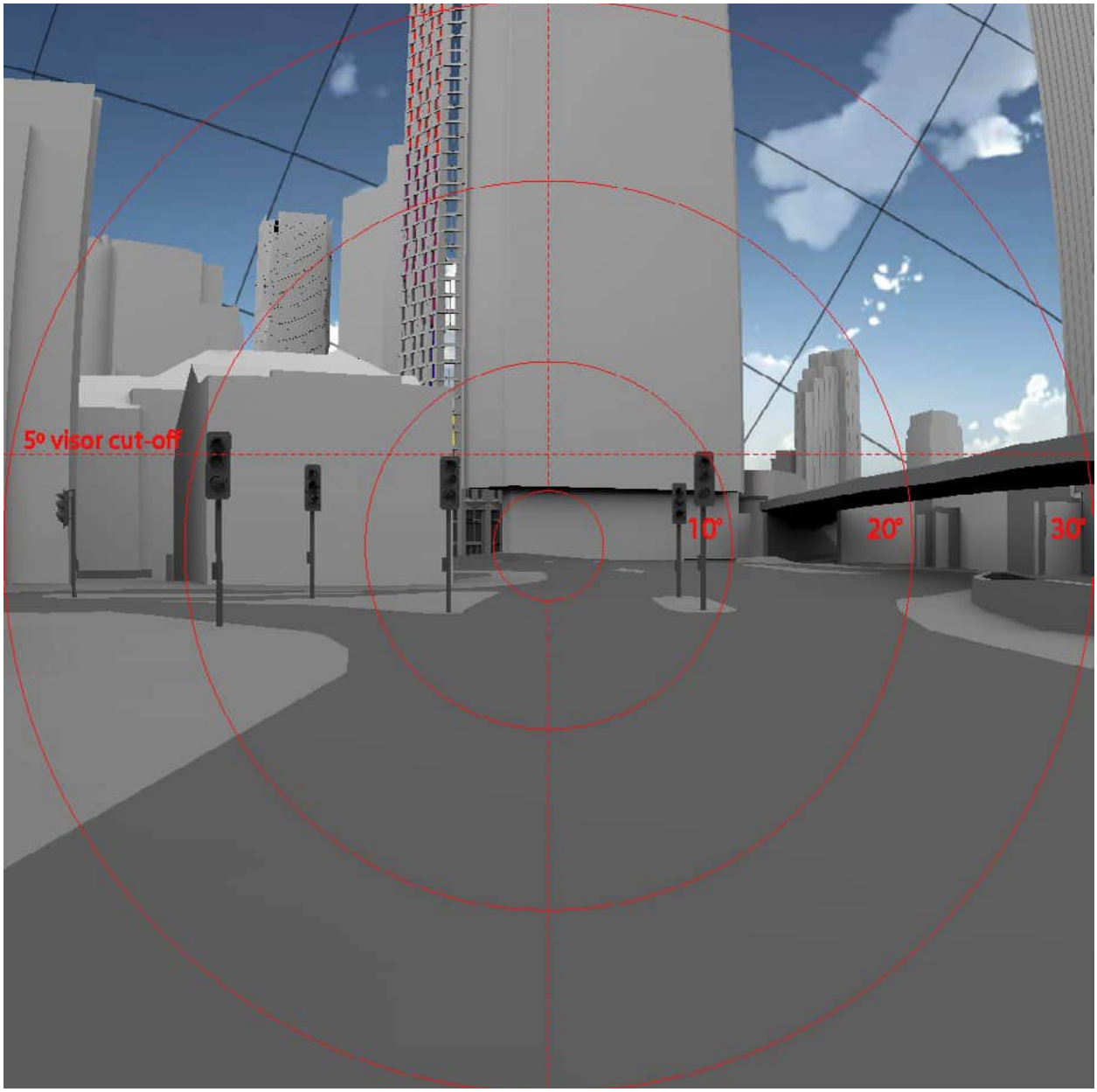


Fig. 17: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT LMS2b - LOOKING AT LEFT TRAFFIC LIGHTS

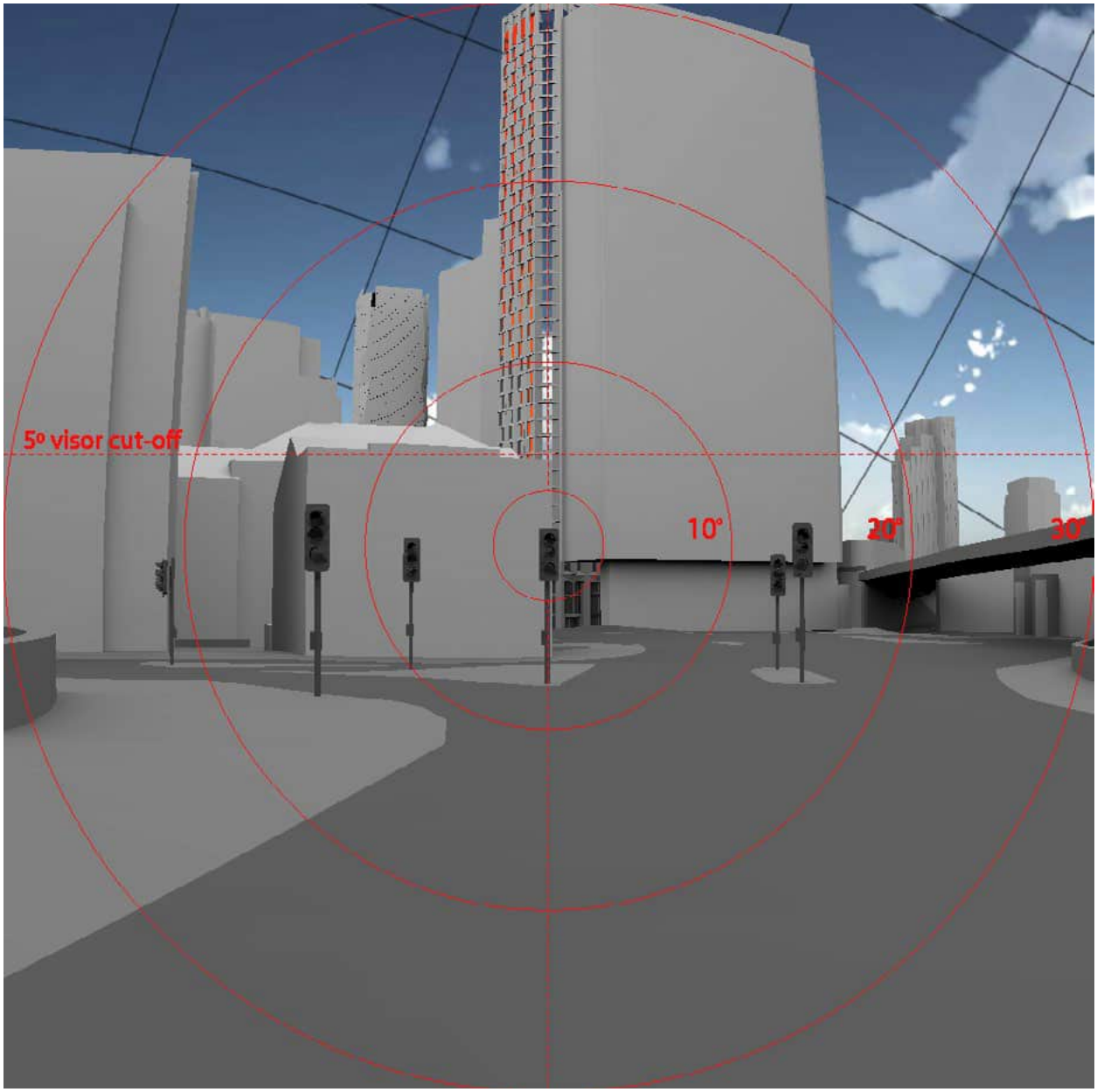
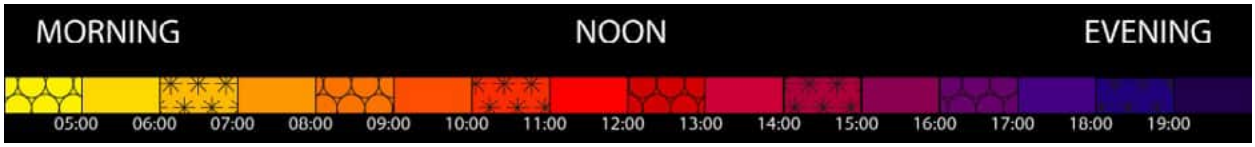


Fig. 18: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT LMS2b - LOOKING AT LEFT TRAFFIC LIGHTS

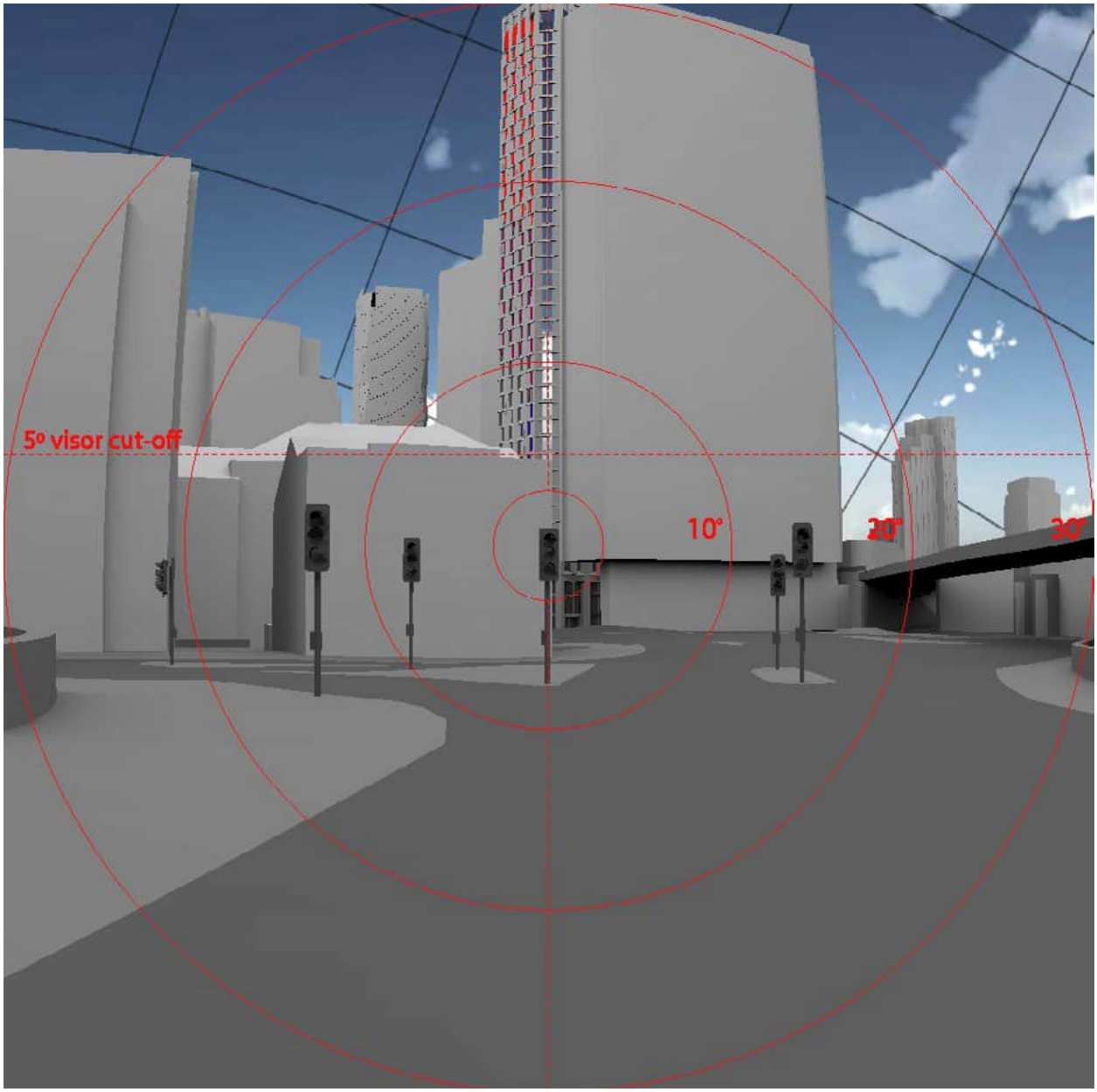


Fig. 19: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT ASa -RIGHT LANE, LOOKING FORWARD

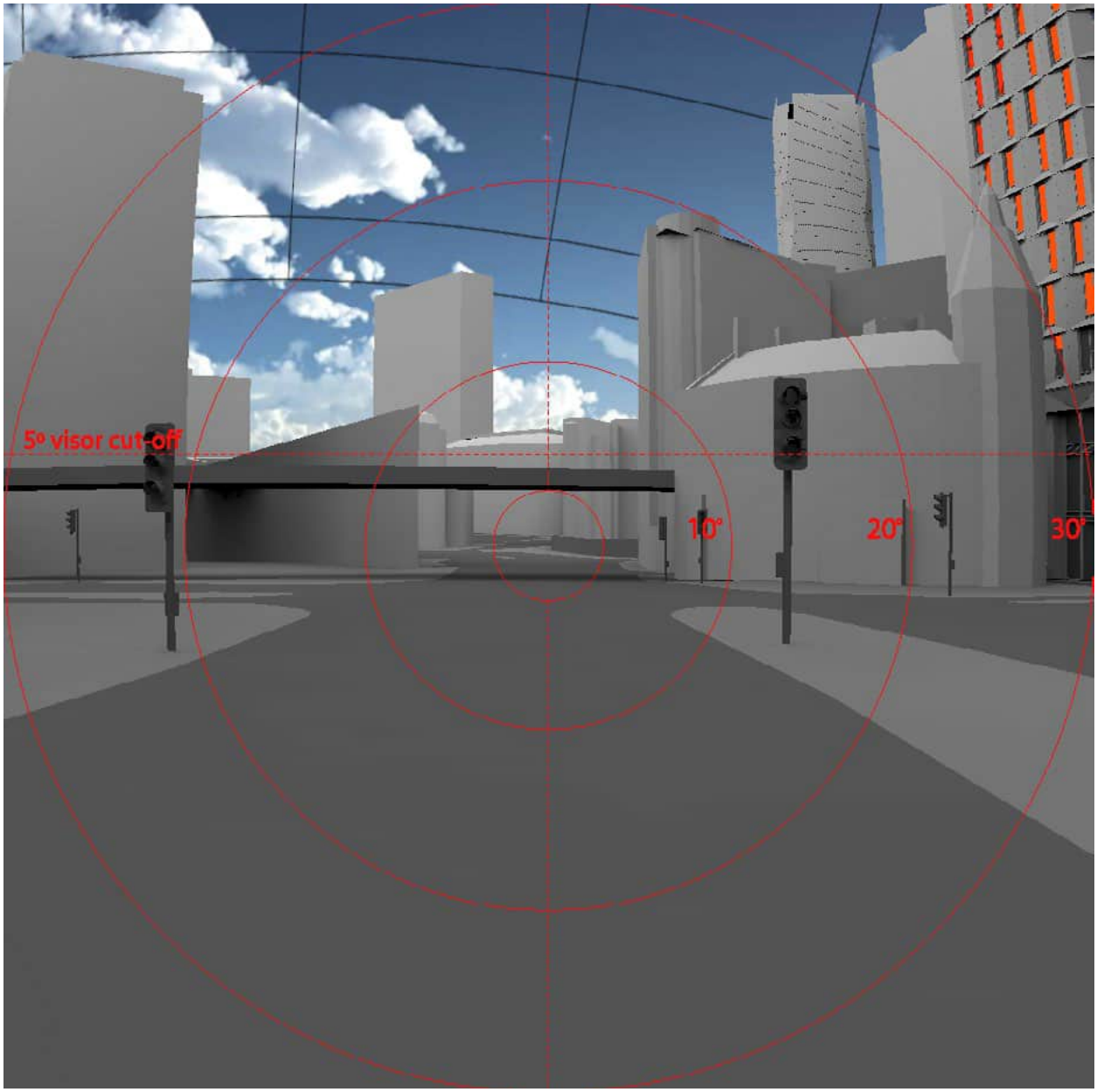
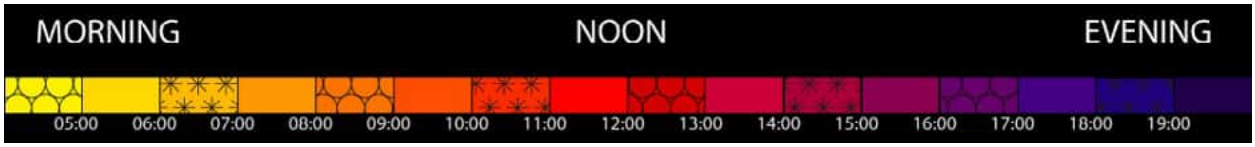


Fig. 20: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT ASa - RIGHT LANE, LOOKING FORWARD

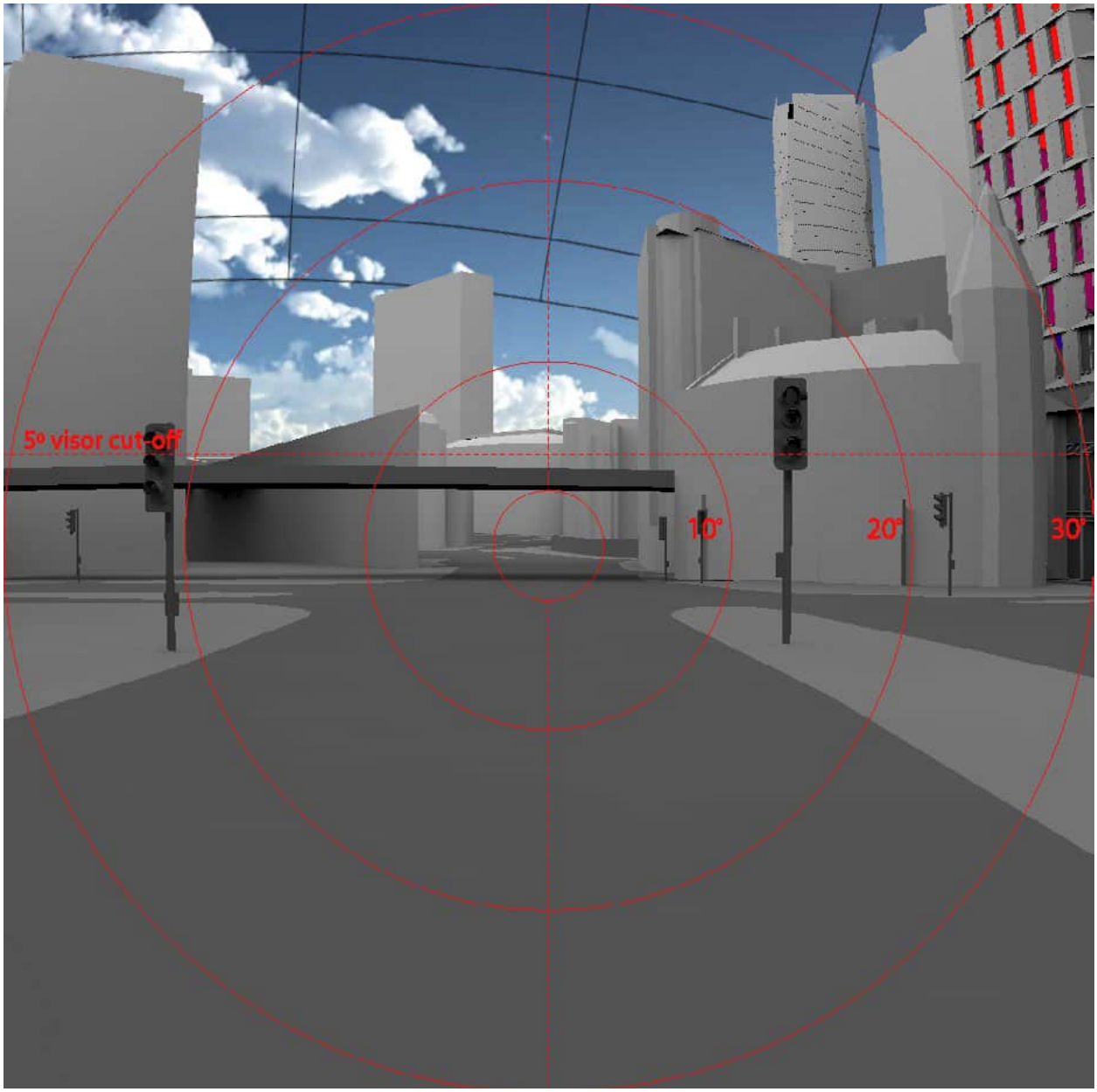


Fig. 21: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT ASb - RIGHT LANE, LOOKING AT RIGHT TRAFFIC LIGHTS

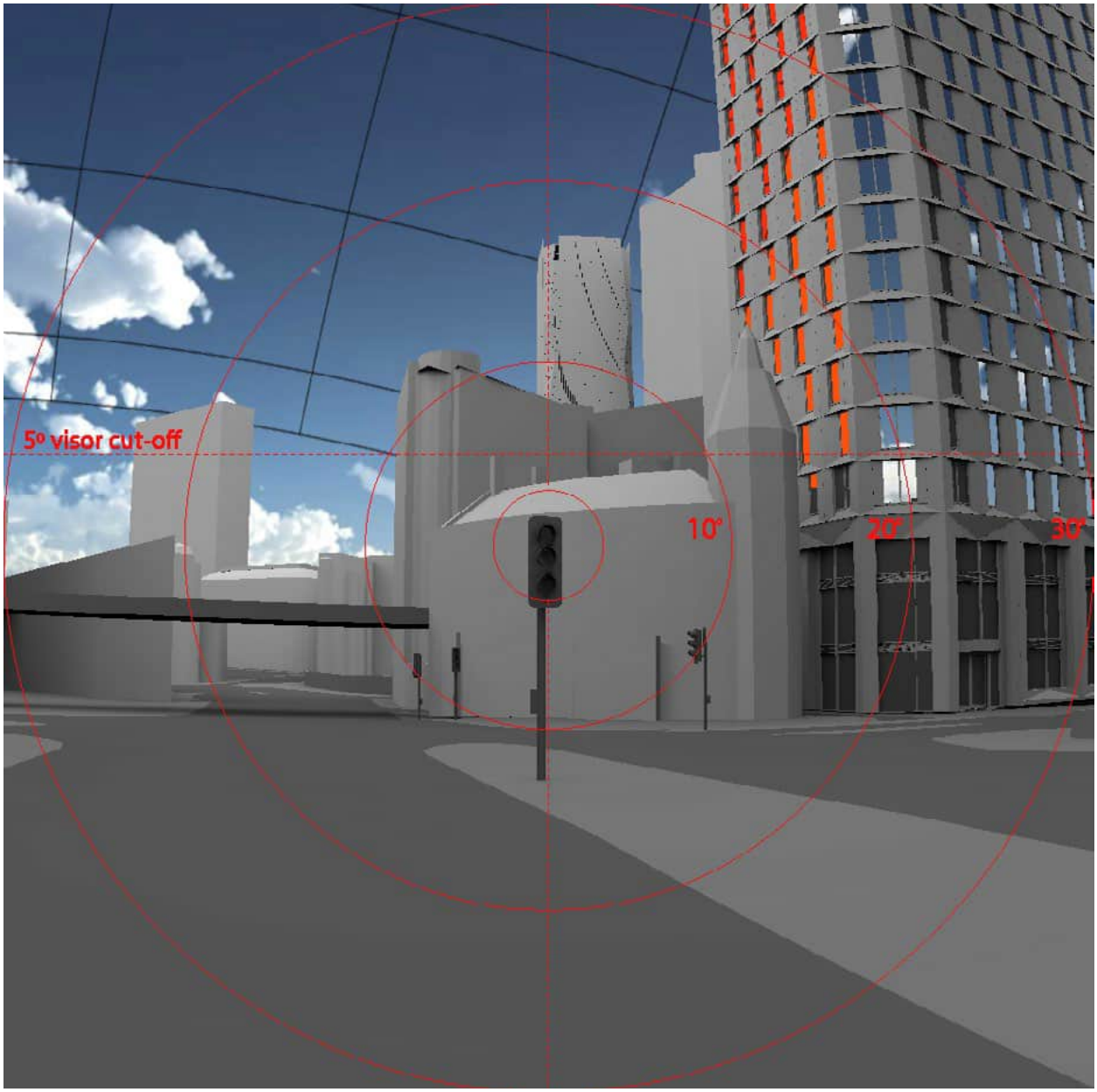
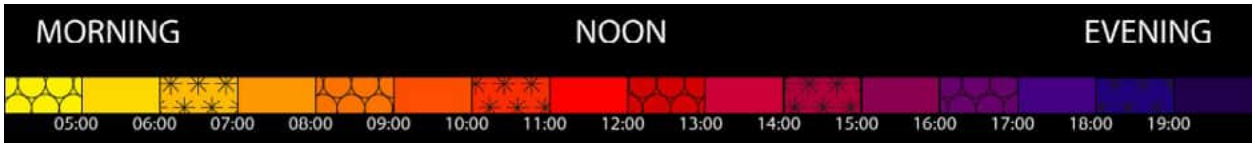


Fig. 22: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT ASb - RIGHT LANE, LOOKING AT RIGHT TRAFFIC LIGHTS

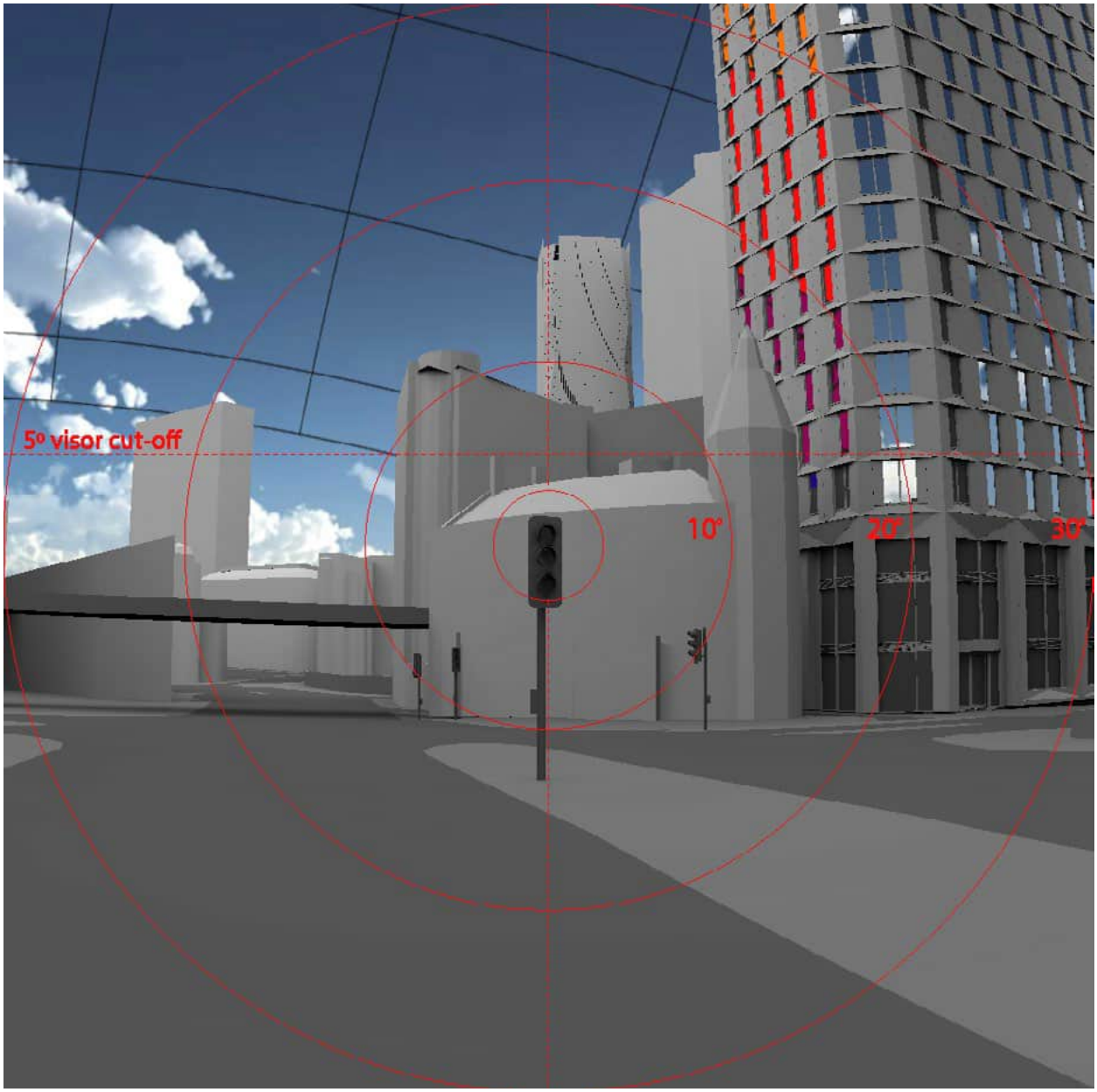


Fig. 23: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT WSW2a - LEFT LANE, LOOKING FORWARD

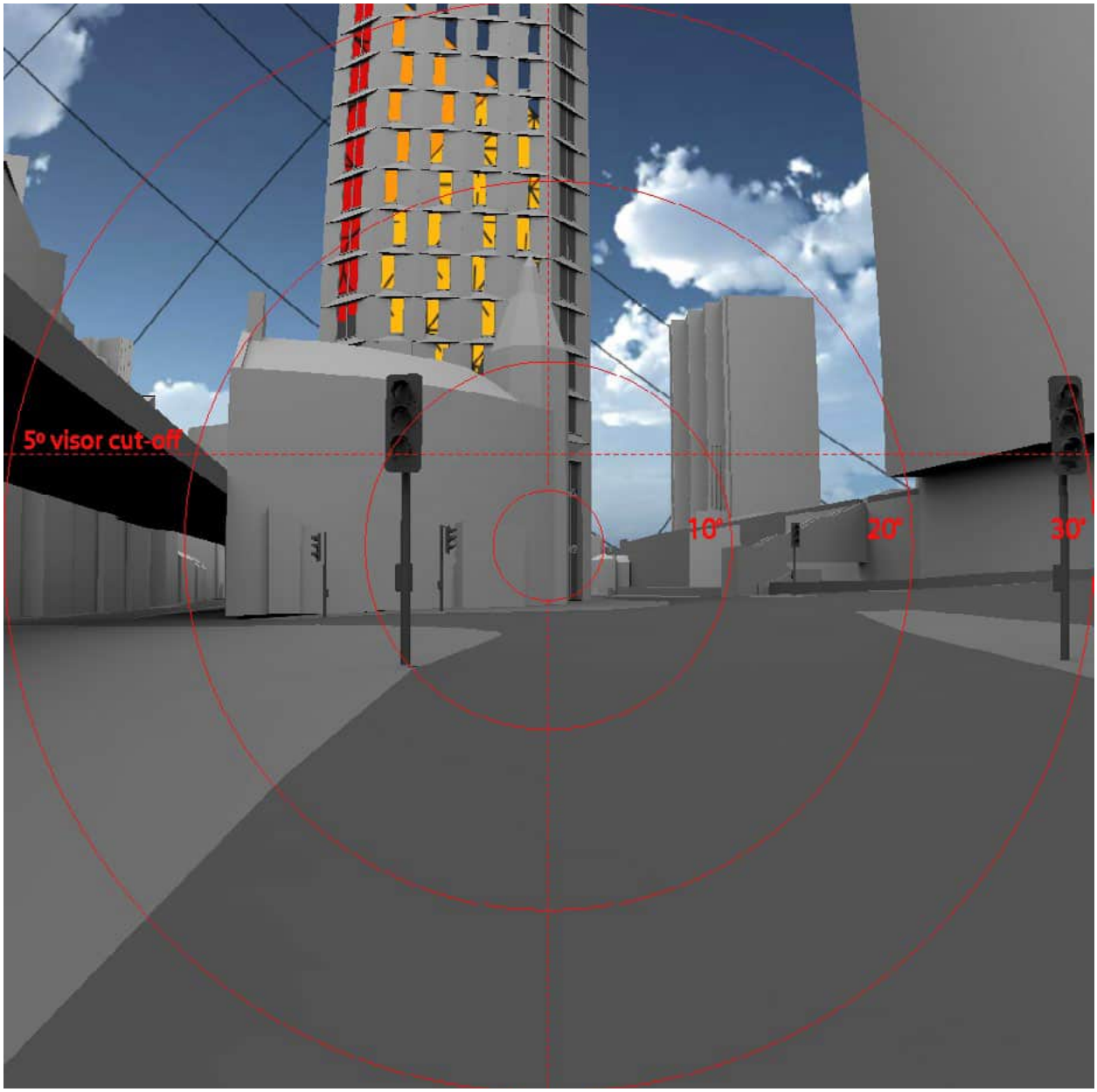
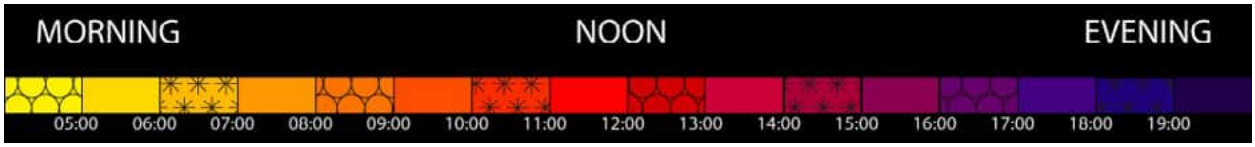


Fig. 24: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT WSW2a - LEFT LANE, LOOKING FORWARD

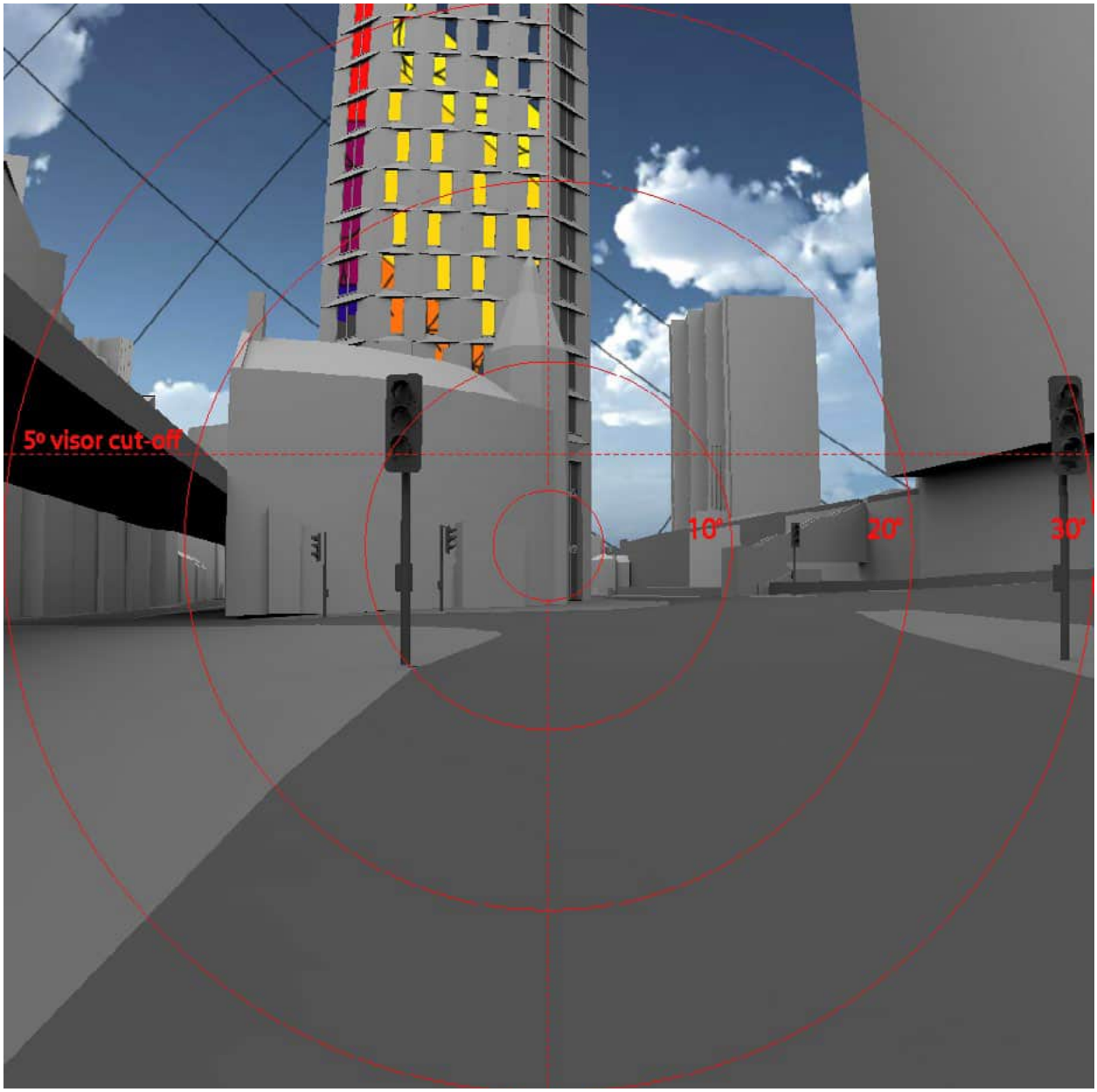


Fig. 25: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT WSW2b - LEFT LANE, LOOKING AT LEFT TRAFFIC LIGHT

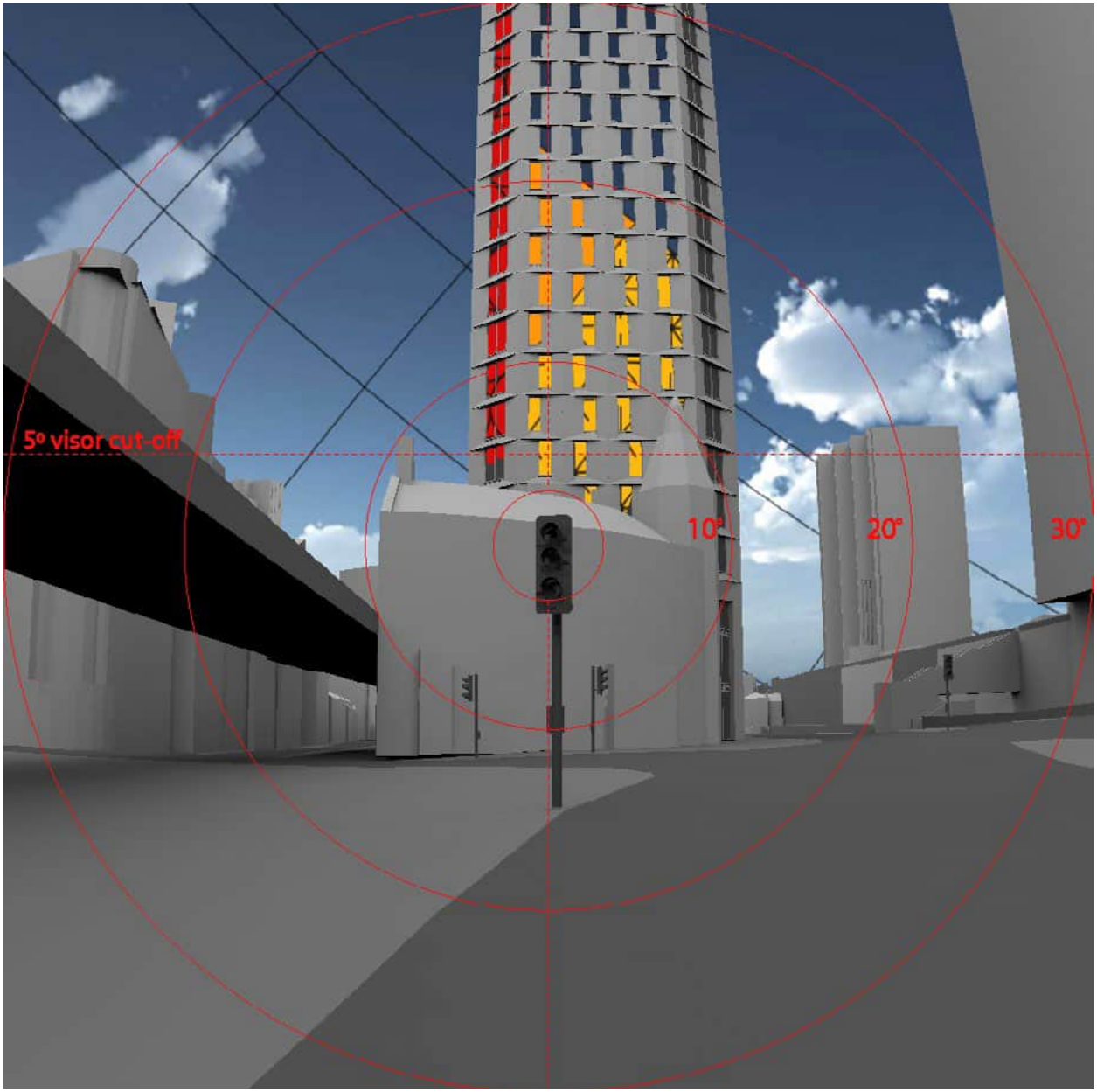
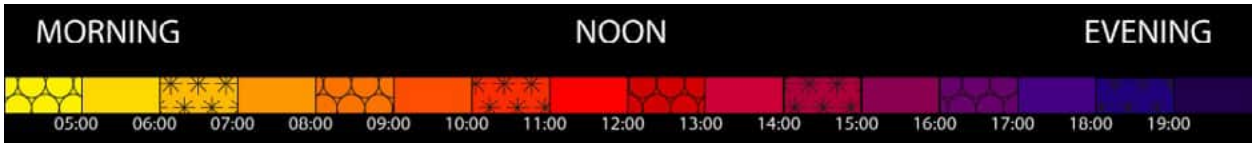


Fig. 26: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT WSW2b - LEFT LANE, LOOKING AT LEFT TRAFFIC LIGHT

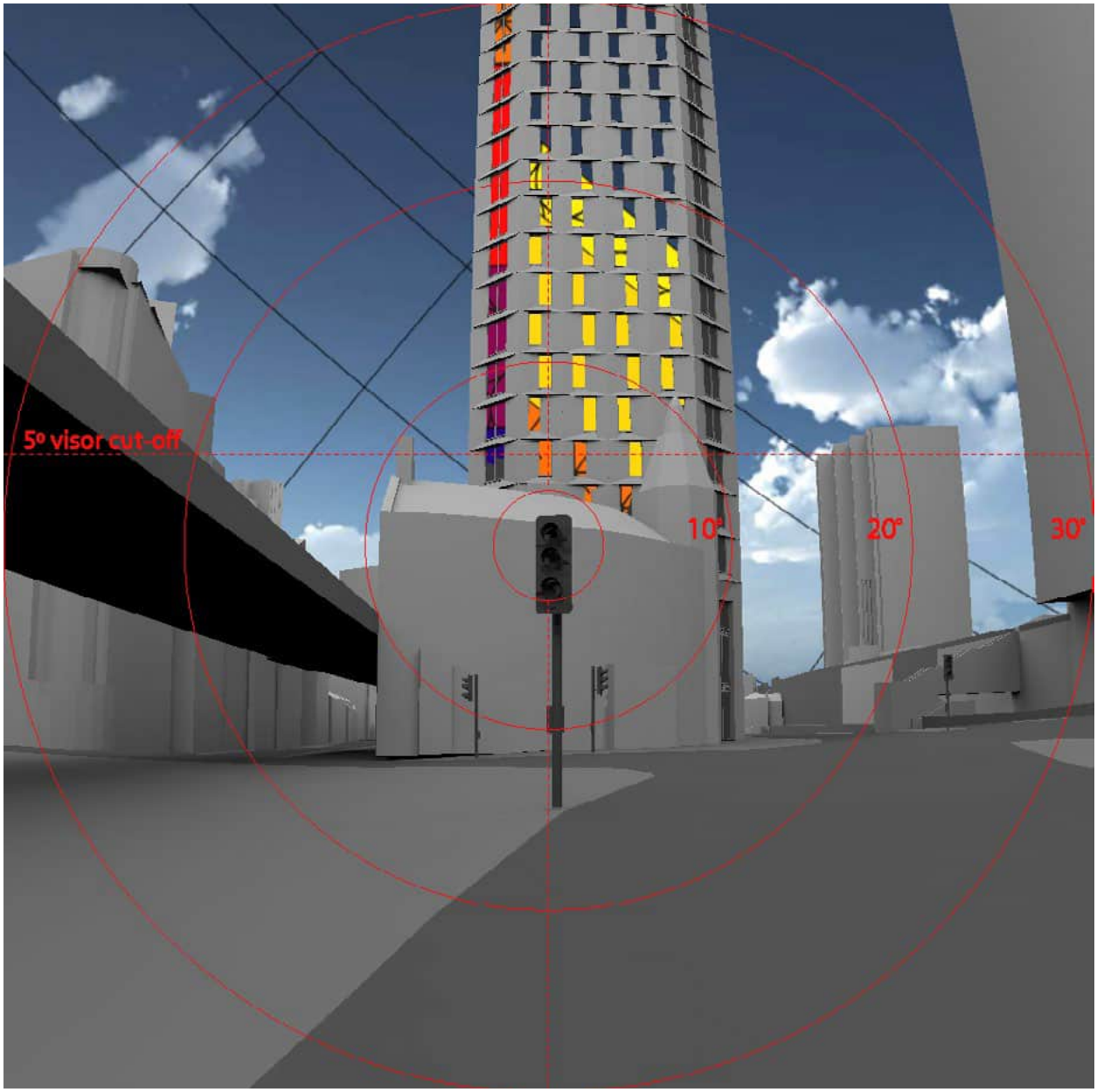


Fig. 27: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT MS1 - LEFT LANE, LOOKING AT LEFT TRAFFIC LIGHTS

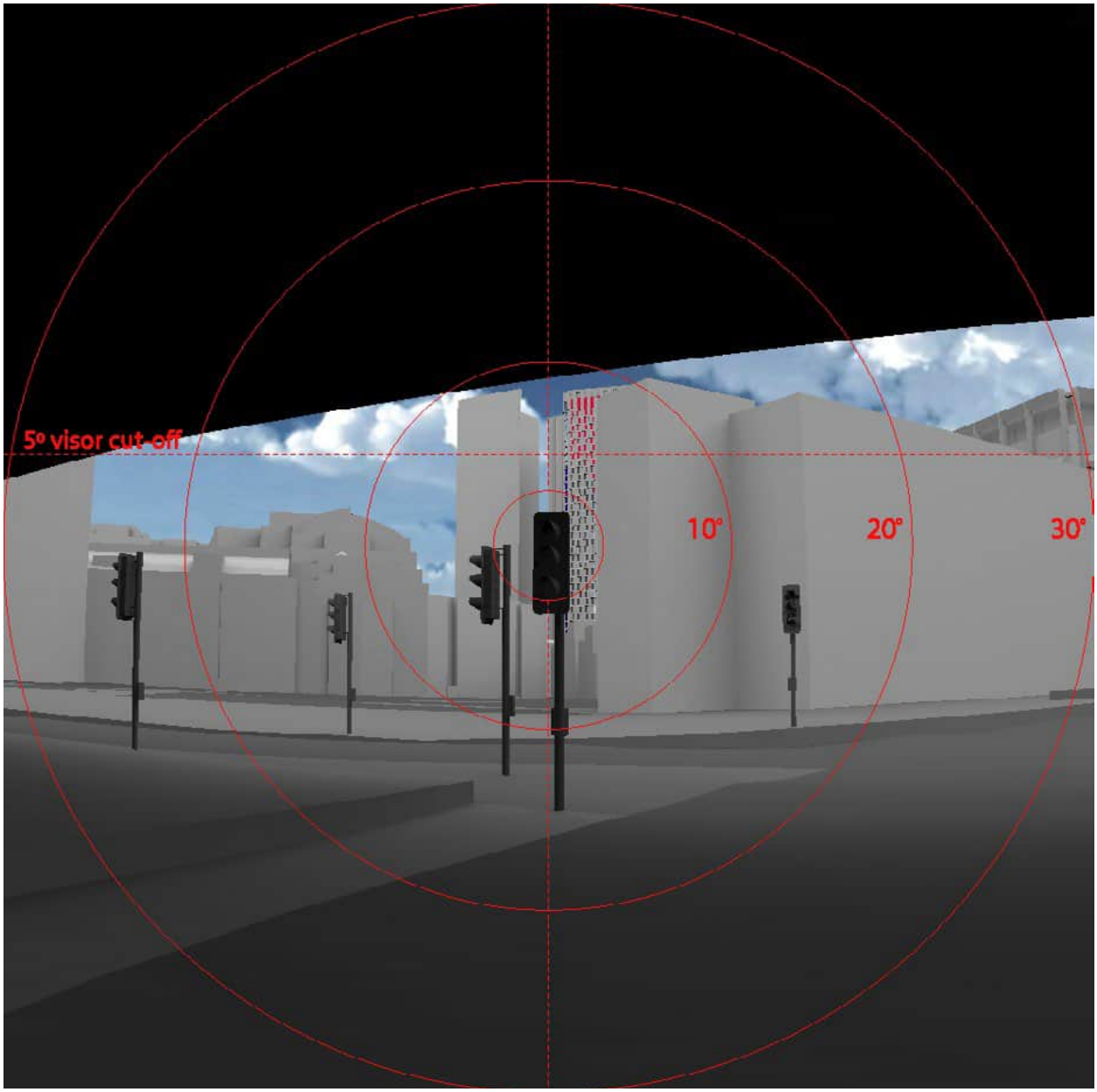
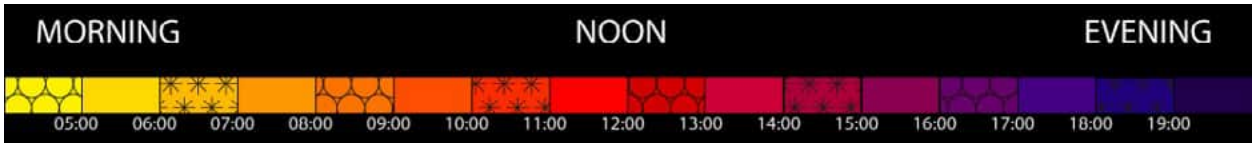


Fig. 28: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT MS1 - LEFT LANE, LOOKING AT LEFT TRAFFIC LIGHTS

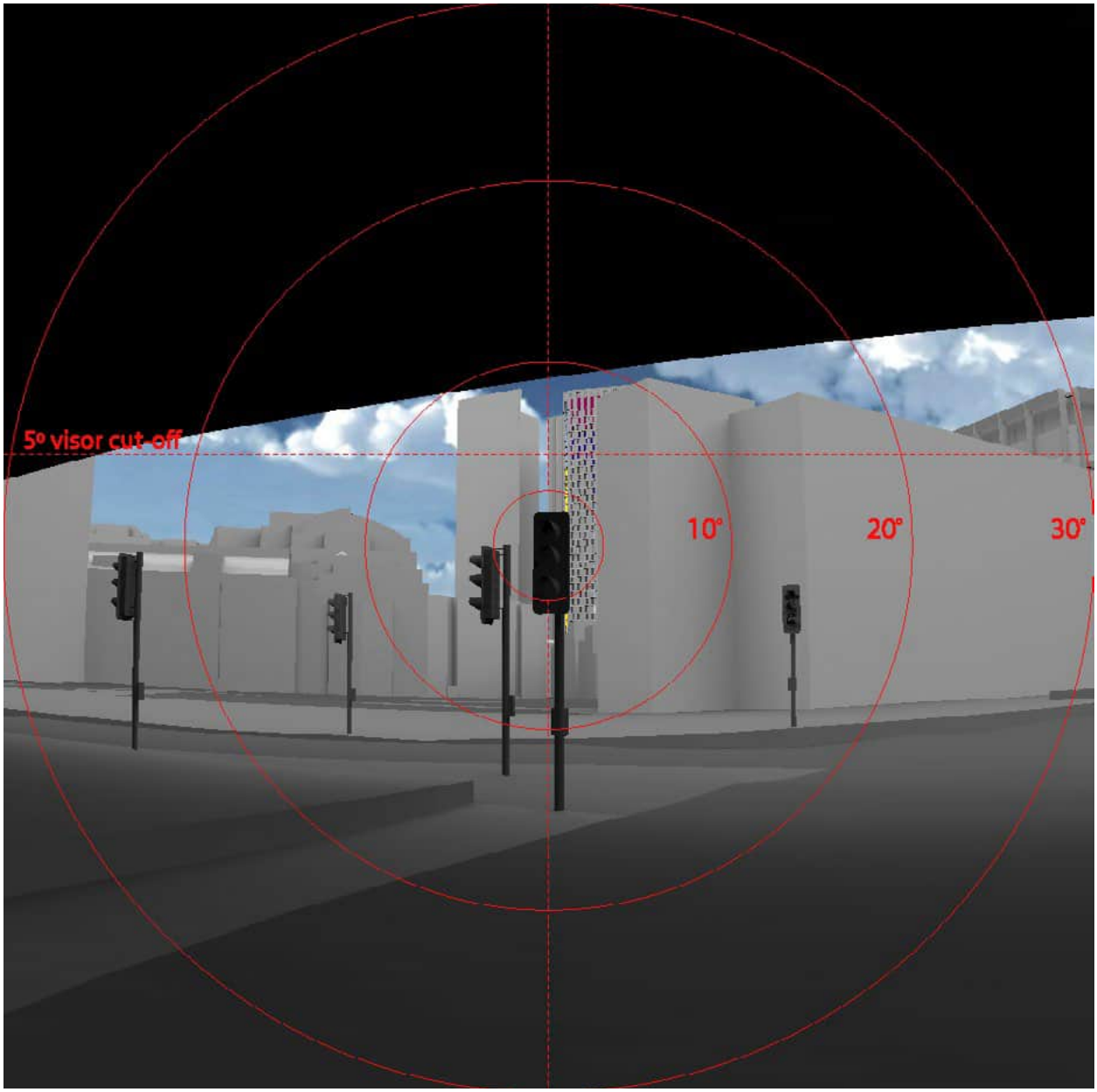


Fig. 29: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT TRAM 1 - SOUTHBOUND TO DEANSGATE-CASTLEFIELD

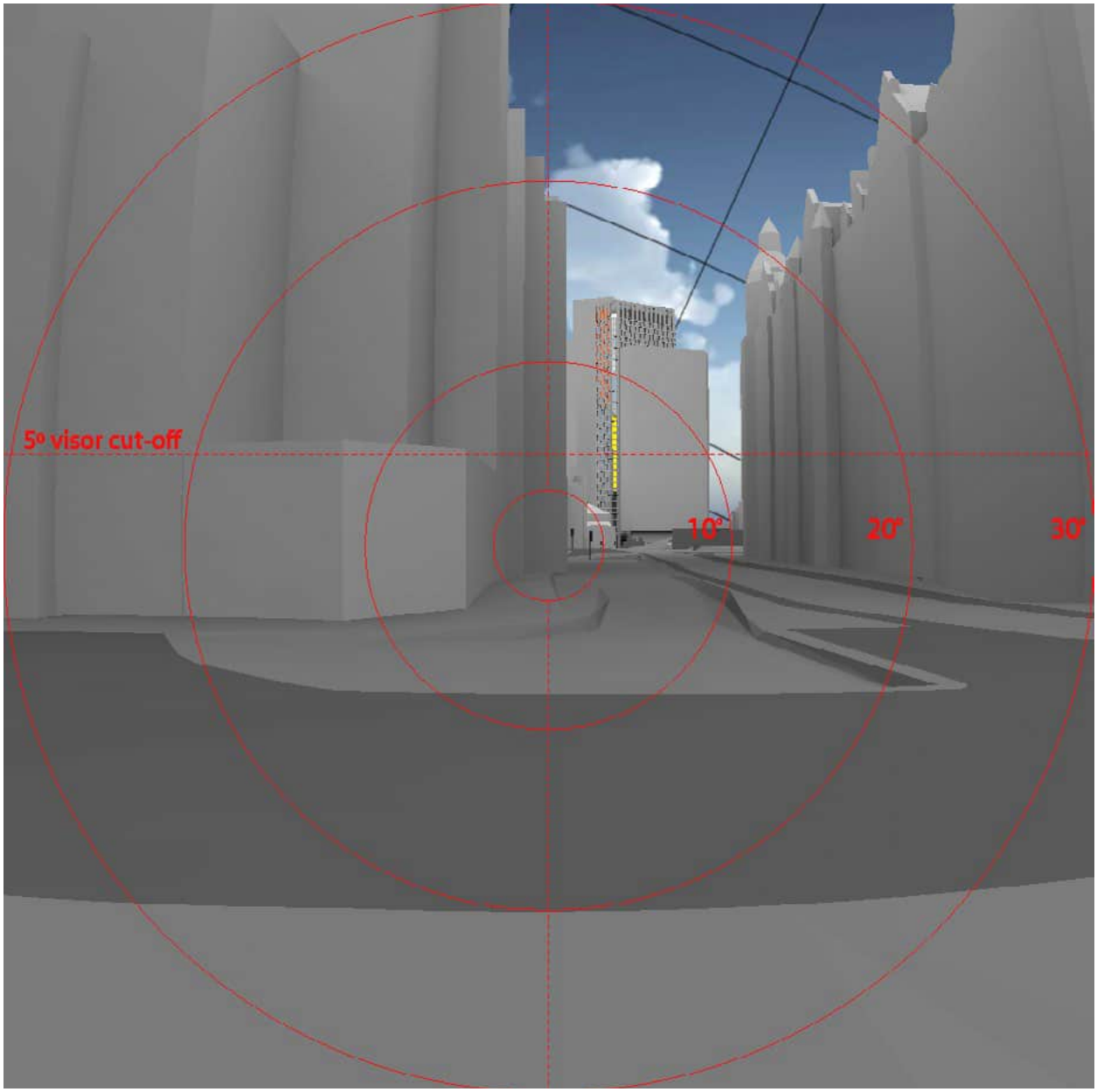
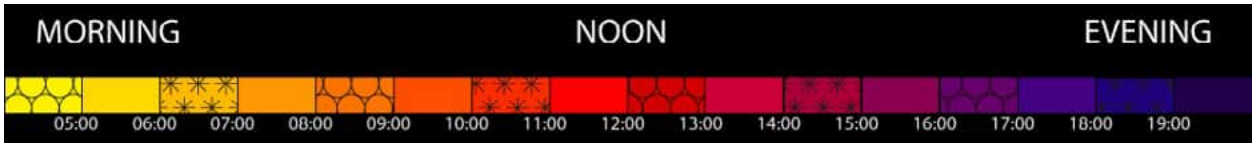


Fig. 30: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT TRAM 1 - SOUTHBOUND TO DEANSGATE-CASTLEFIELD

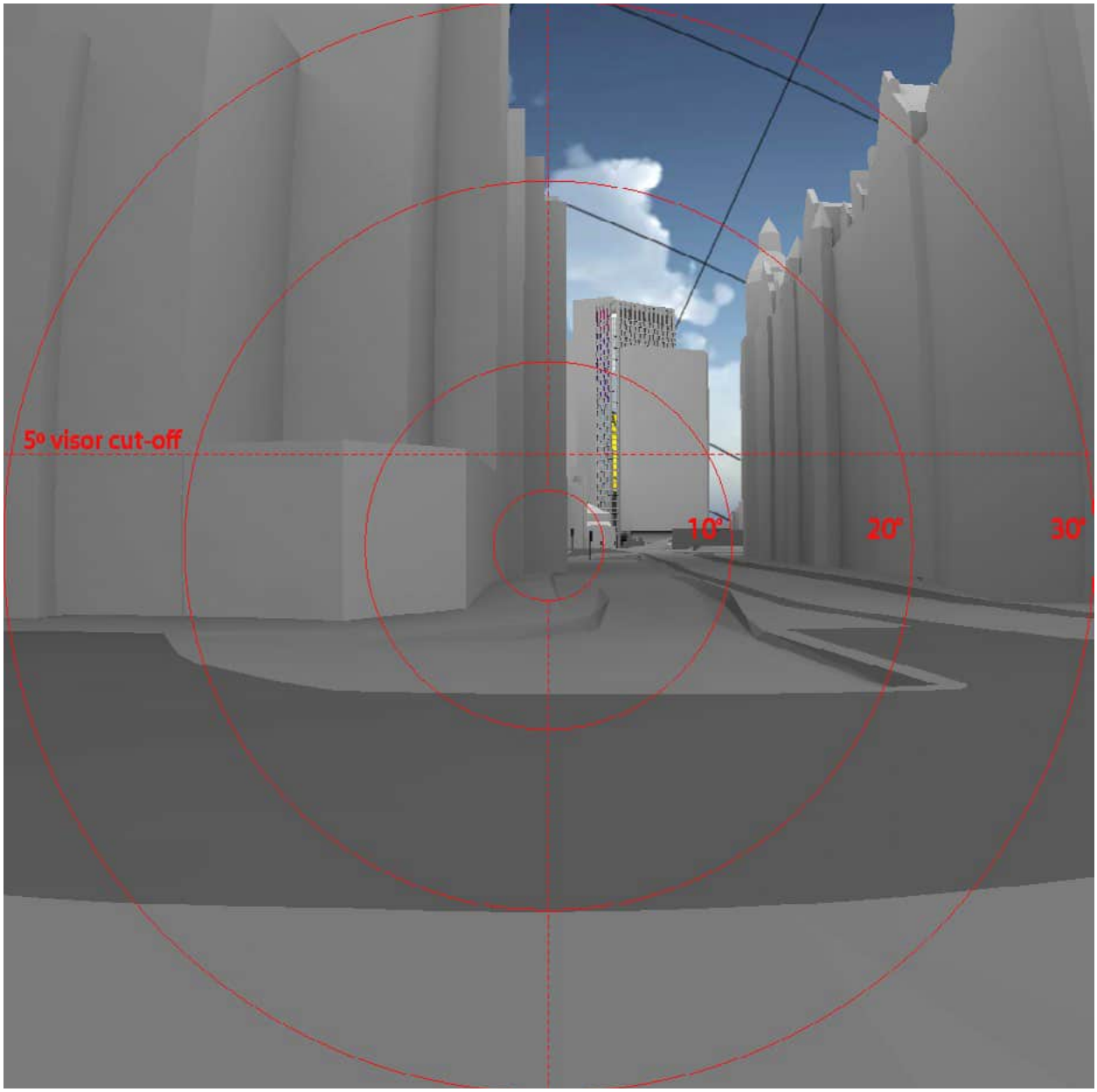


Fig. 31: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT TRAM 2 - SOUTHBOUND TO DEANSGATE-CASTLEFIELD

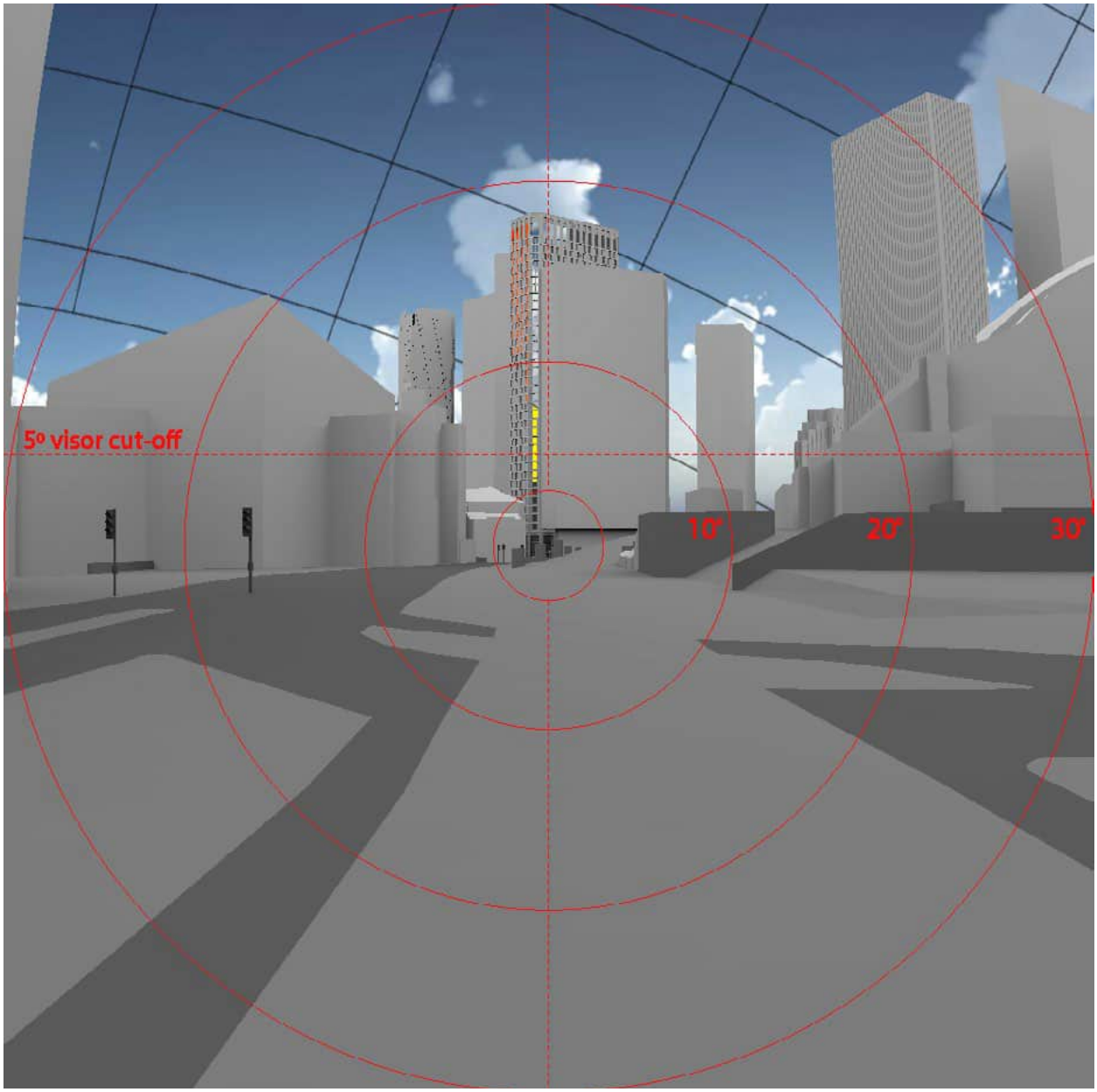
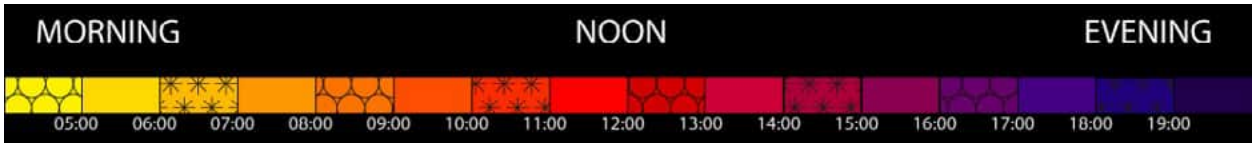


Fig. 32: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT TRAM 2 - SOUTHBOUND TO DEANSGATE-CASTLEFIELD

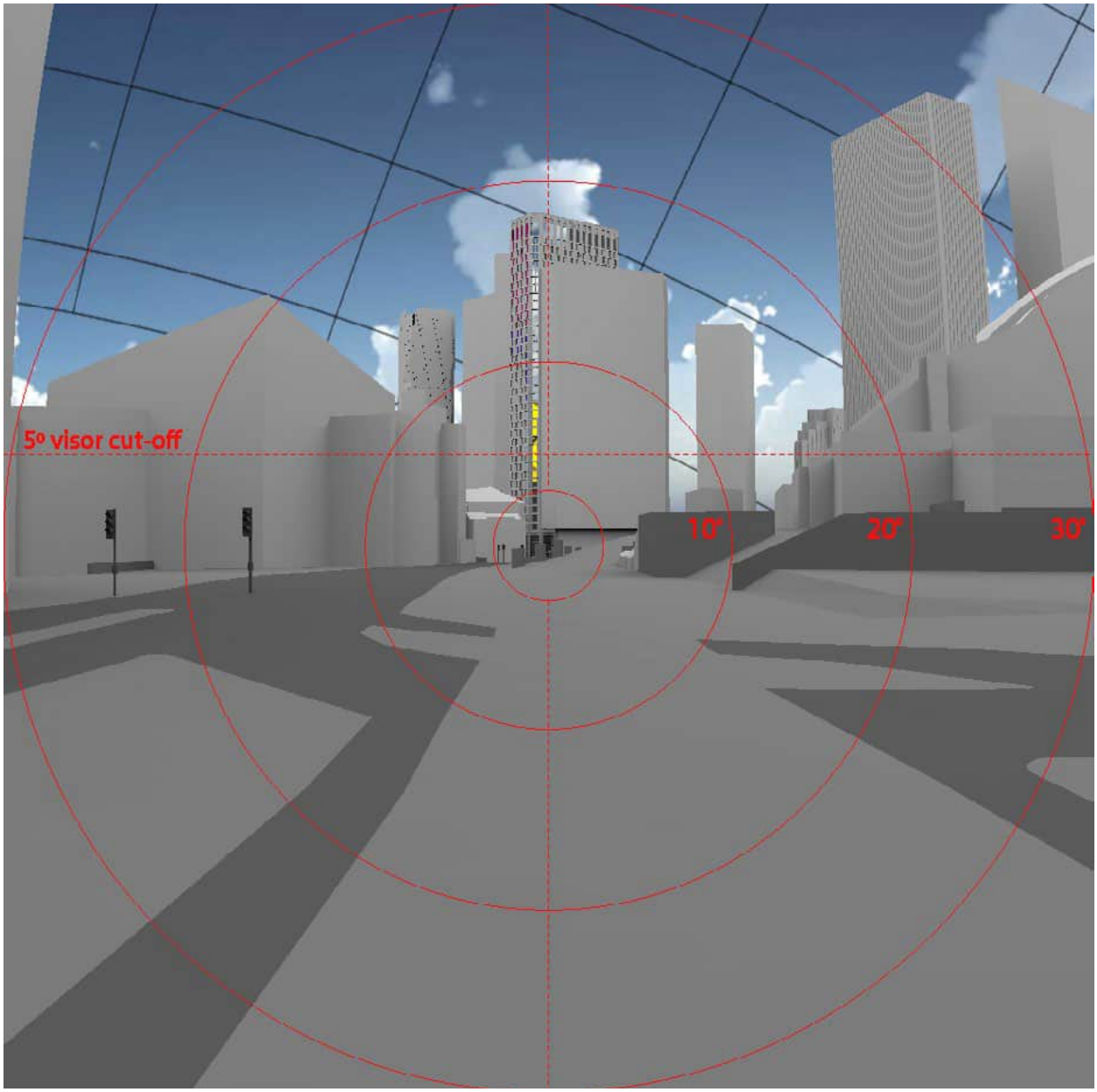


Fig. 33: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT TRAM 3 - EASTBOUND TO DEANSGATE-CASTLEFIELD

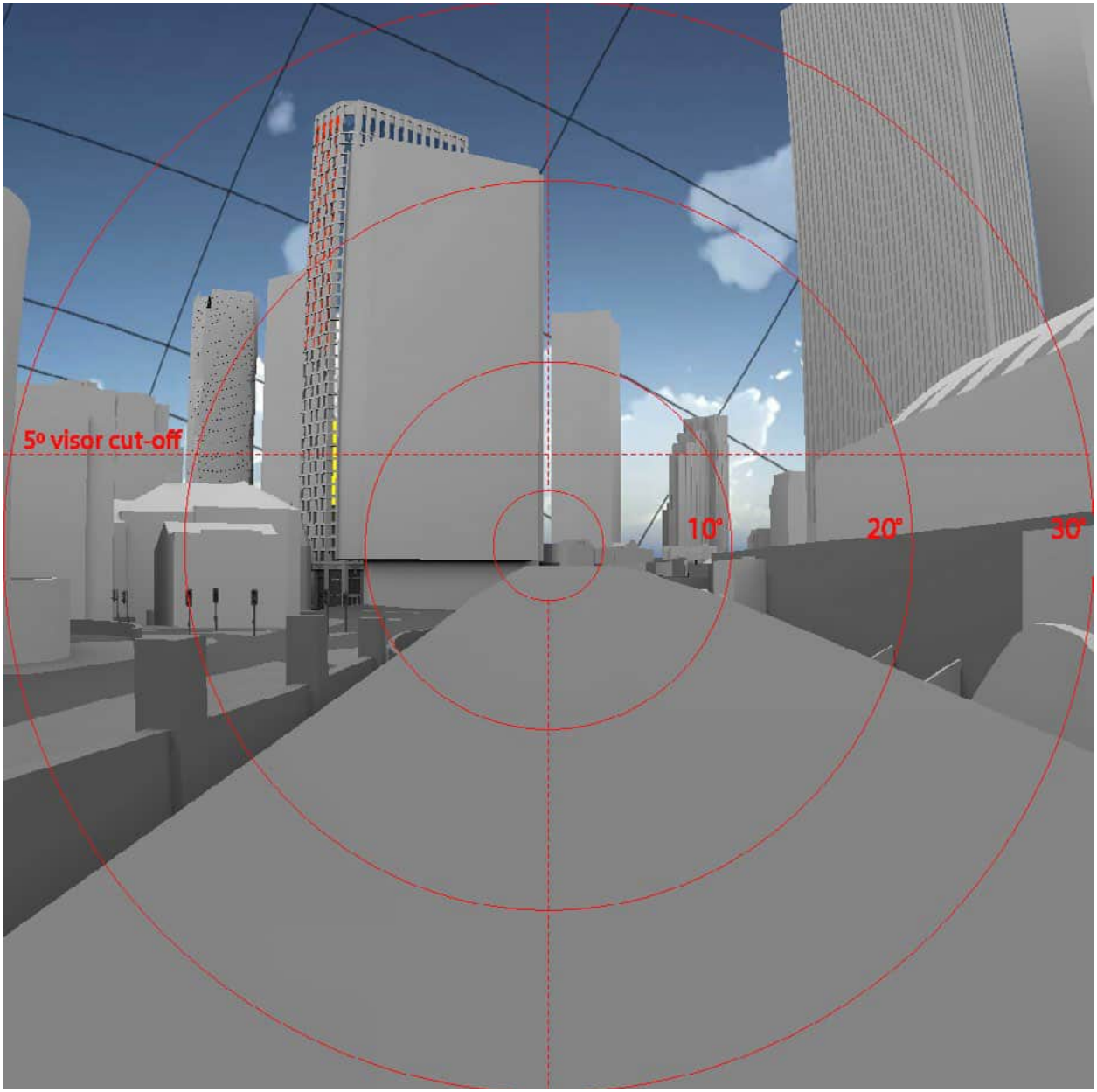
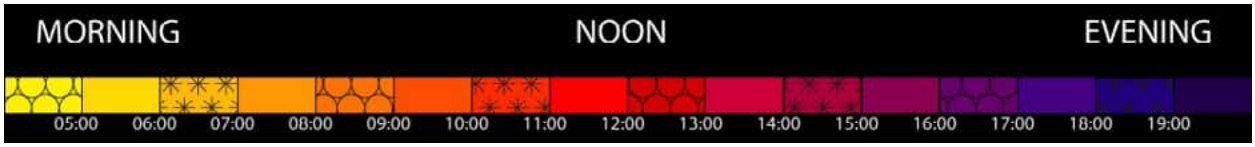


Fig. 34: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT TRAM 3 - EASTBOUND TO DEANSGATE-CASTLEFIELD

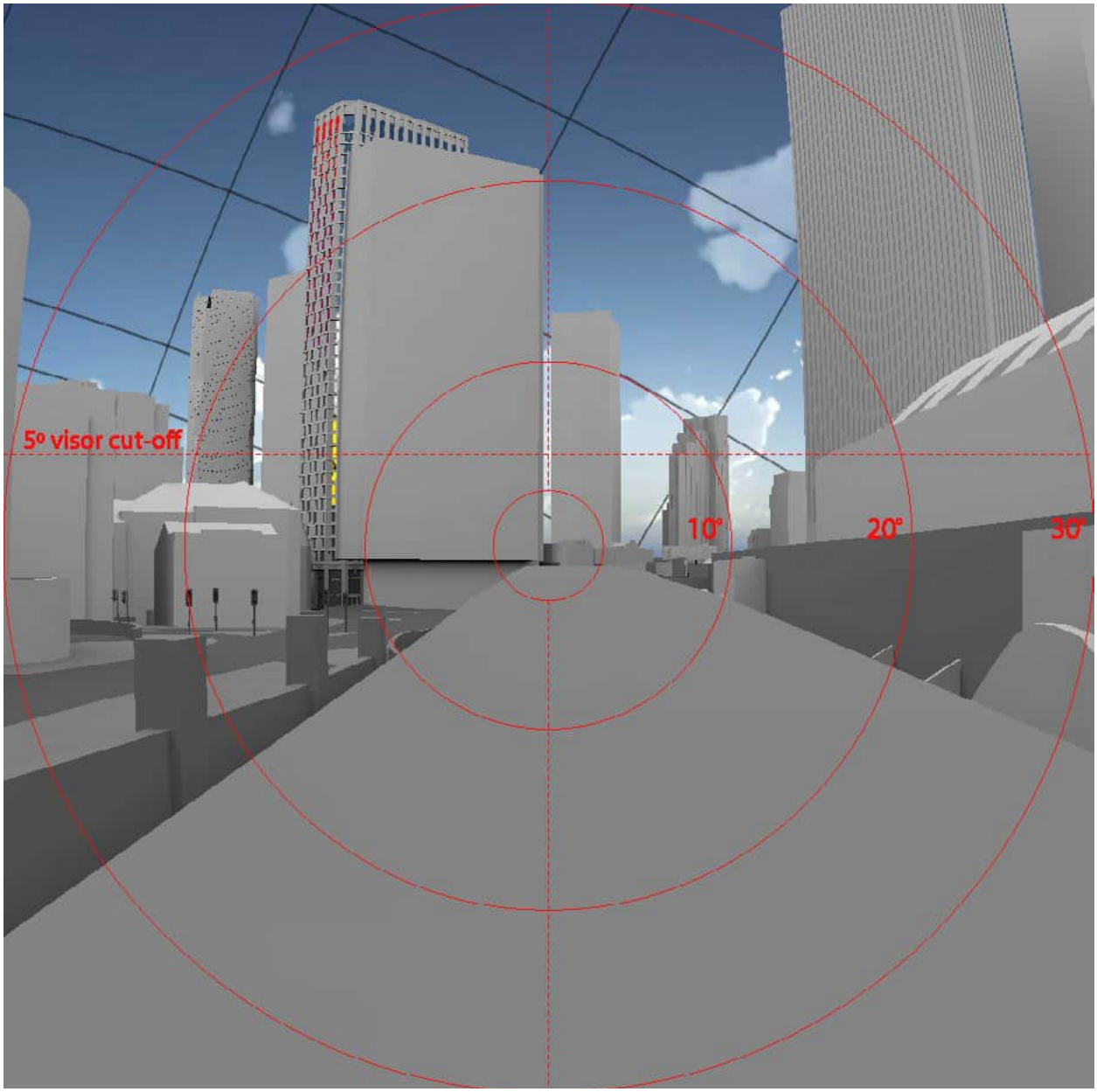


Fig. 35: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT TRAM 5 - EASTBOUND TO DEANSGATE-CASTLEFIELD

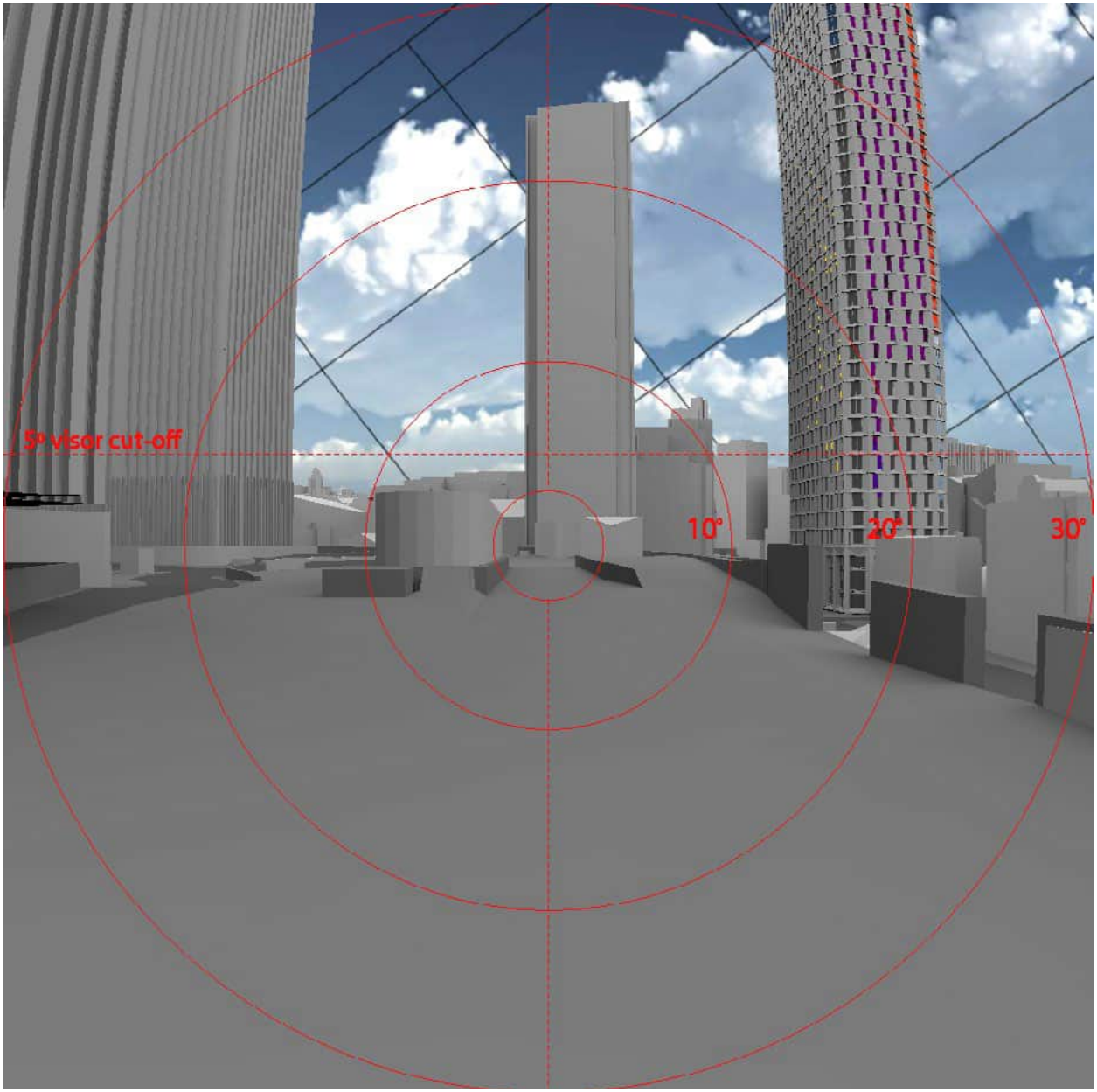
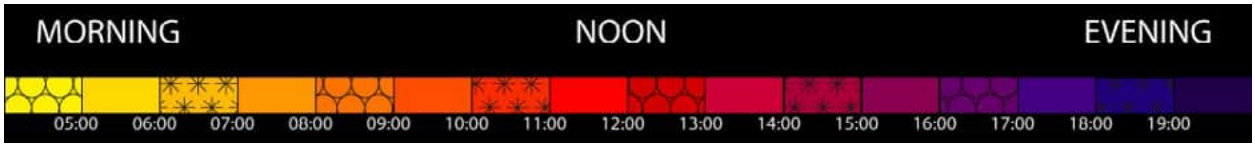


Fig. 36: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT TRAM 5 - EASTBOUND TO DEANSGATE-CASTLEFIELD

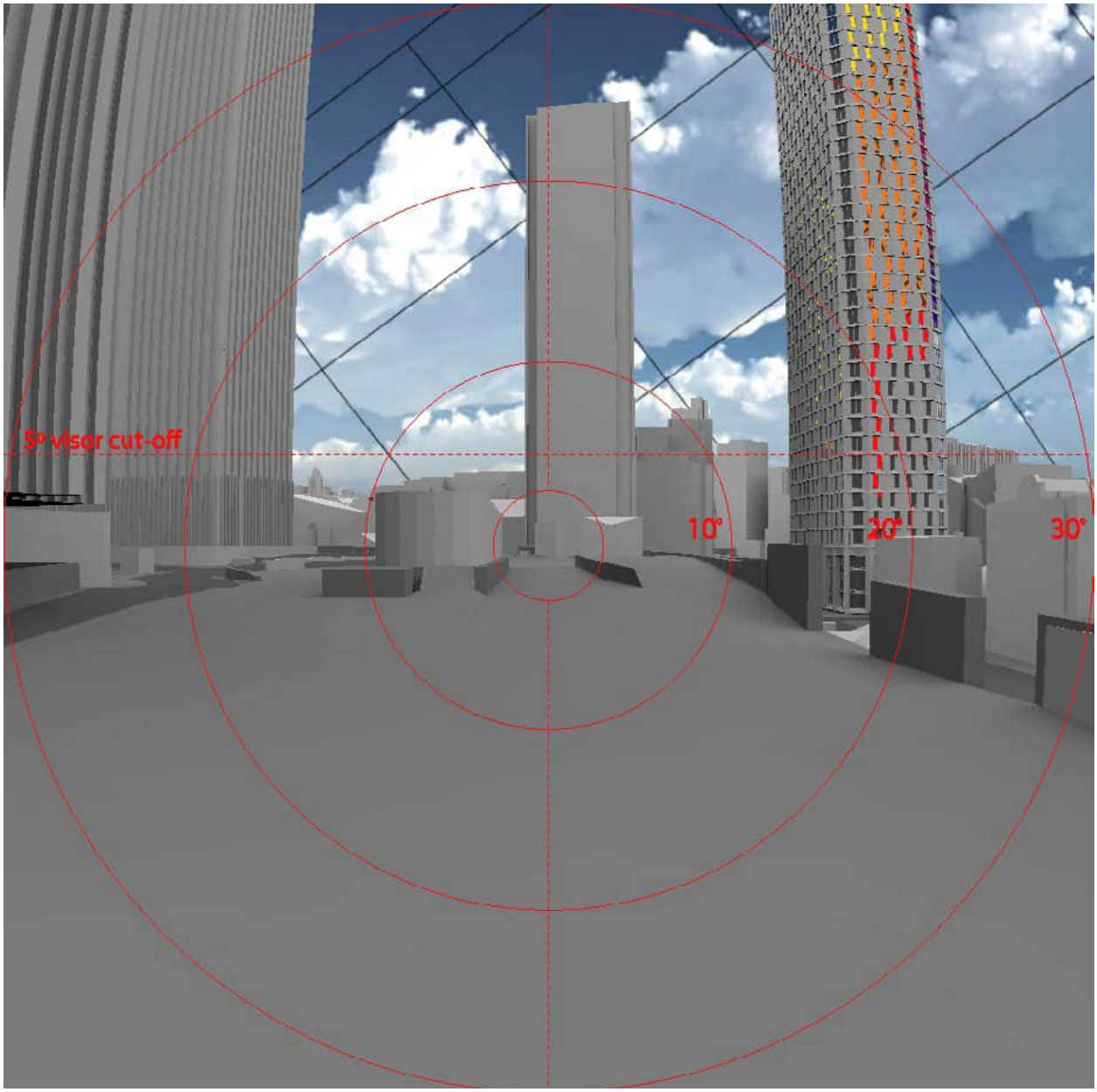


Fig. 37: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT TRAM 6 - EASTBOUND TO DEANSGATE-CASTLEFIELD

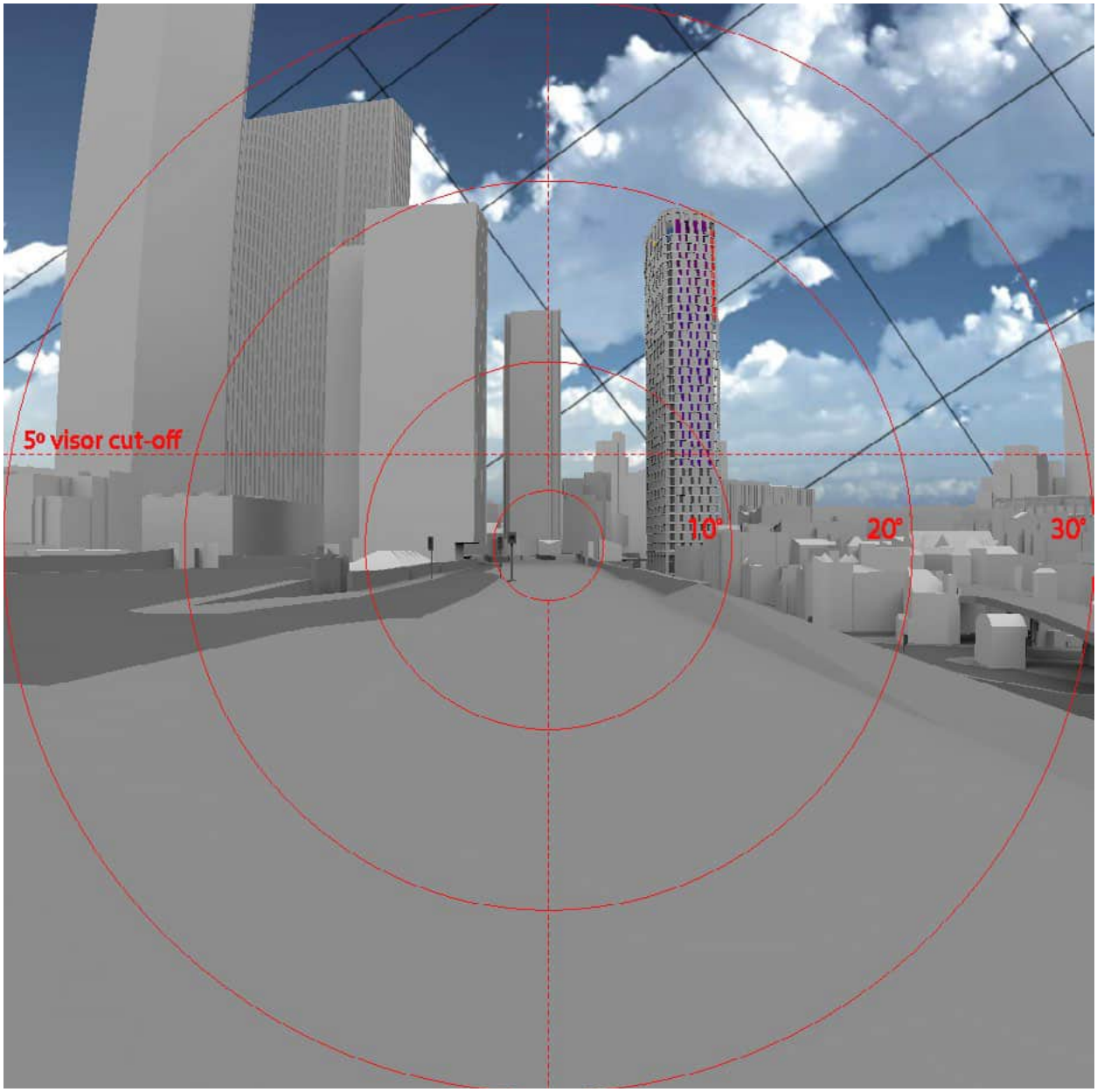
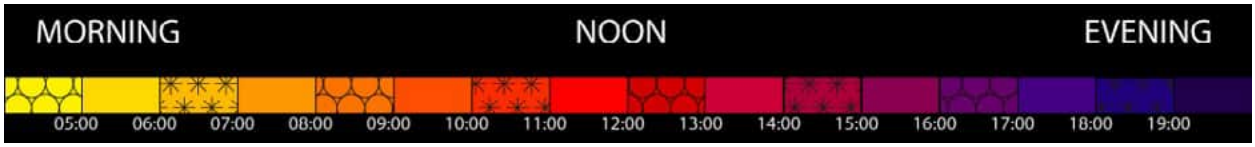


Fig. 38: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT TRAM 6 - EASTBOUND TO DEANSGATE-CASTLEFIELD

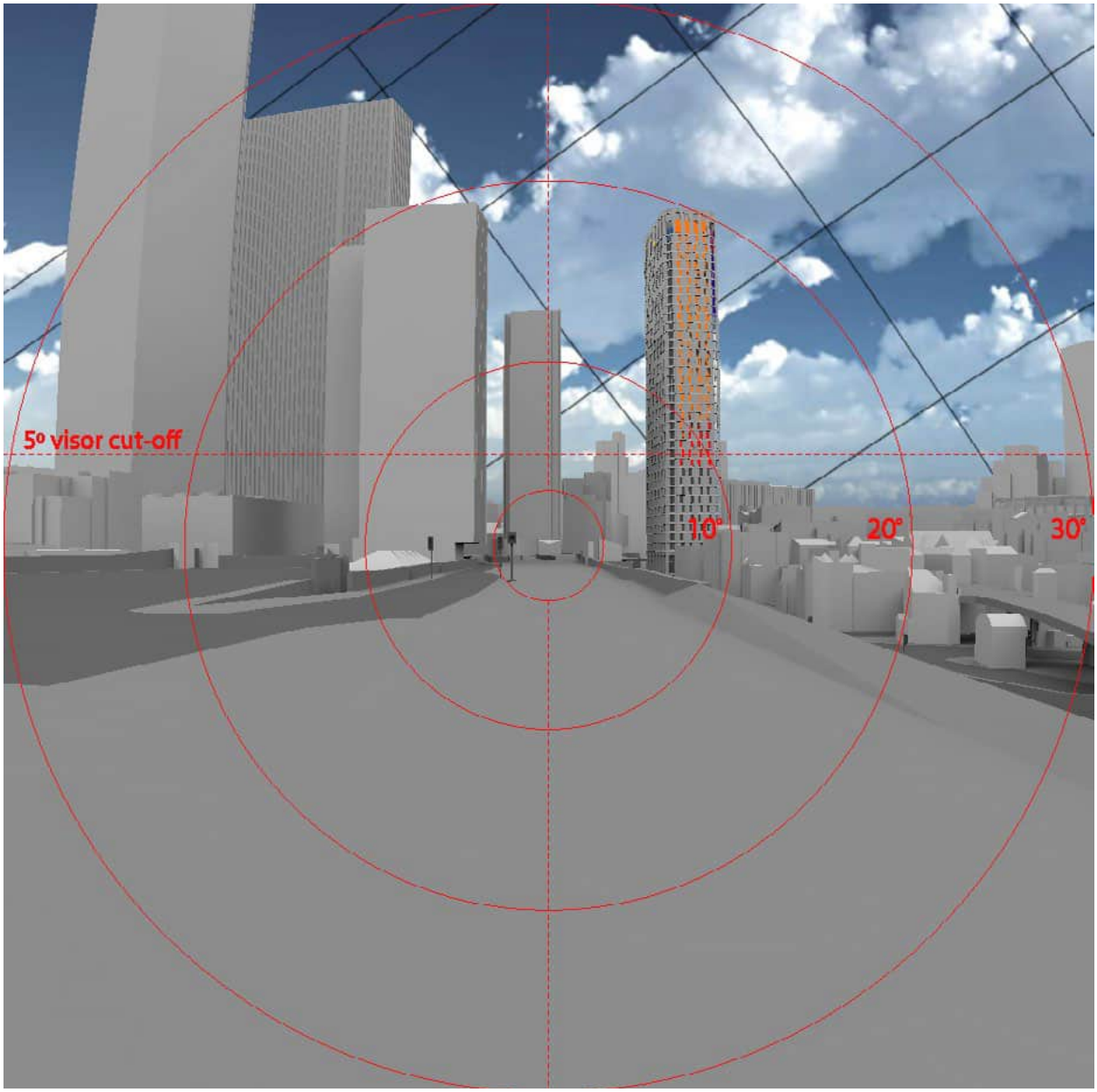


Fig. 39: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT TRAM 7 - EASTBOUND TO DEANSGATE-CASTLEFIELD

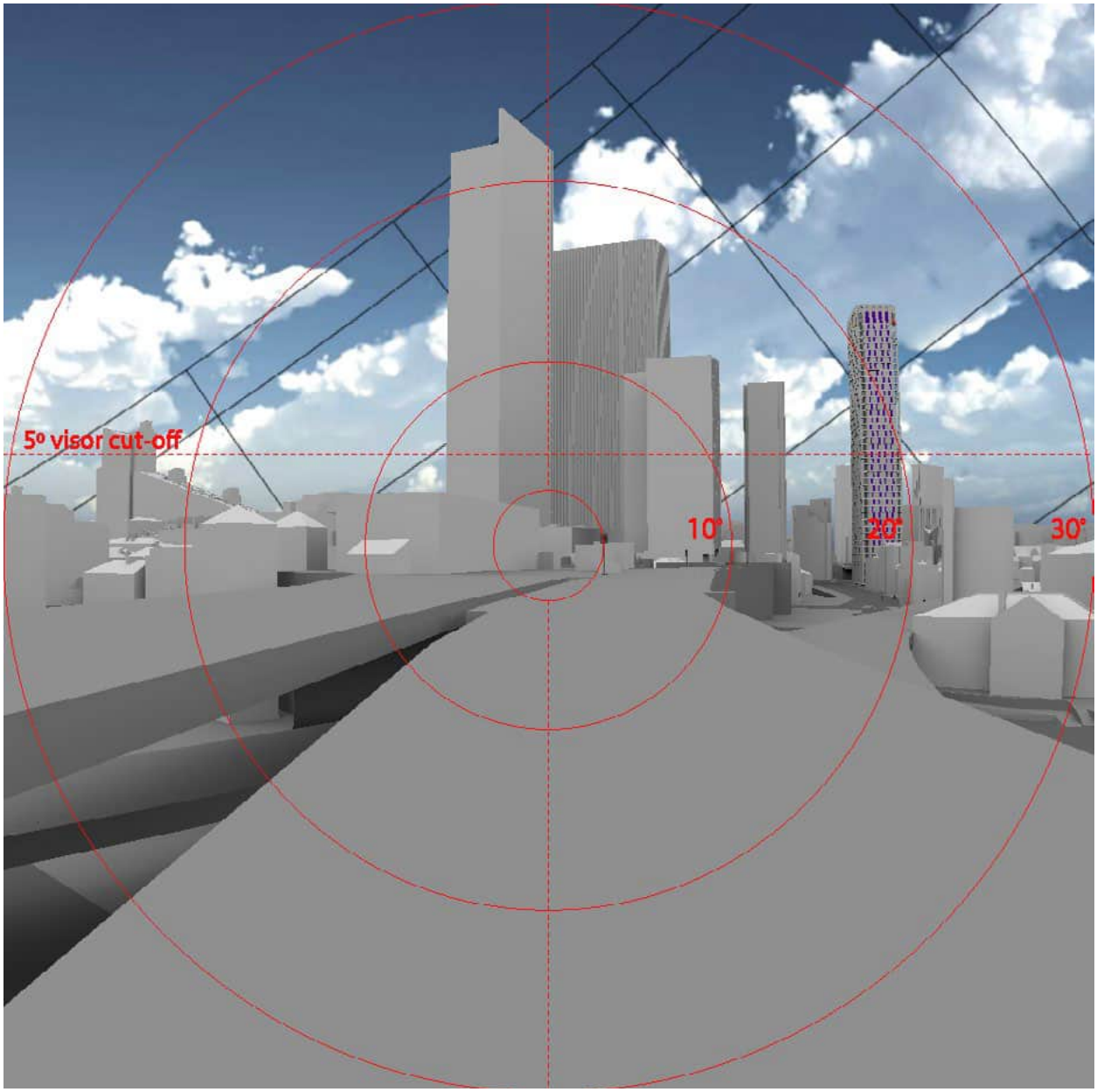
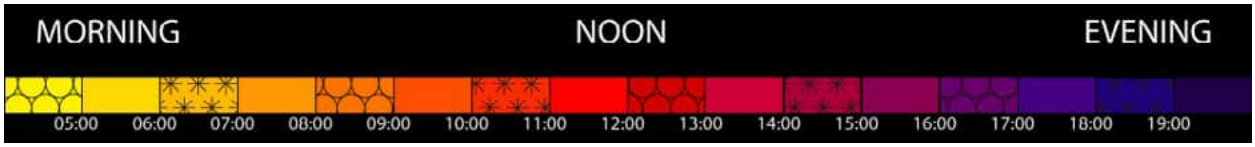


Fig. 40: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT TRAM 7 - EASTBOUND TO DEANSGATE-CASTLEFIELD

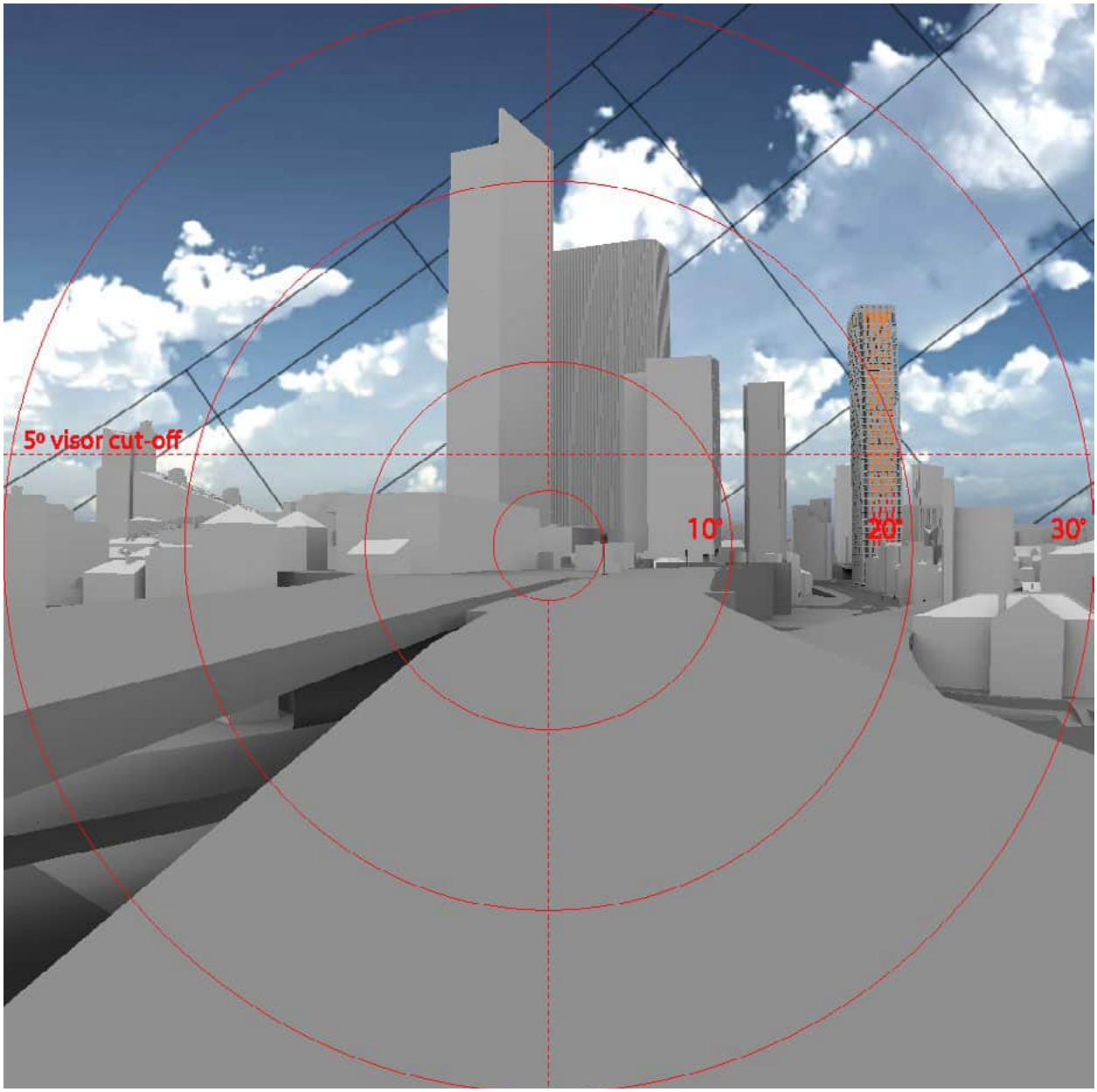


Fig. 41: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT RAIL 1 - WESTBOUND TO DEANSGATE

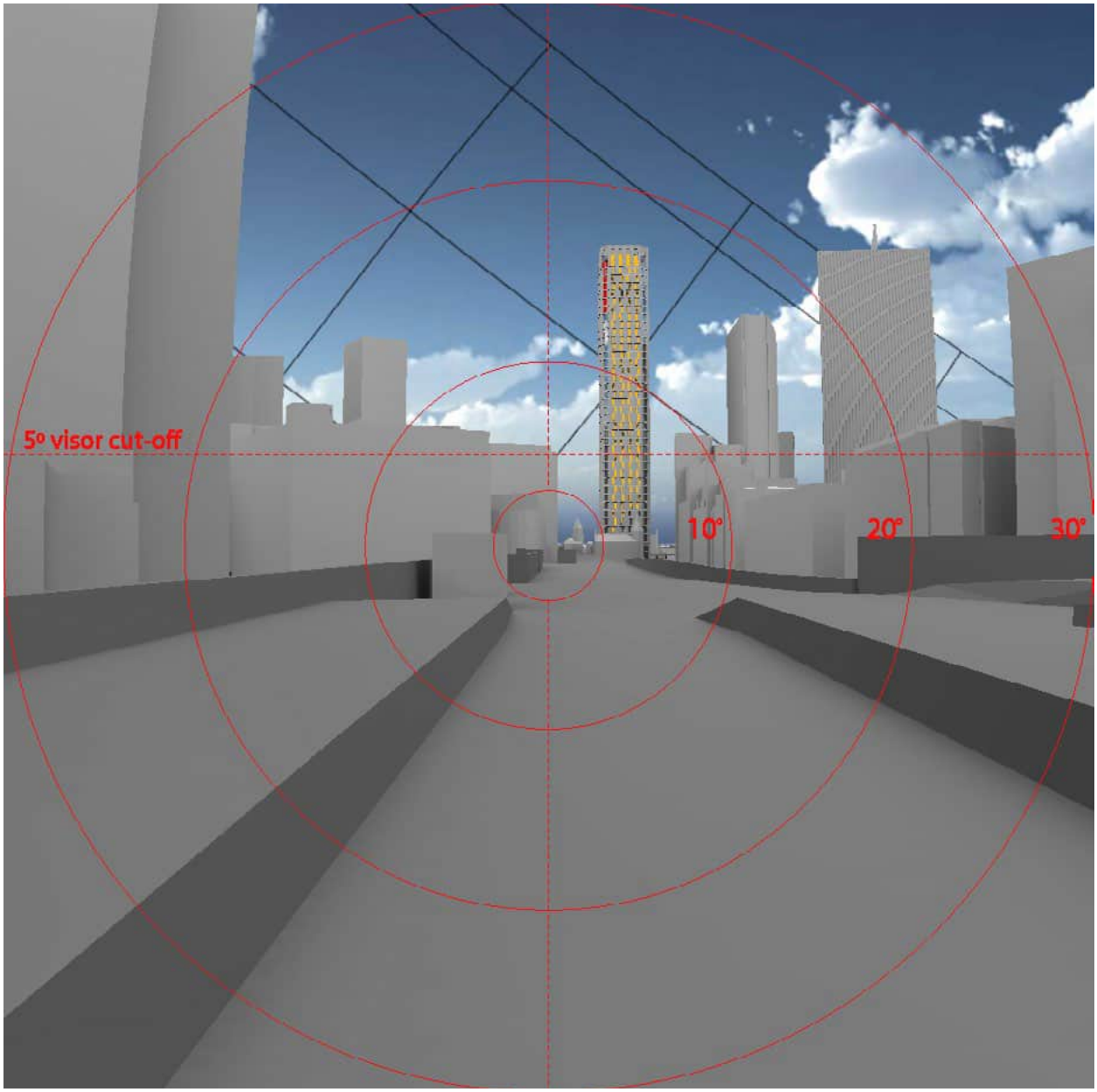
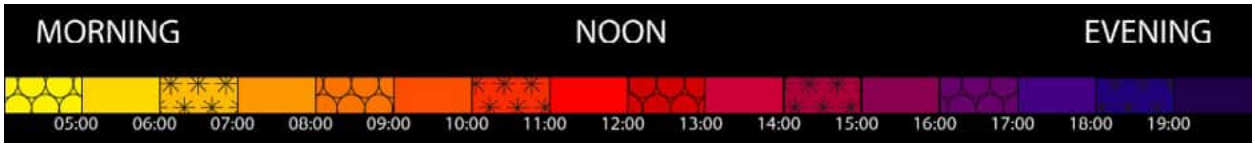


Fig. 42: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT RAIL 1 - WESTBOUND TO DEANSGATE

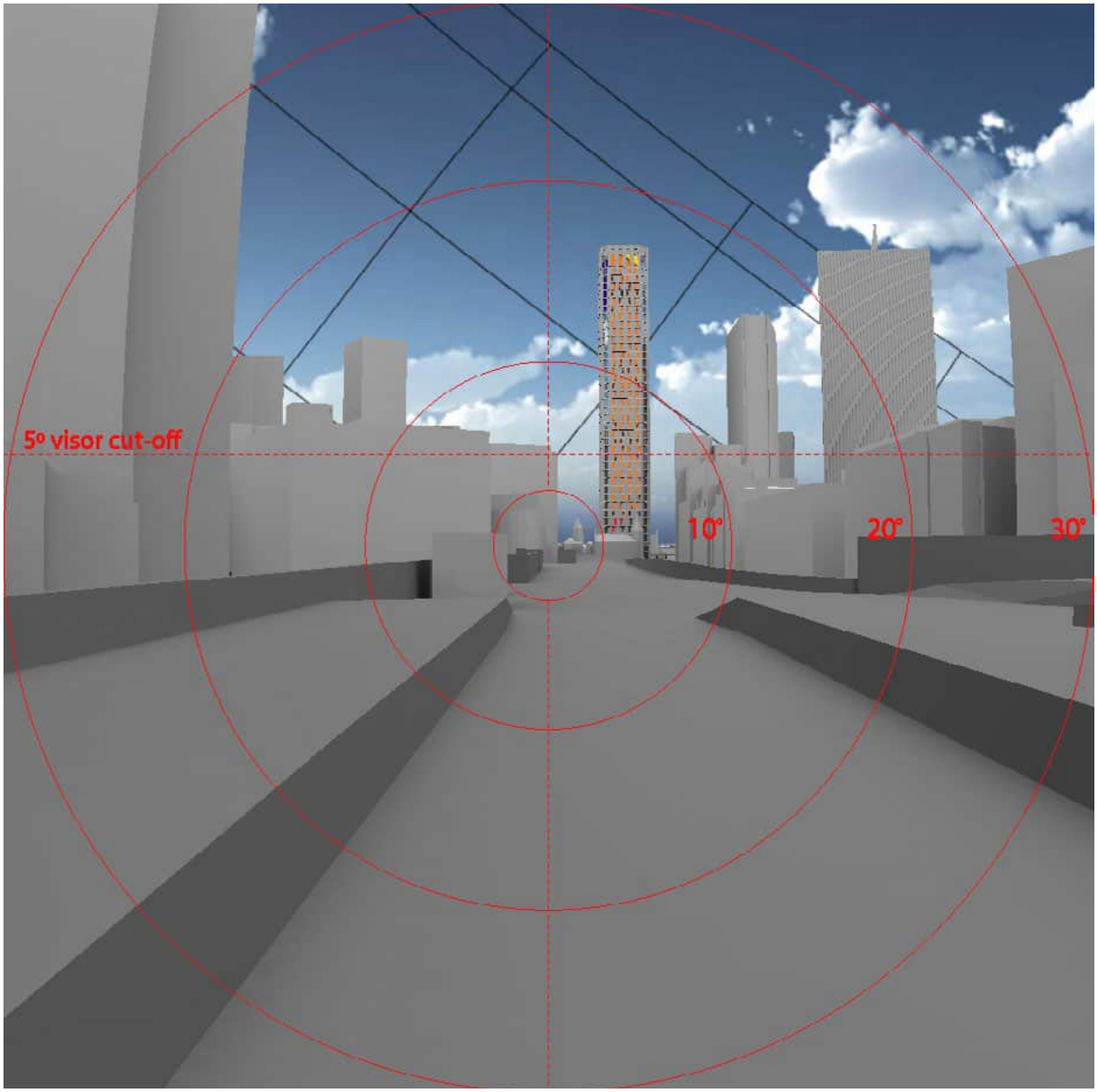


Fig. 43: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT RAIL 2 - WESTBOUND TO DEANSGATE

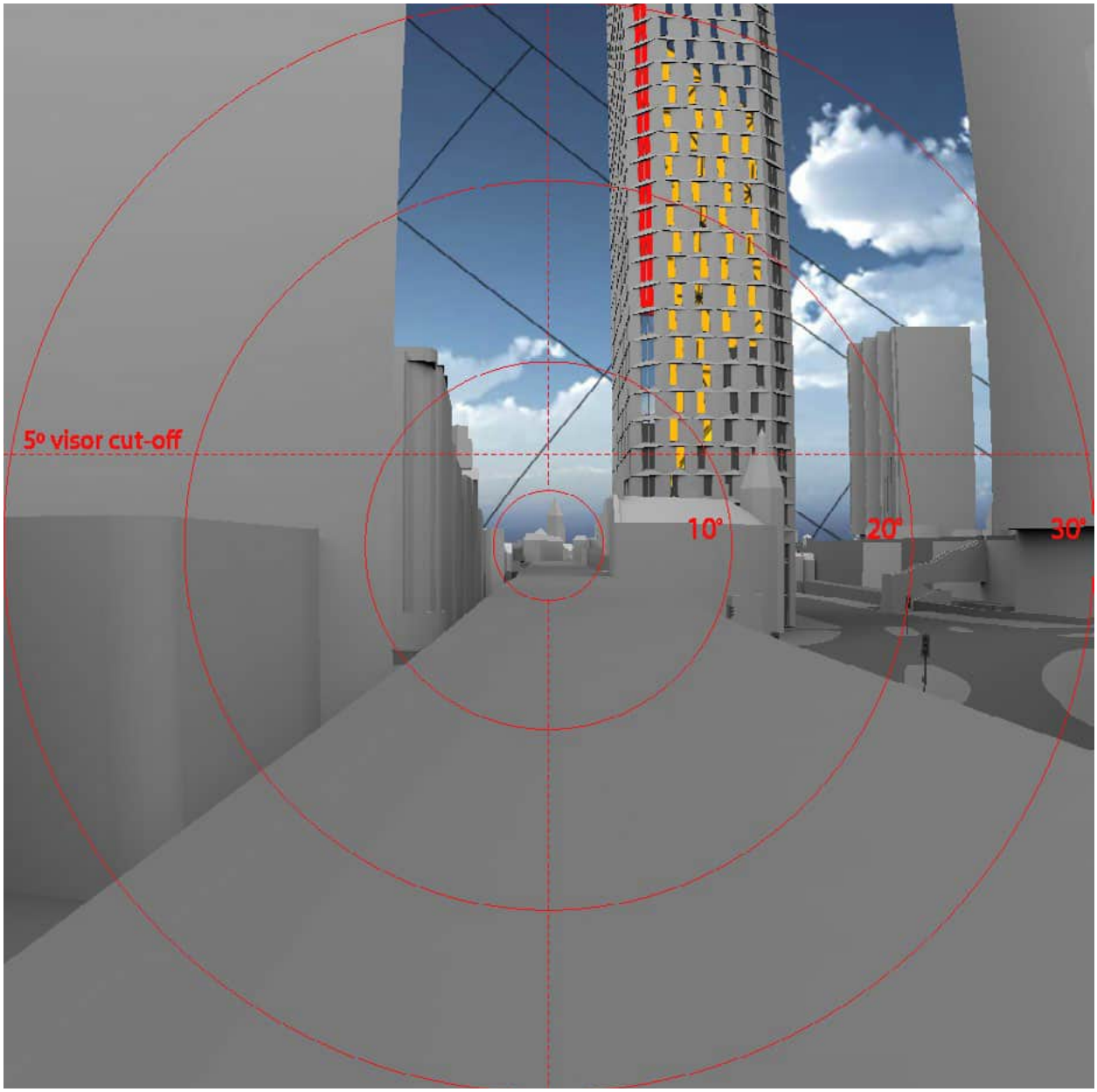
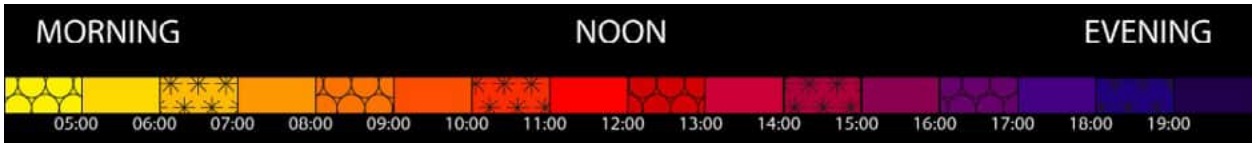


Fig. 44: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT RAIL 2 - WESTBOUND TO DEANSGATE

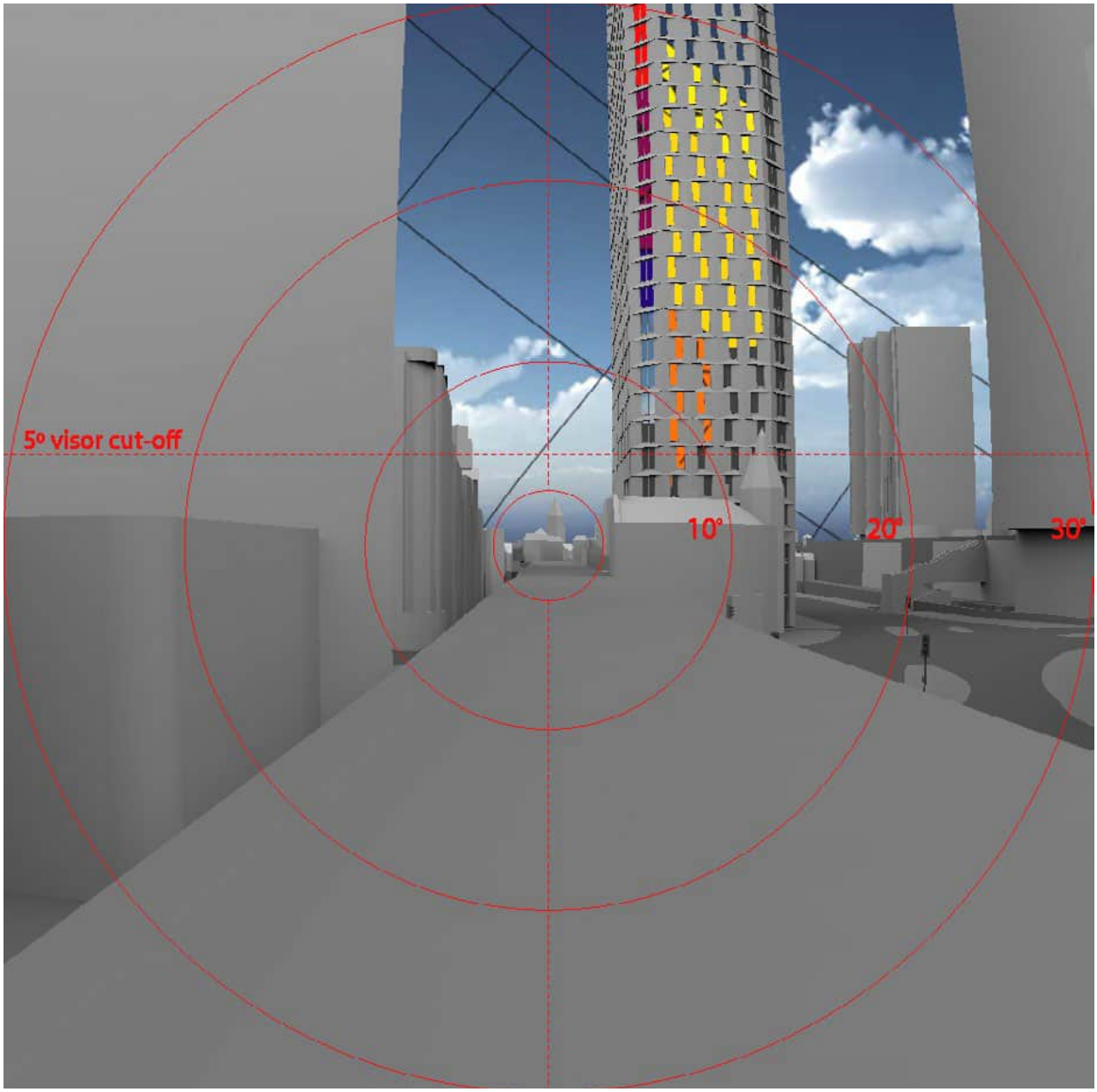


Fig. 45: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT RAIL 3 - EASTBOUND TO DEANSGATE

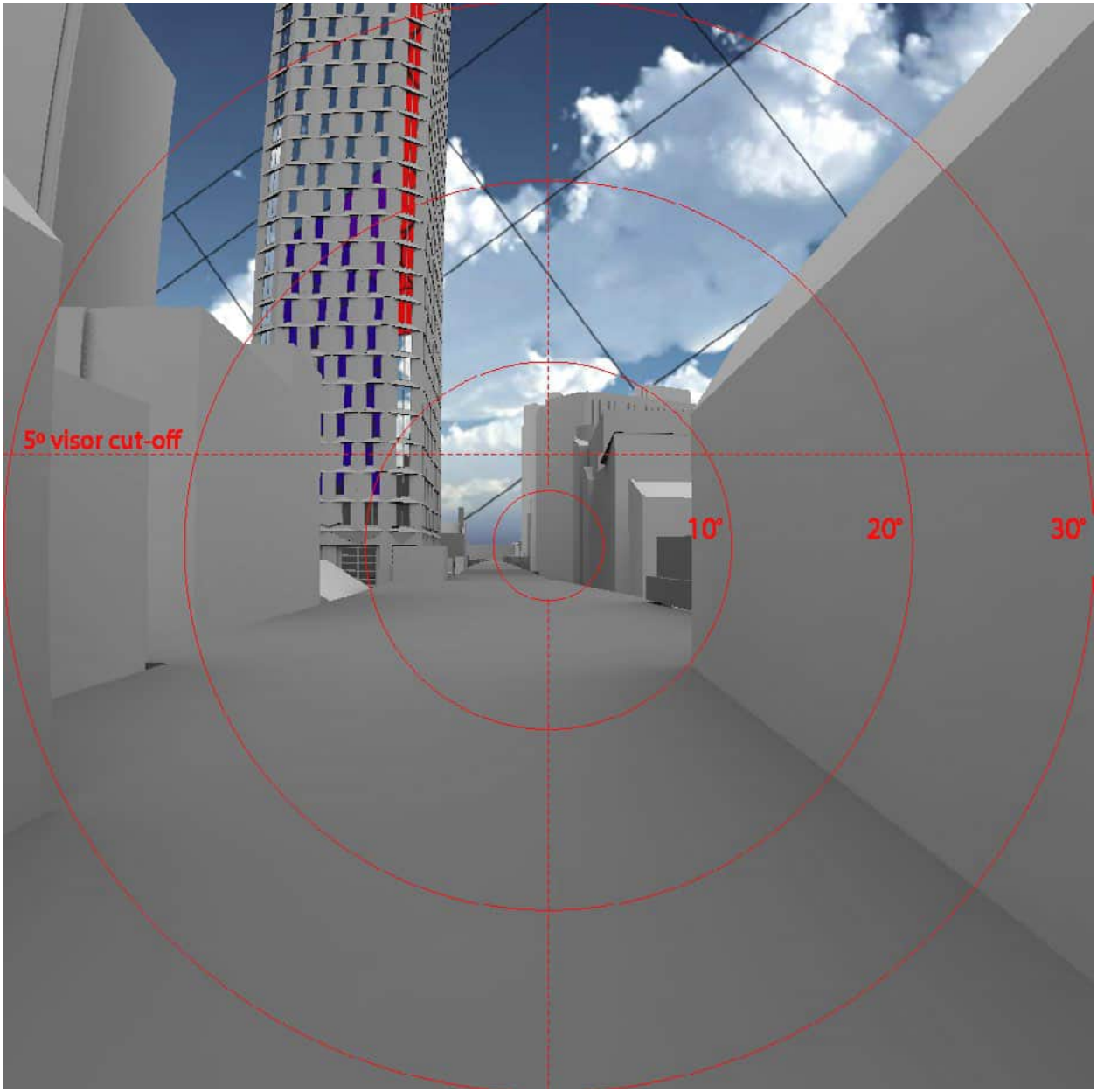
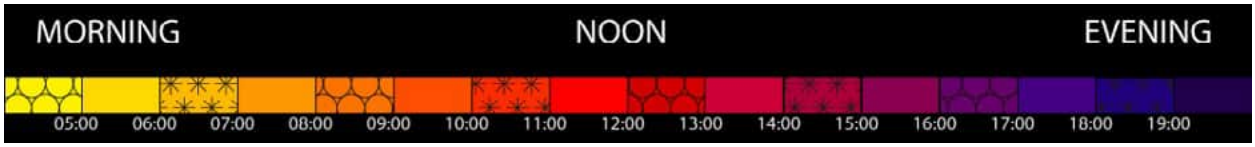


Fig. 46: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT RAIL 3 - EASTBOUND TO DEANSGATE

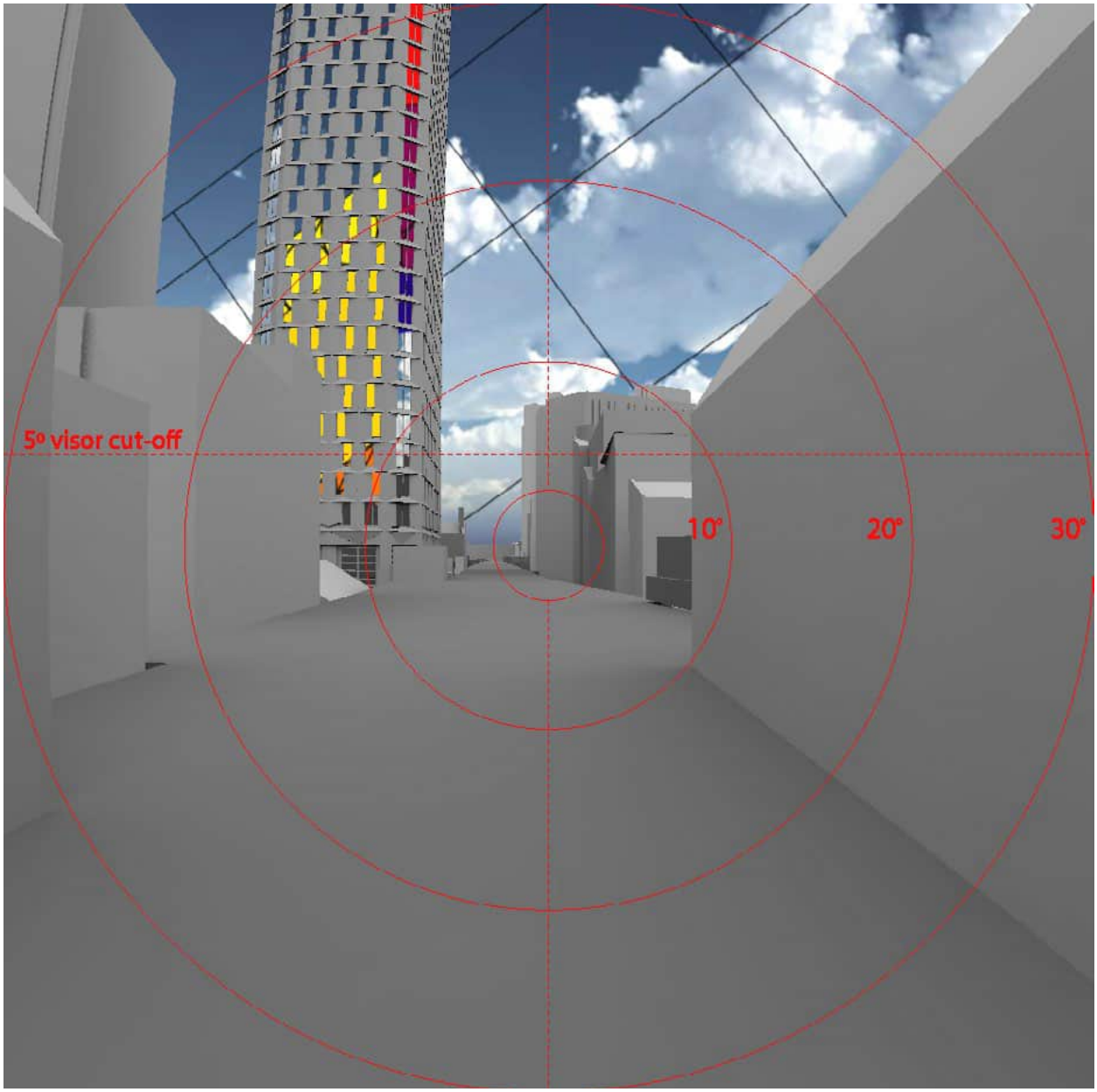


Fig. 47: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT RAIL 4 - EASTBOUND TO DEANSGATE

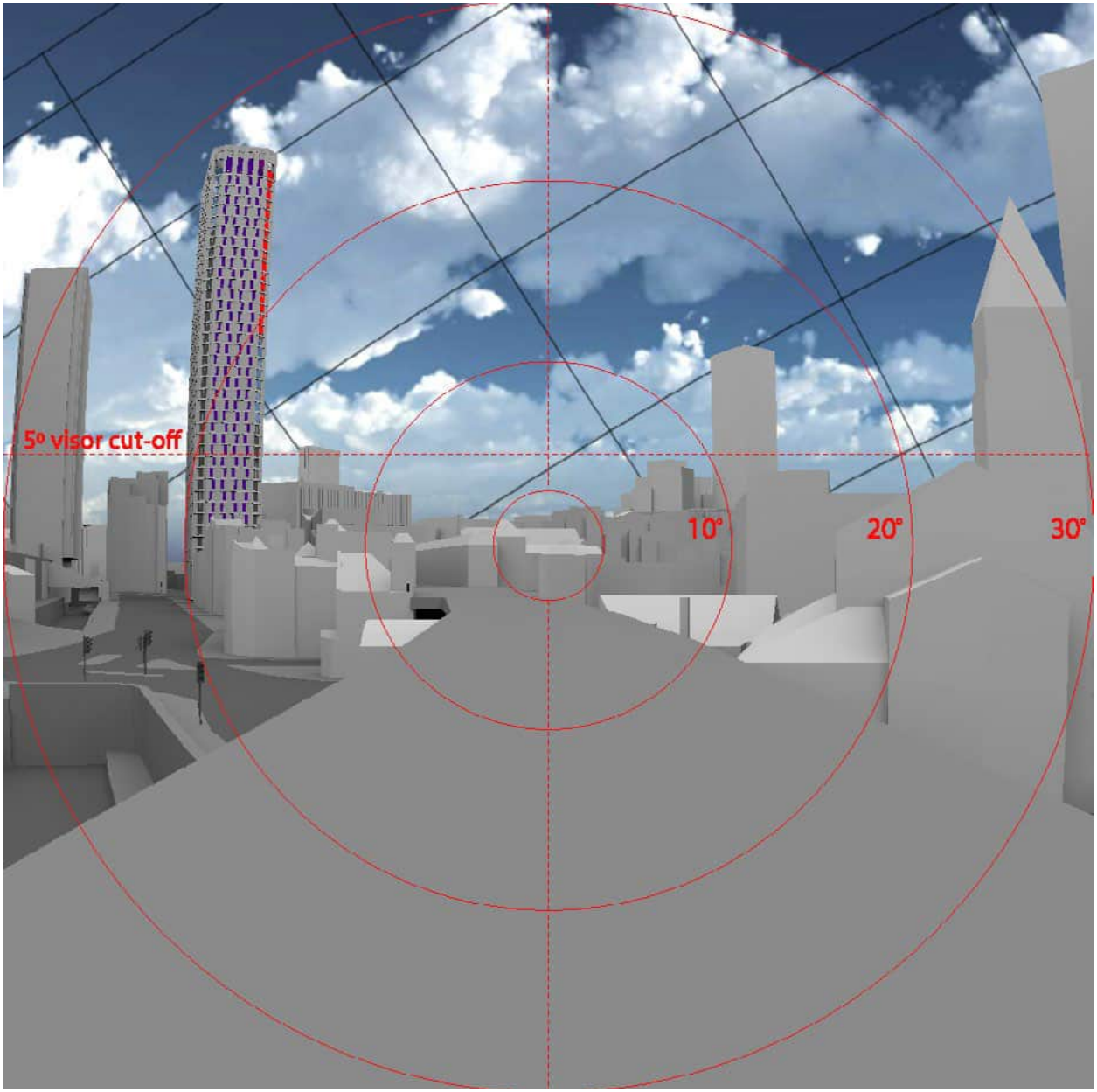
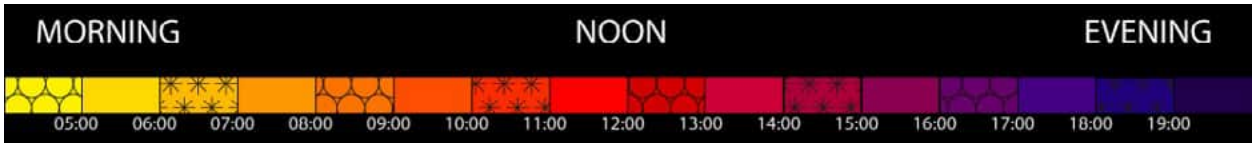


Fig. 48: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT RAIL 4 - EASTBOUND TO DEANSGATE

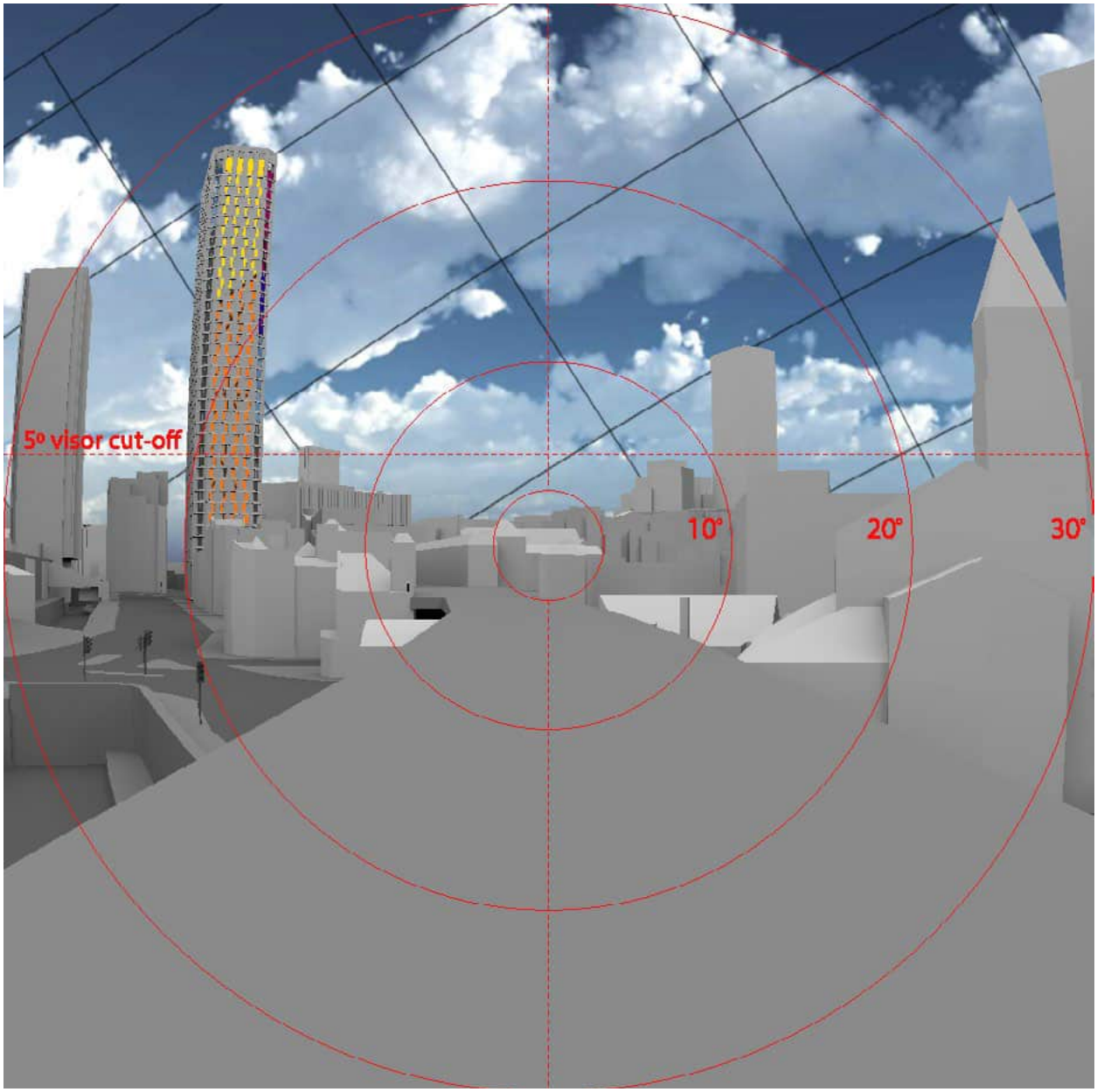


Fig. 49: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT RAIL 5 - EASTBOUND TO DEANSGATE

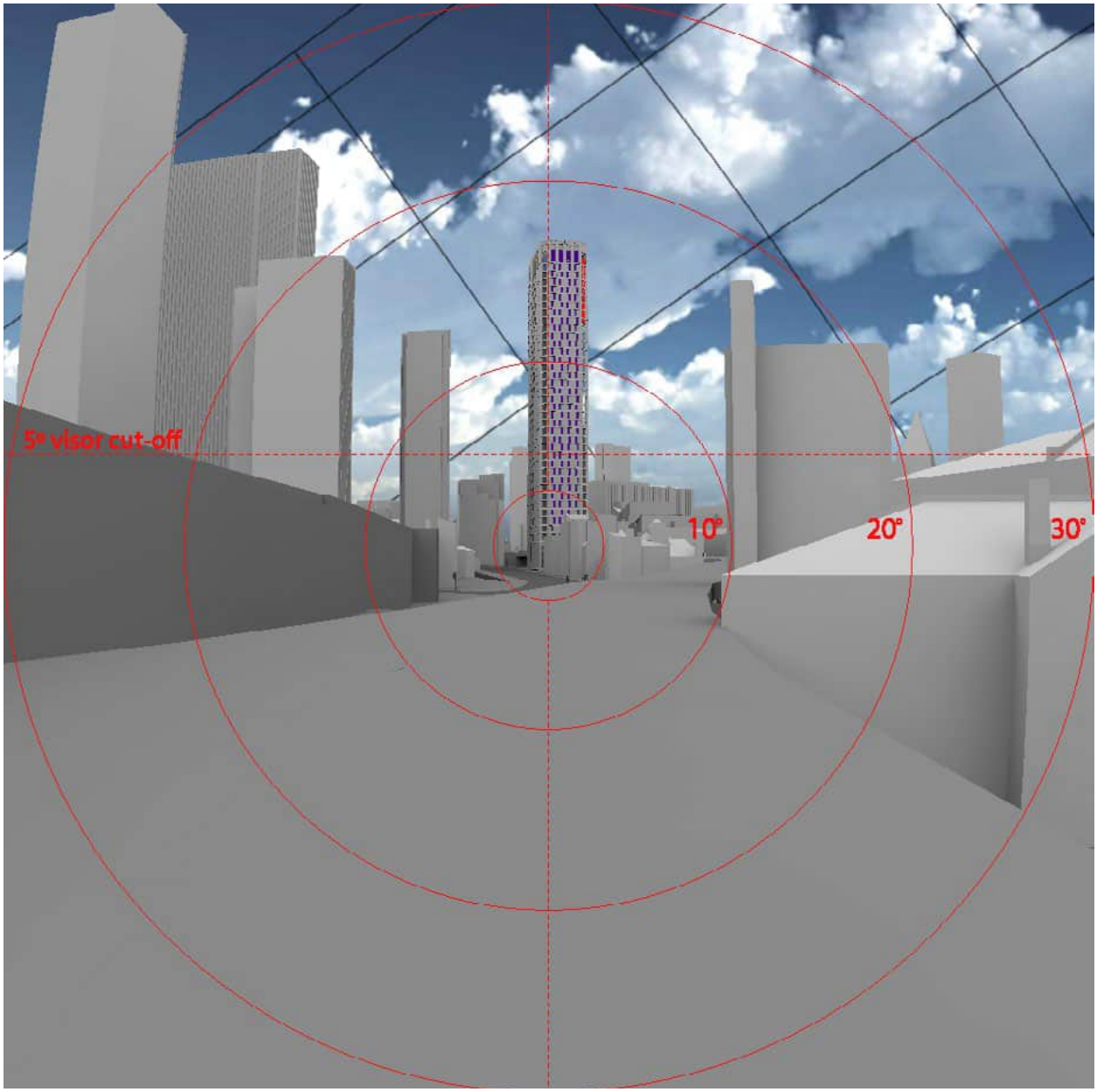
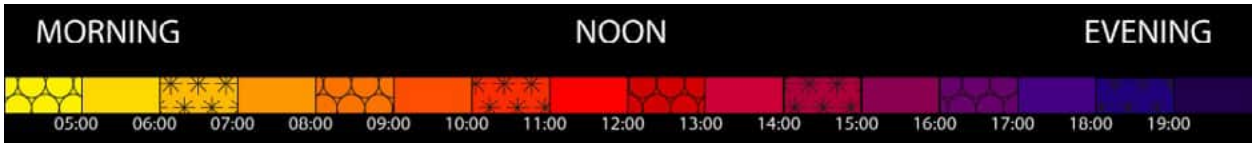


Fig. 50: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT RAIL 5 - EASTBOUND TO DEANSGATE

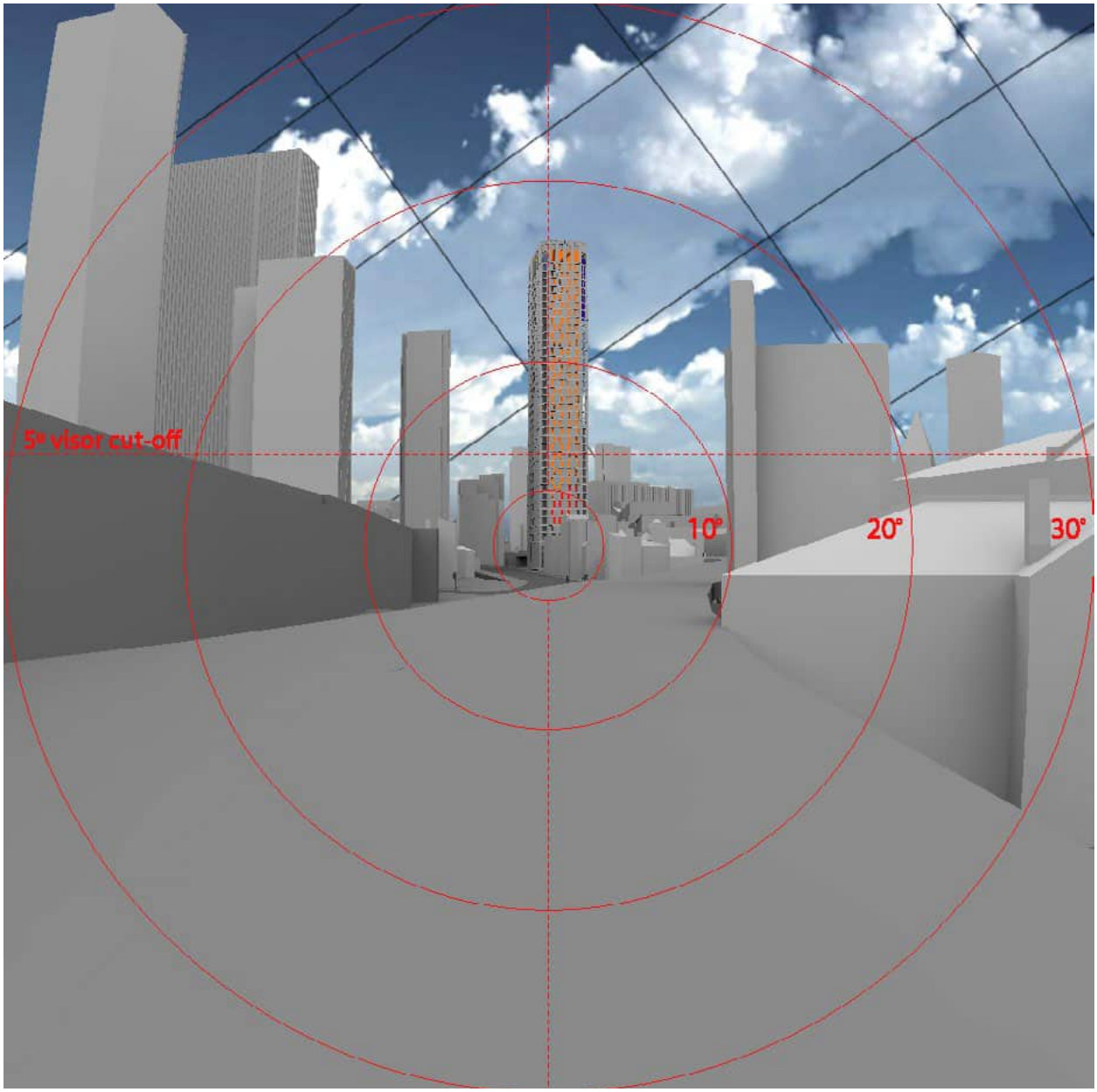


Fig. 51: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT RAIL 6 - EASTBOUND TO DEANSGATE

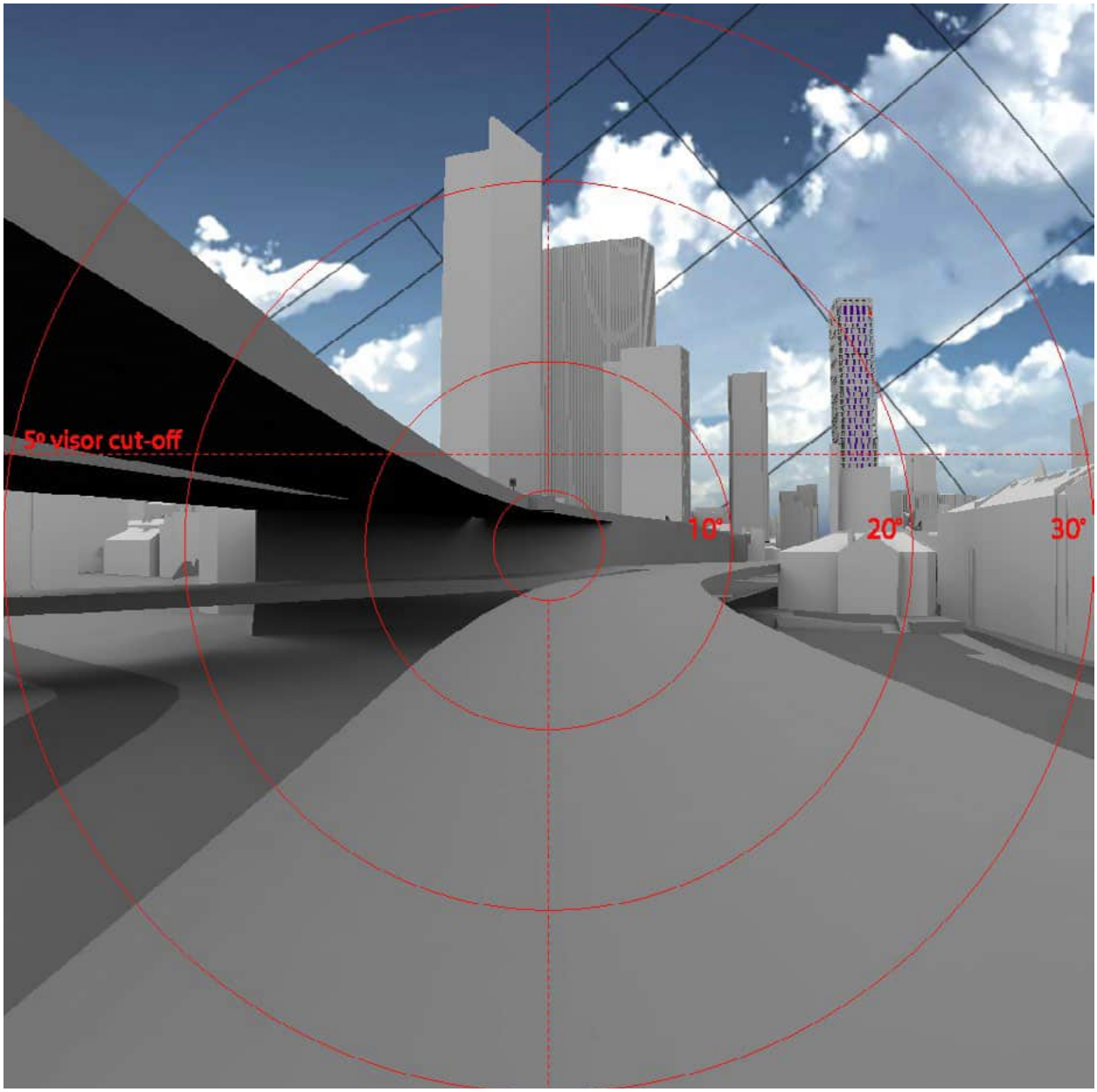
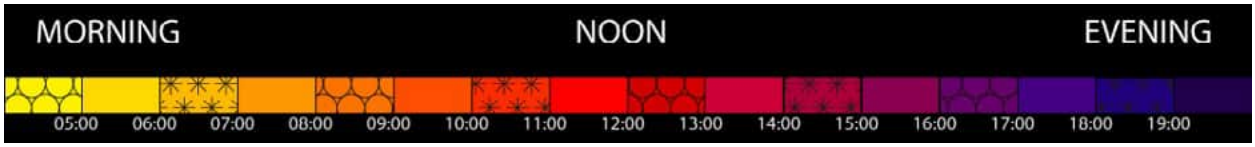


Fig. 52: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT RAIL 6 - EASTBOUND TO DEANSGATE

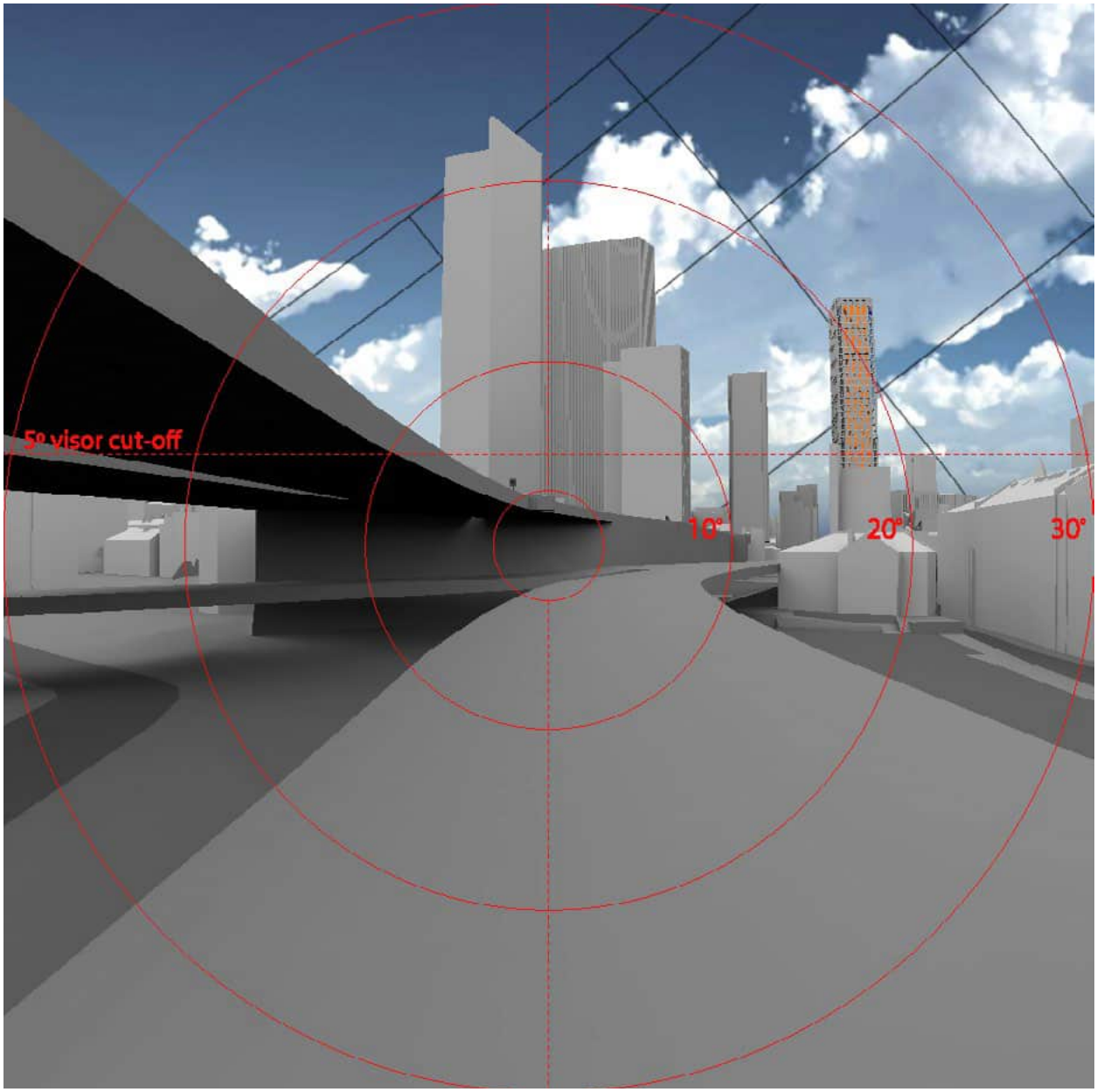


Fig. 53: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT RAIL 7 - EASTBOUND TO DEANSGATE

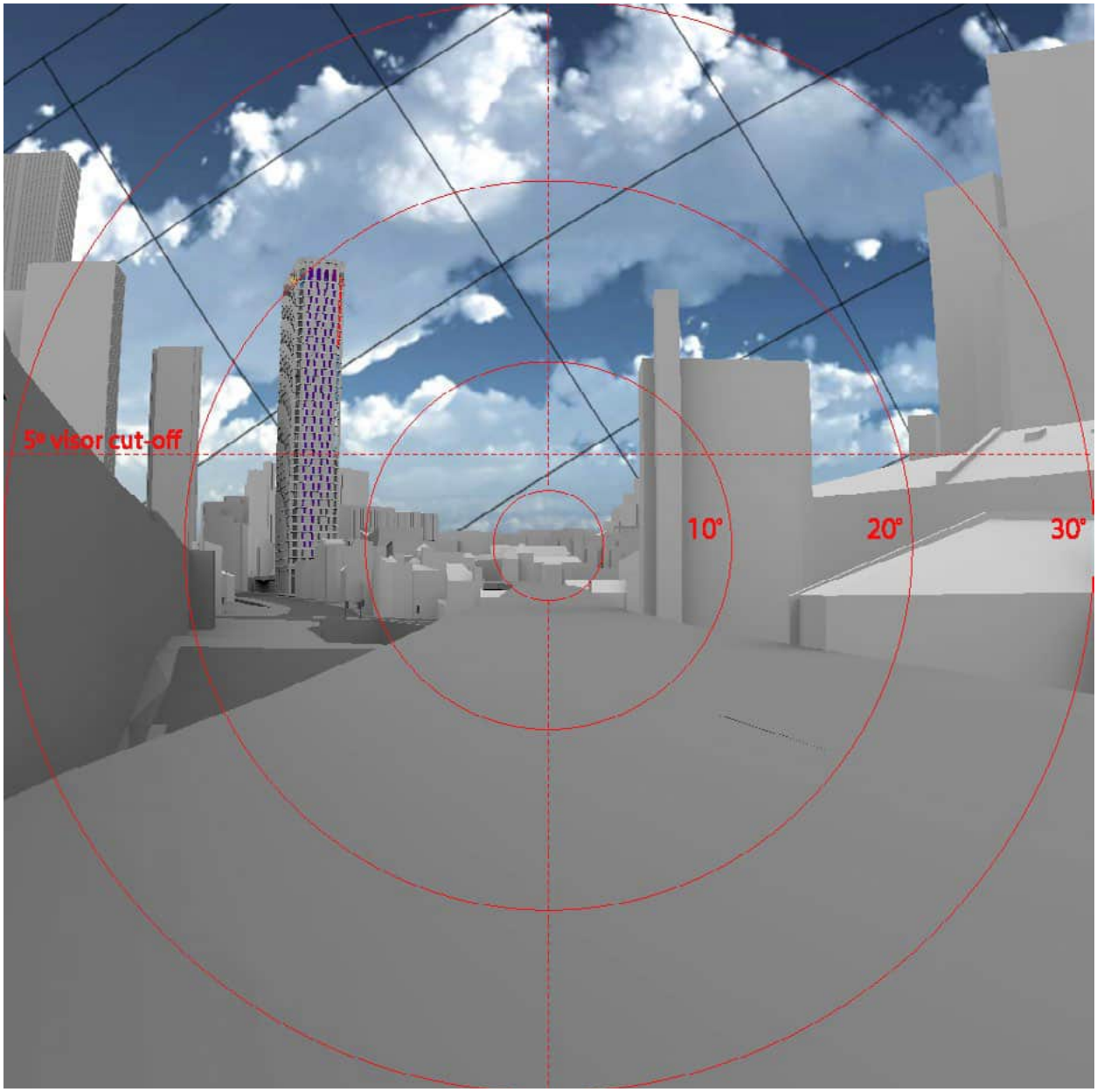
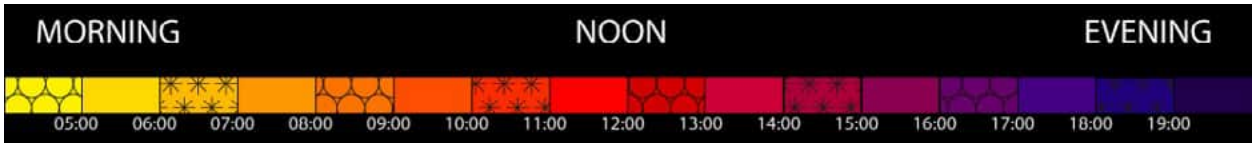


Fig. 54: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT RAIL 7 - EASTBOUND TO DEANSGATE

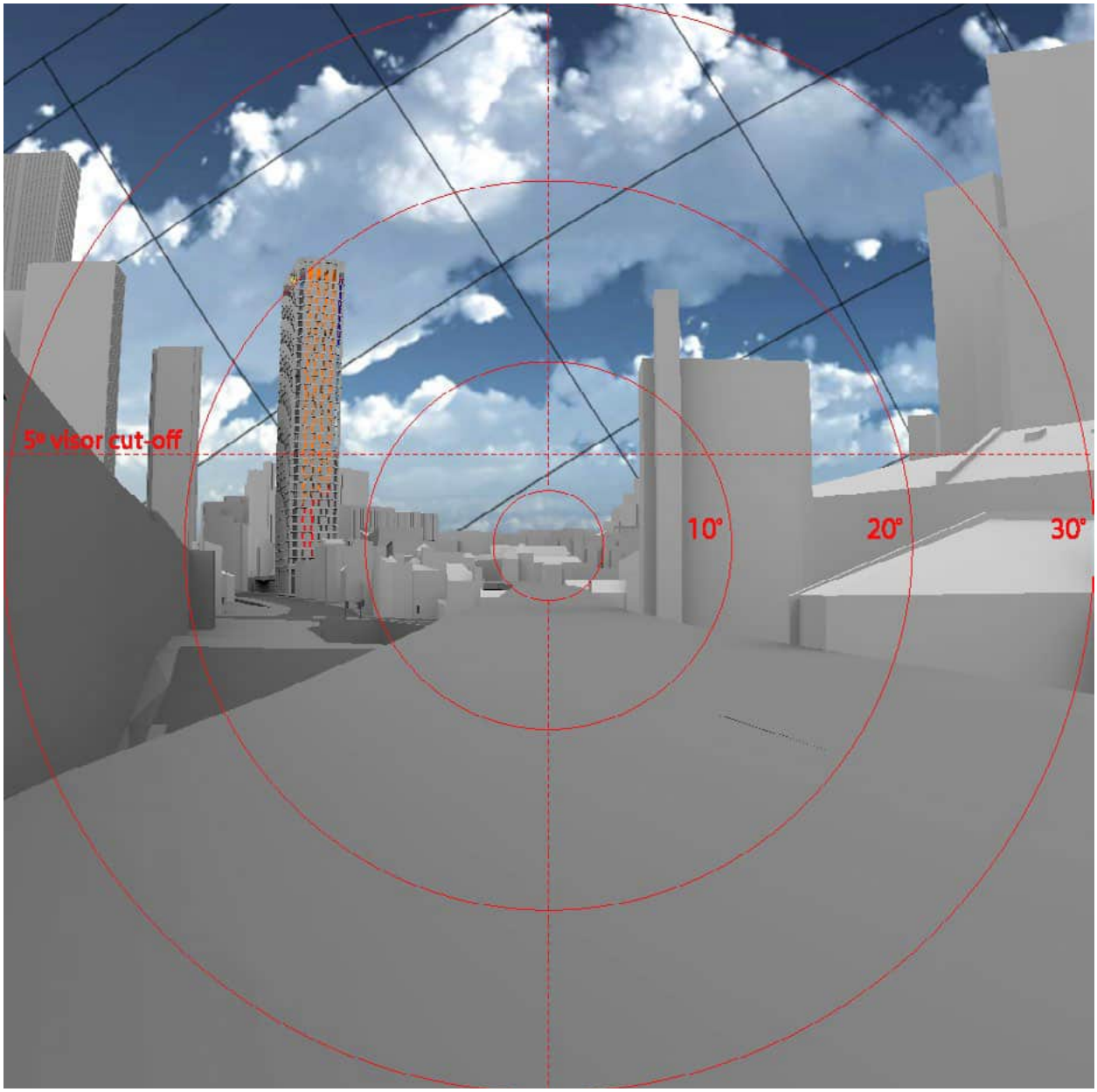


Fig. 55: Solar reflections



4 SCENARIO WITH 2-4 WHITWORTH STREET WEST

SITE OVERVIEWS

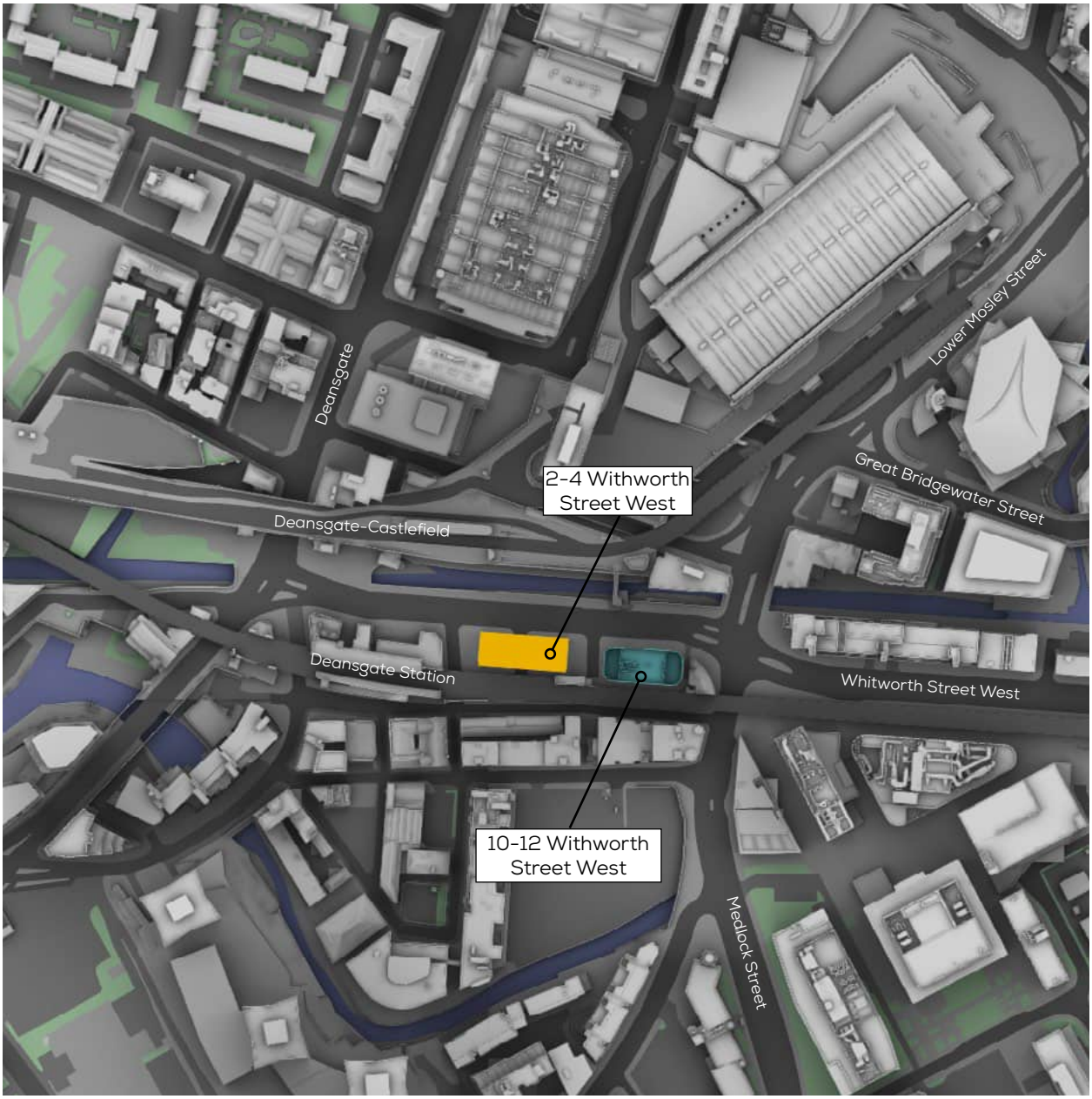


Fig. 56: Site Overview - Top

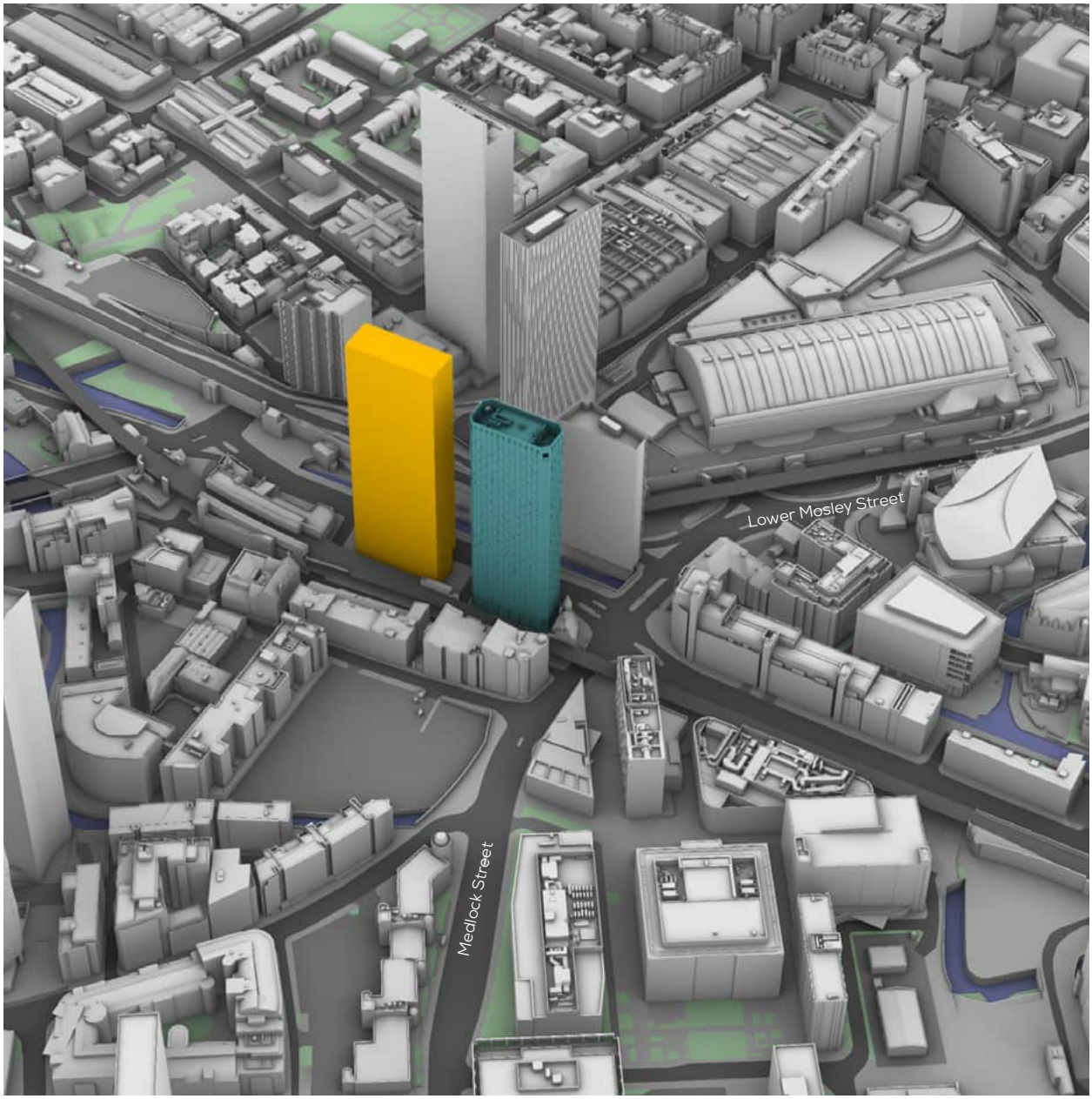


Fig. 57: Site Overview - Perspective

SOLAR GLARE ASSESSMENT WITH 2-4 WHITWORTH STREET WEST

60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT CS - LOOKING FORWARD

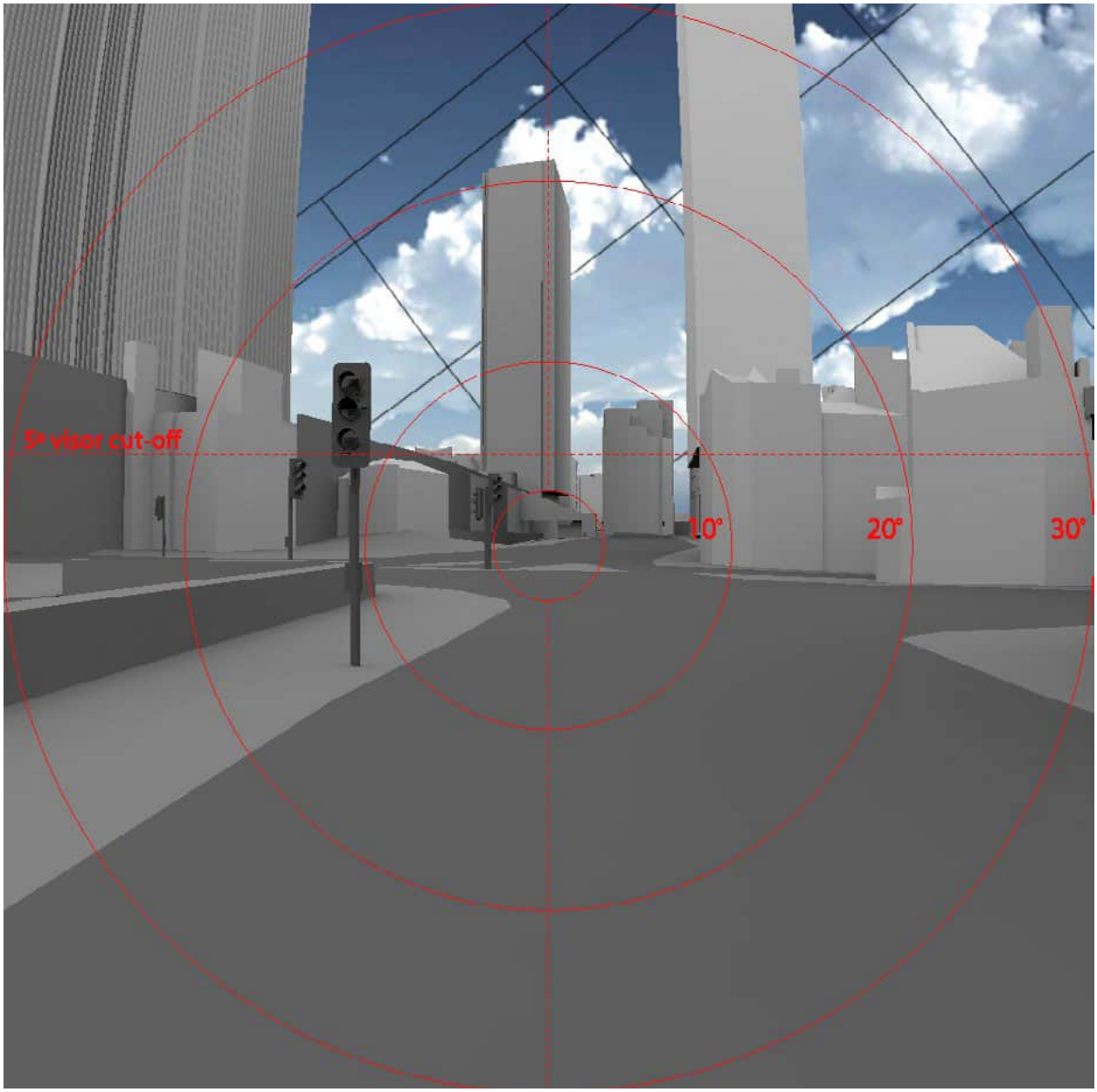
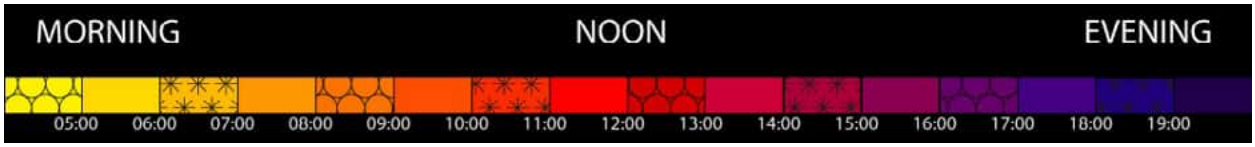


Fig. 58: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT CS - LOOKING FORWARD

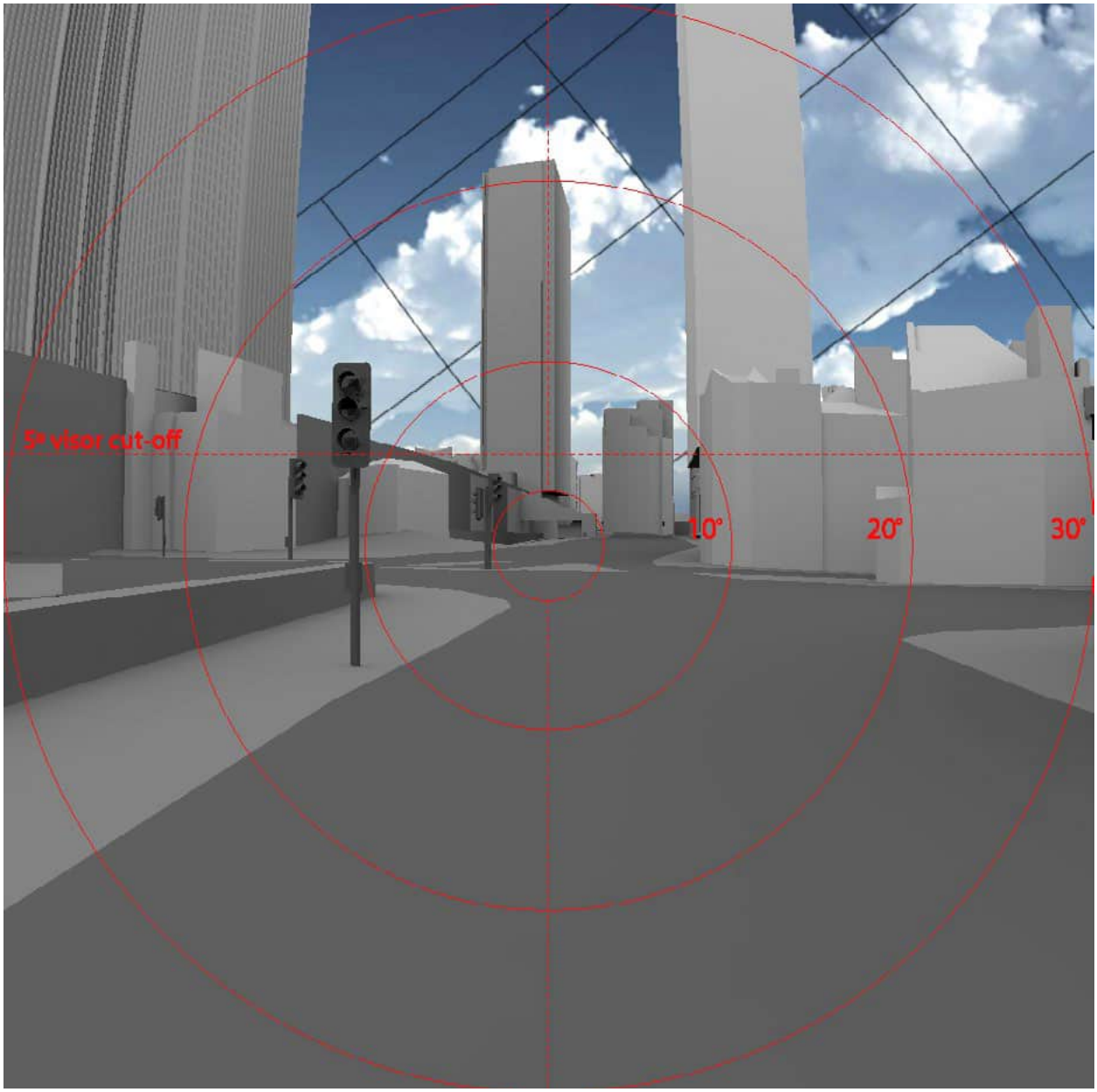


Fig. 59: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT CSCPa - LOOKING FORWARD

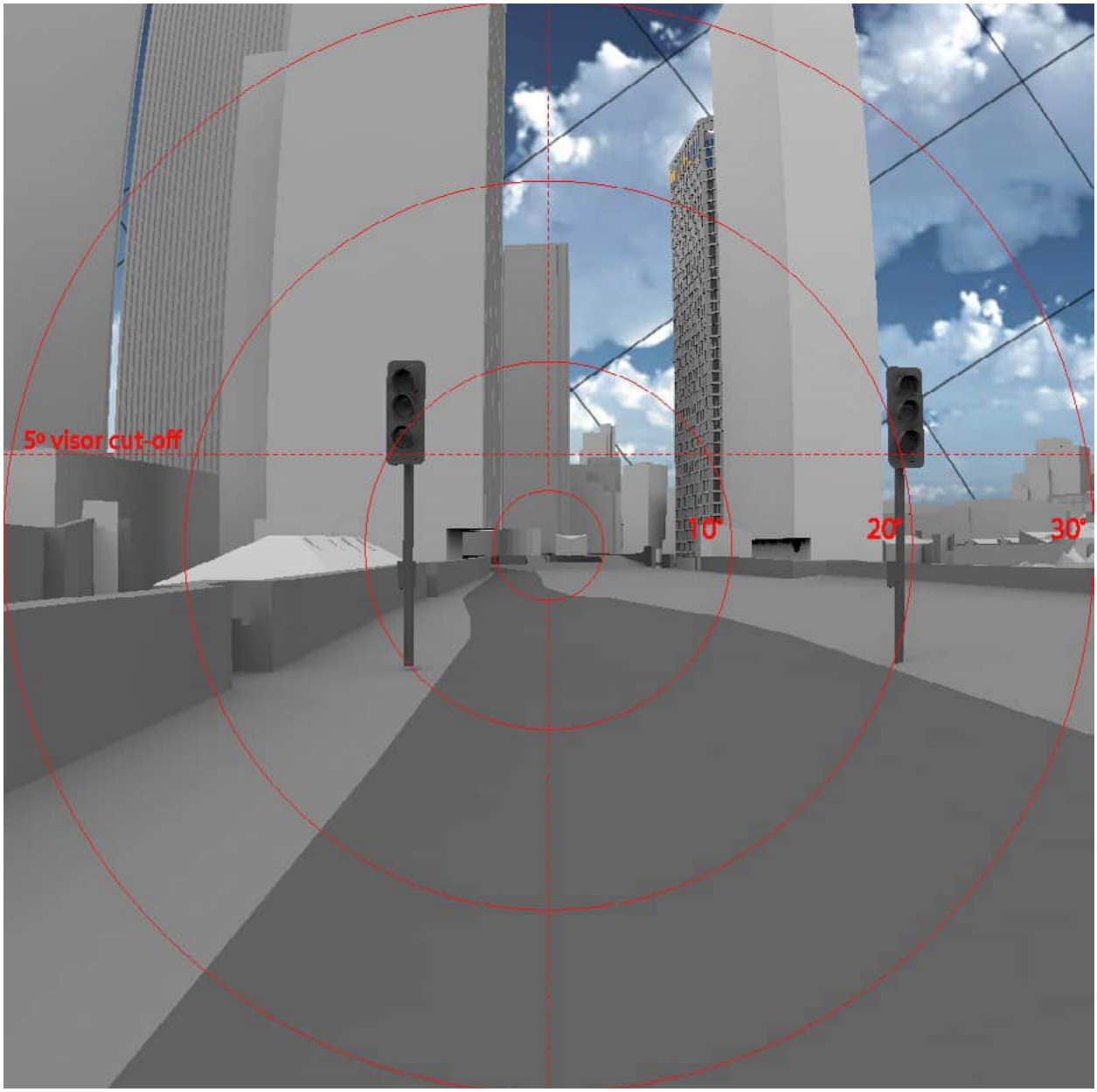
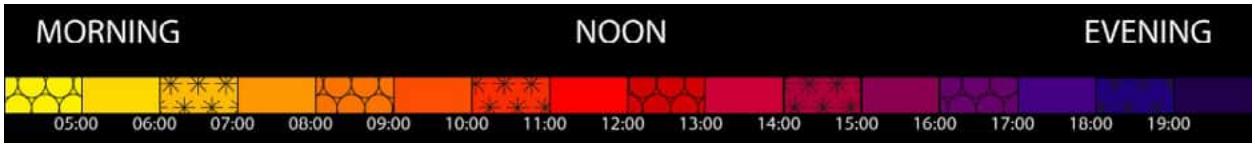


Fig. 60: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT CSCPa - LOOKING FORWARD

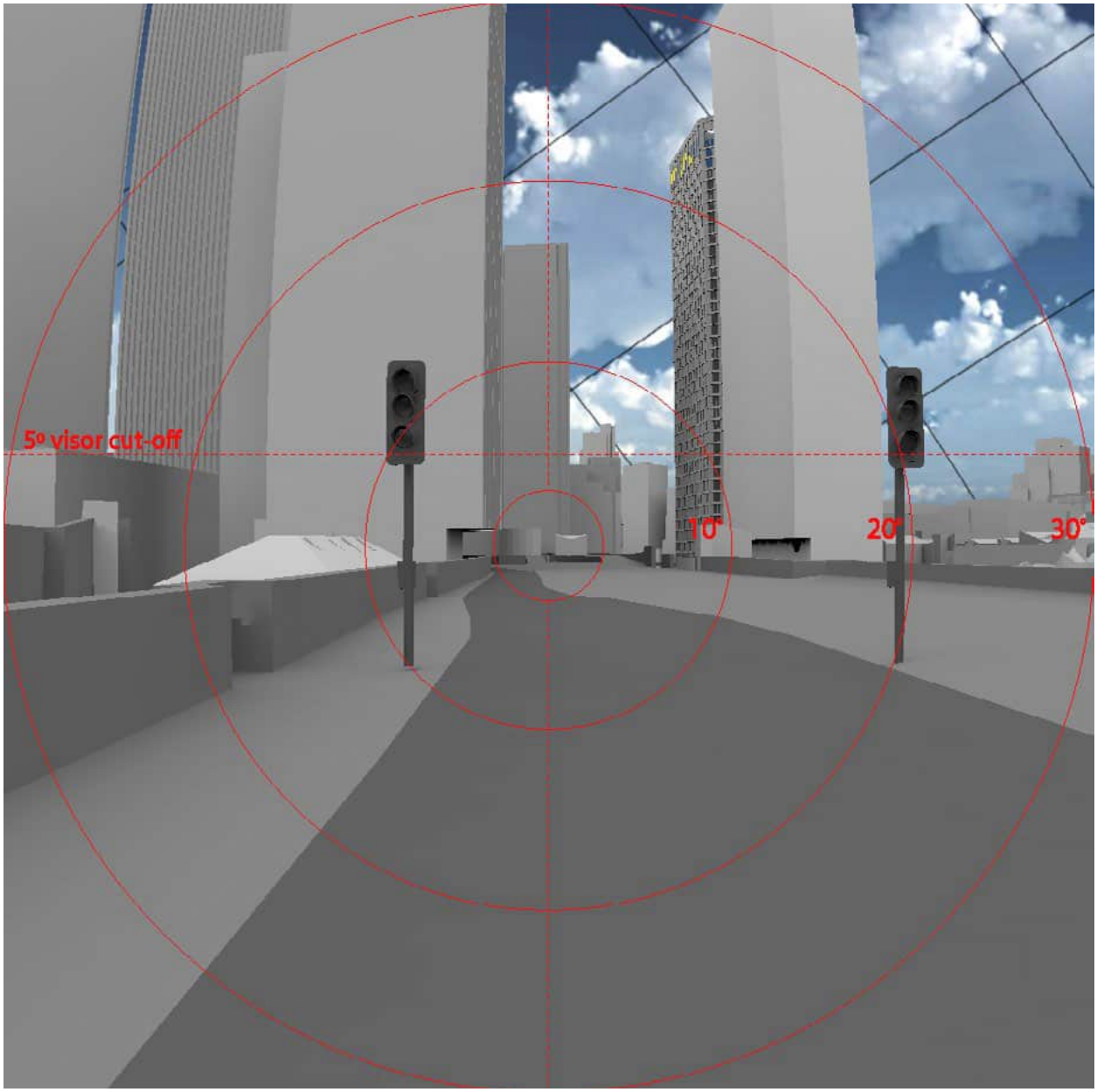


Fig. 61: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT CSCPb - LOOKING AT RIGHT TRAFFIC LIGHTS

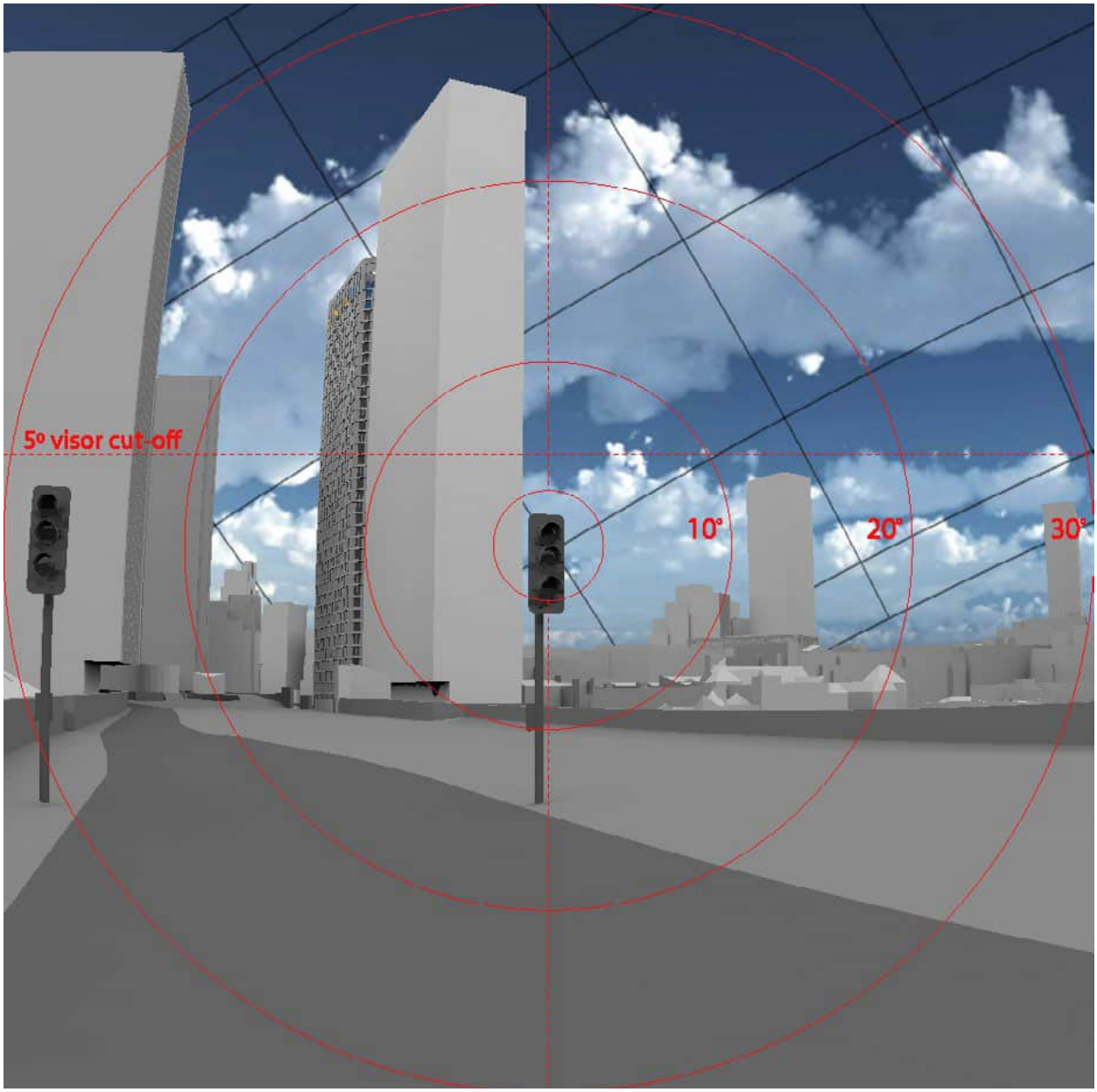
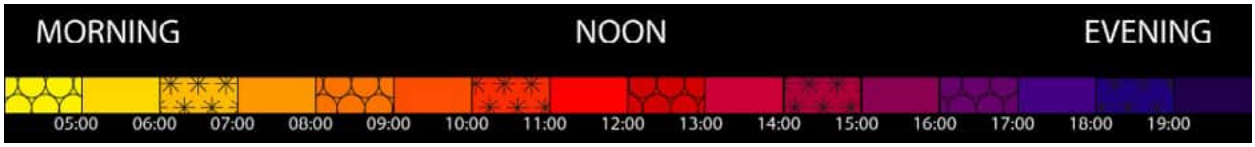


Fig. 62: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT CSCPb - LOOKING AT RIGHT TRAFFIC LIGHTS

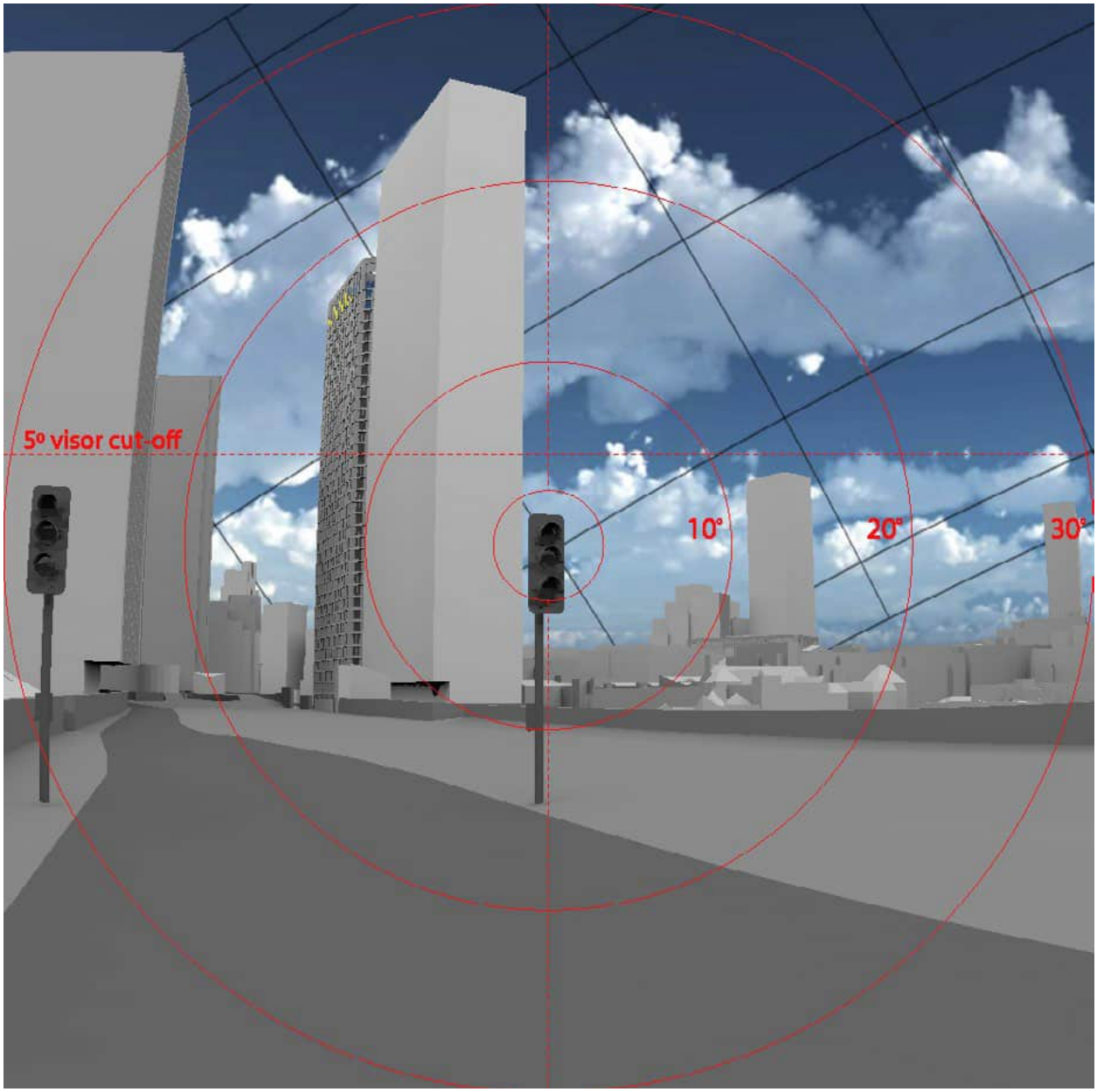


Fig. 63: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT MS1 - LEFT LANE, LOOKING AT LEFT TRAFFIC LIGHTS

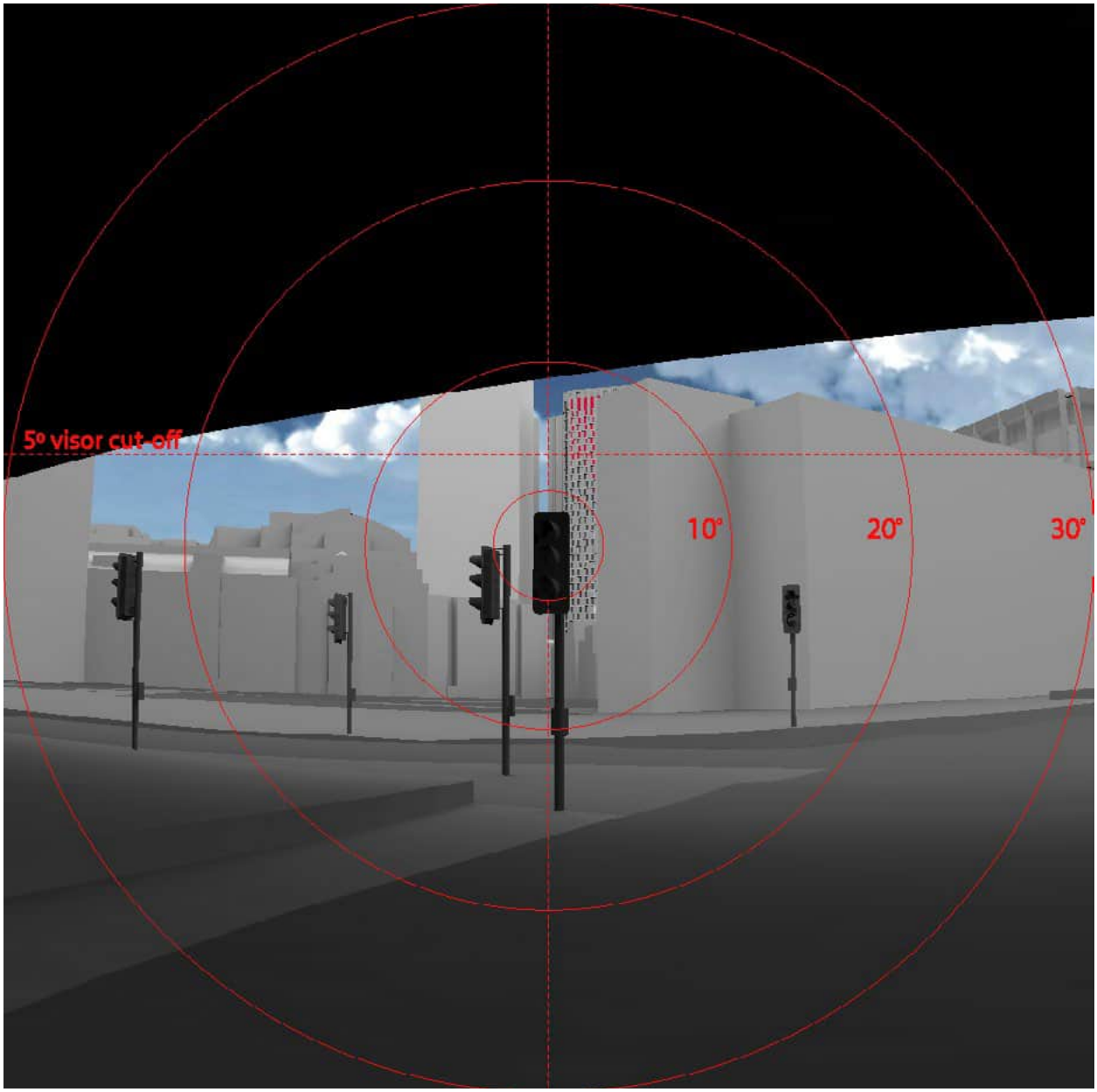
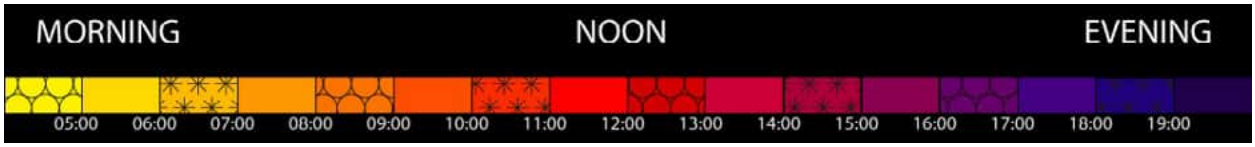


Fig. 64: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT MS1 - LEFT LANE, LOOKING AT LEFT TRAFFIC LIGHTS

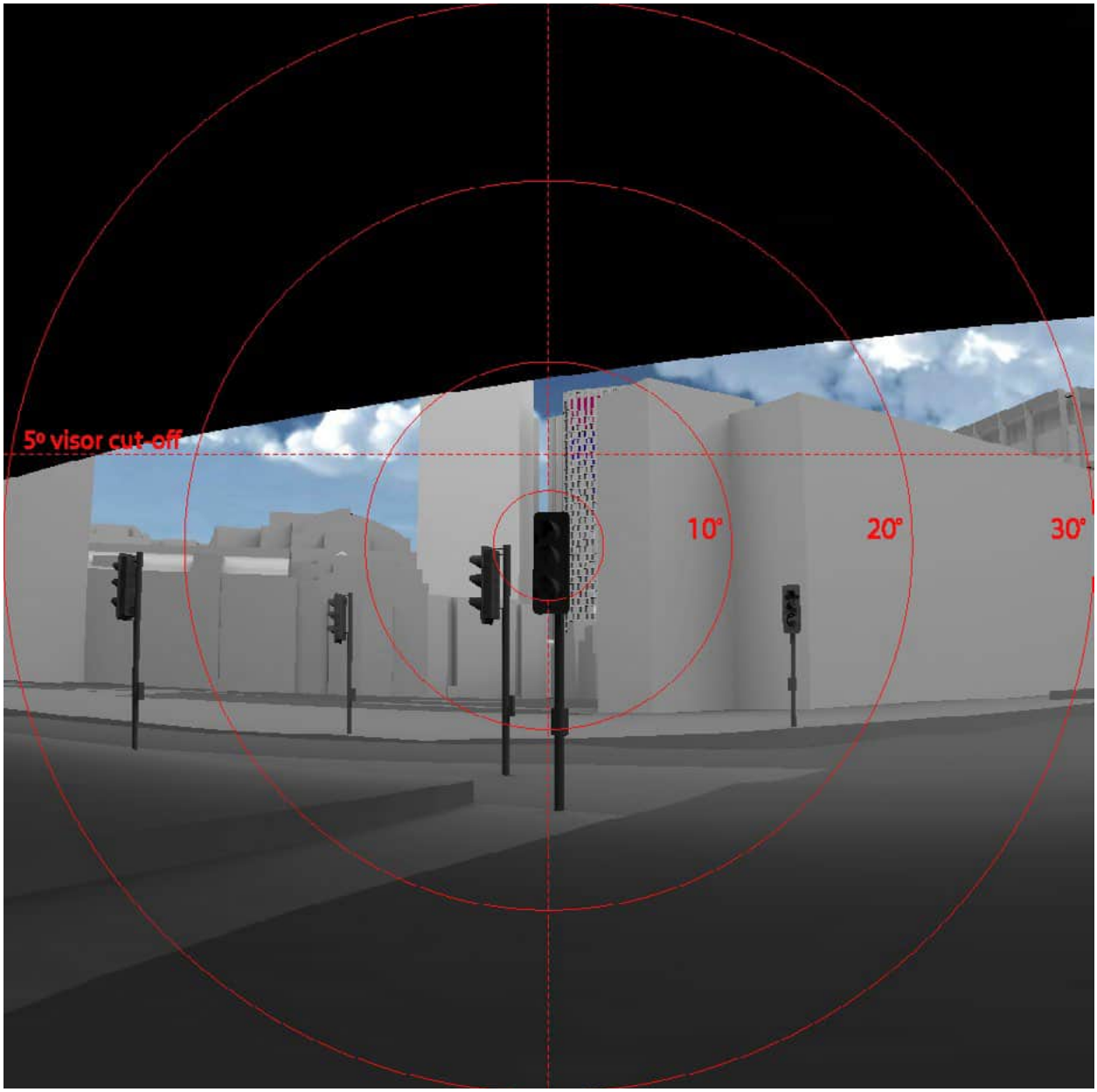


Fig. 65: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT TRAM 5 - EASTBOUND TO DEANSGATE-CASTLEFIELD

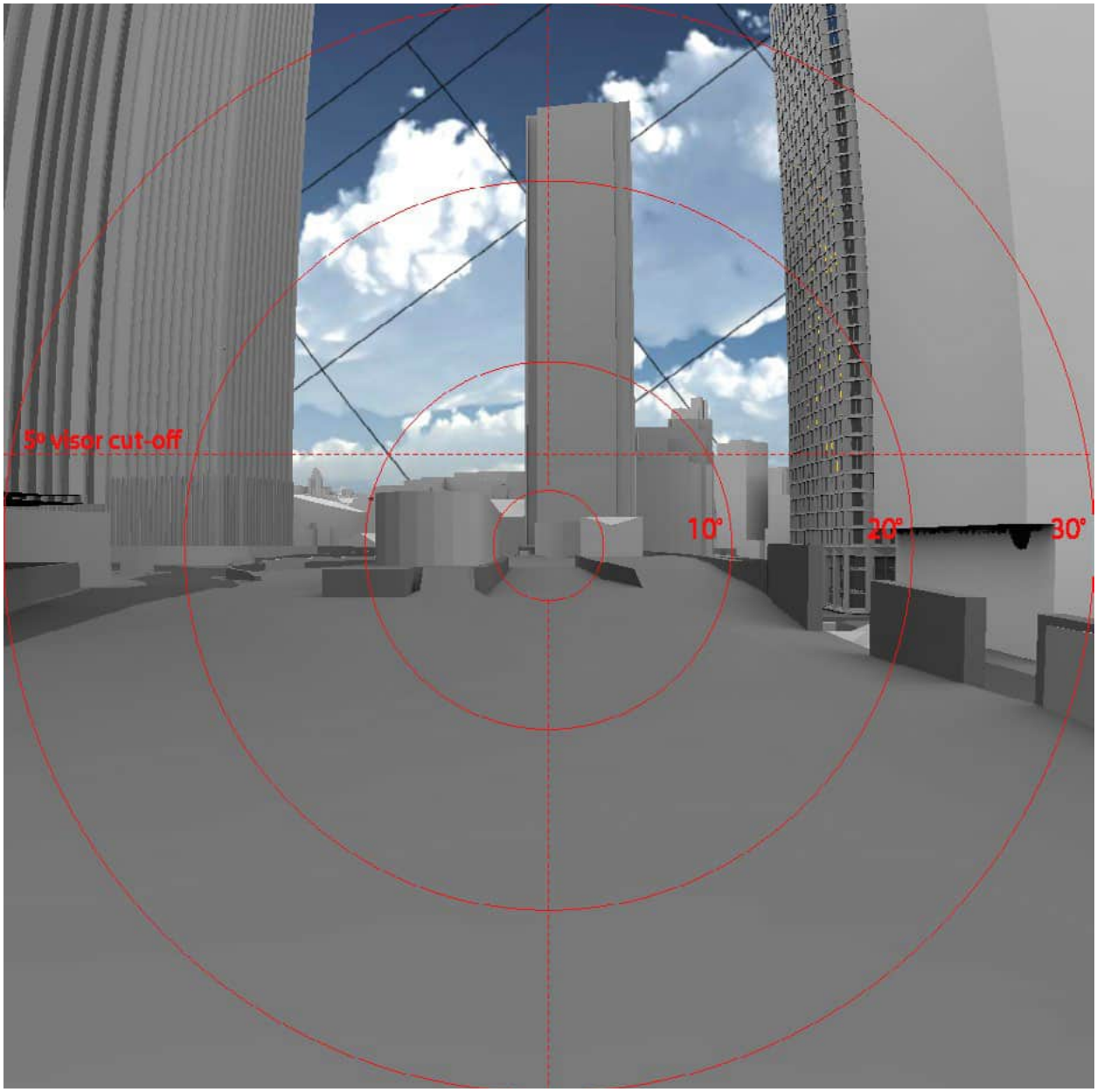
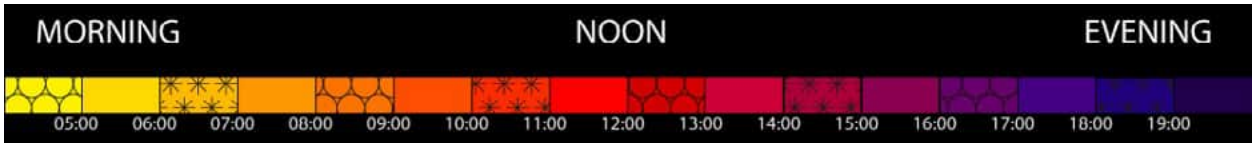


Fig. 66: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT TRAM 5 - EASTBOUND TO DEANSGATE-CASTLEFIELD

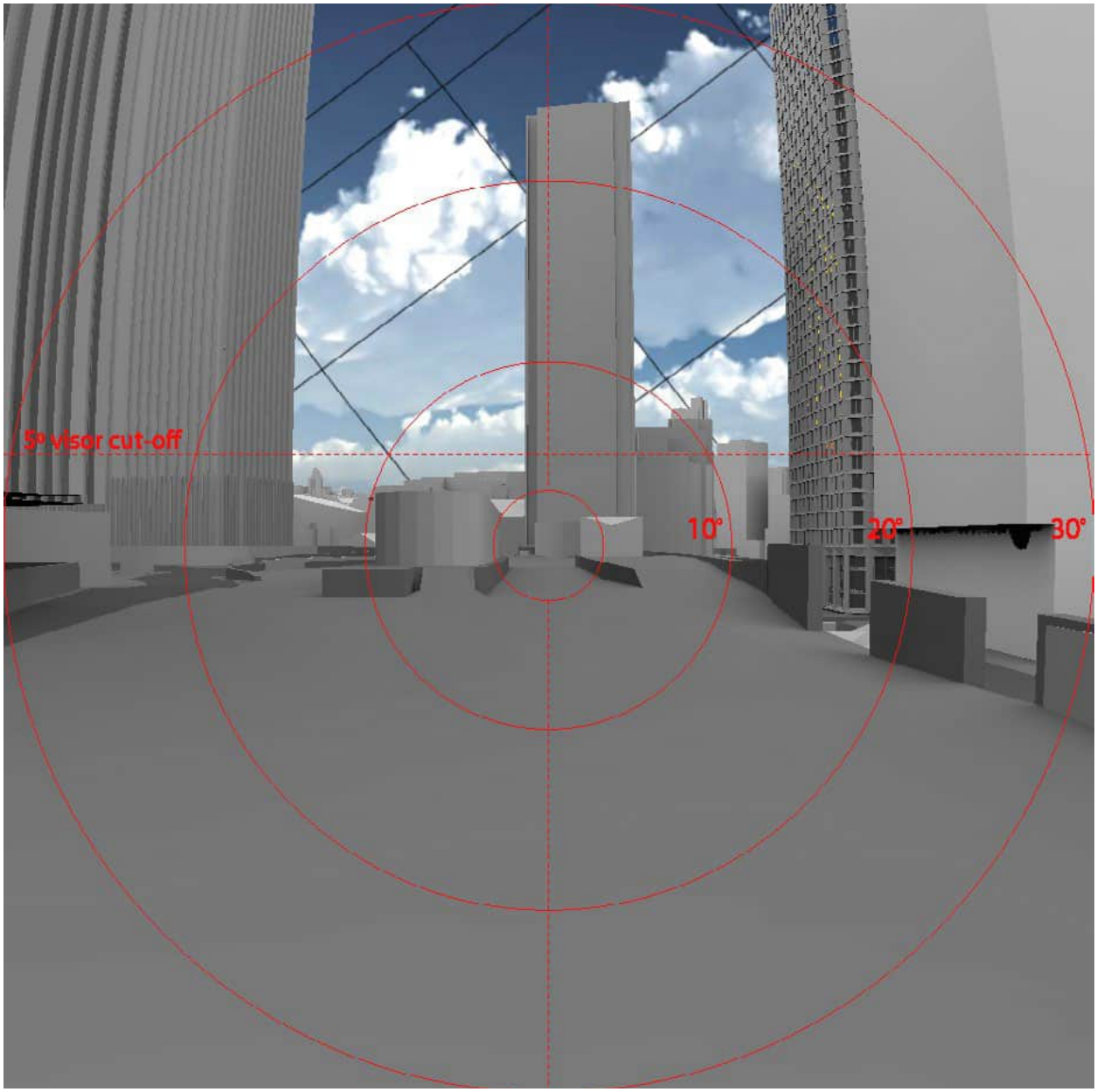


Fig. 67: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT TRAM 6 - EASTBOUND TO DEANSGATE-CASTLEFIELD

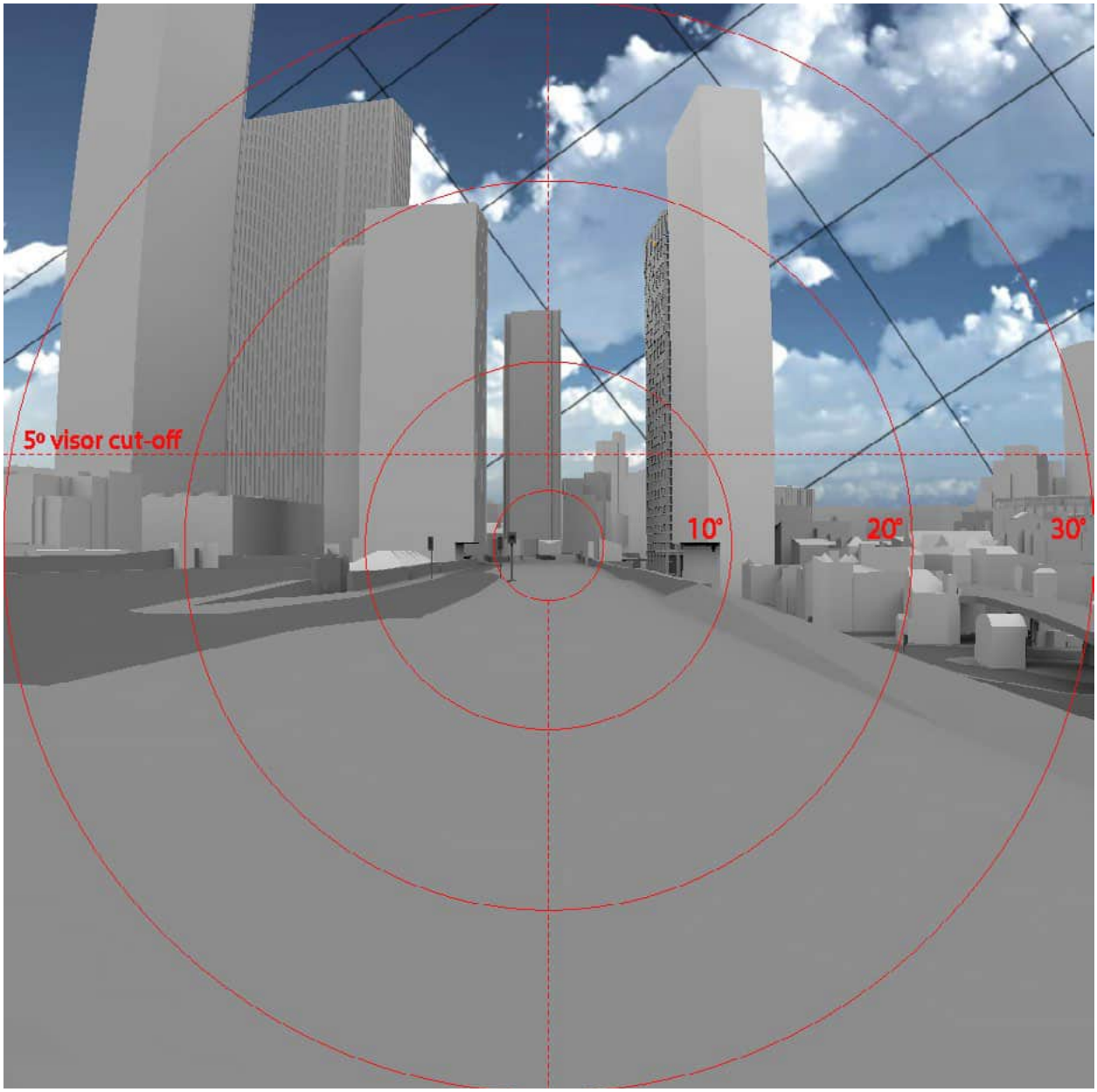
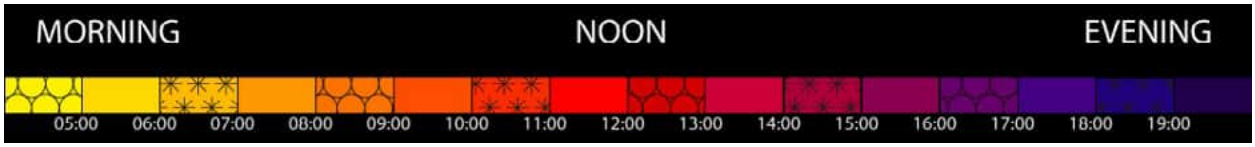


Fig. 68: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT TRAM 6 - EASTBOUND TO DEANSGATE-CASTLEFIELD

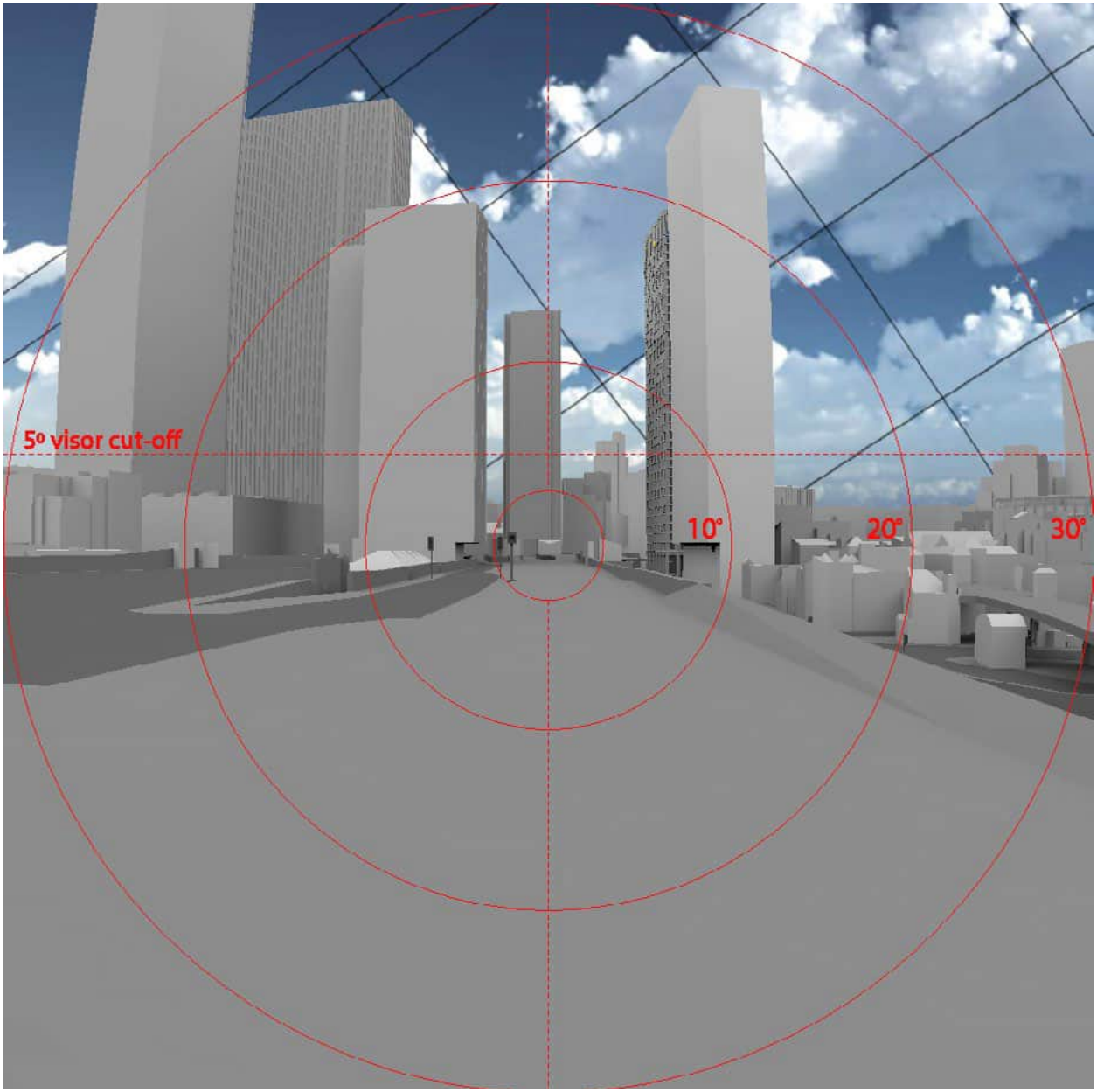


Fig. 69: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT TRAM 7 - EASTBOUND TO DEANSGATE-CASTLEFIELD

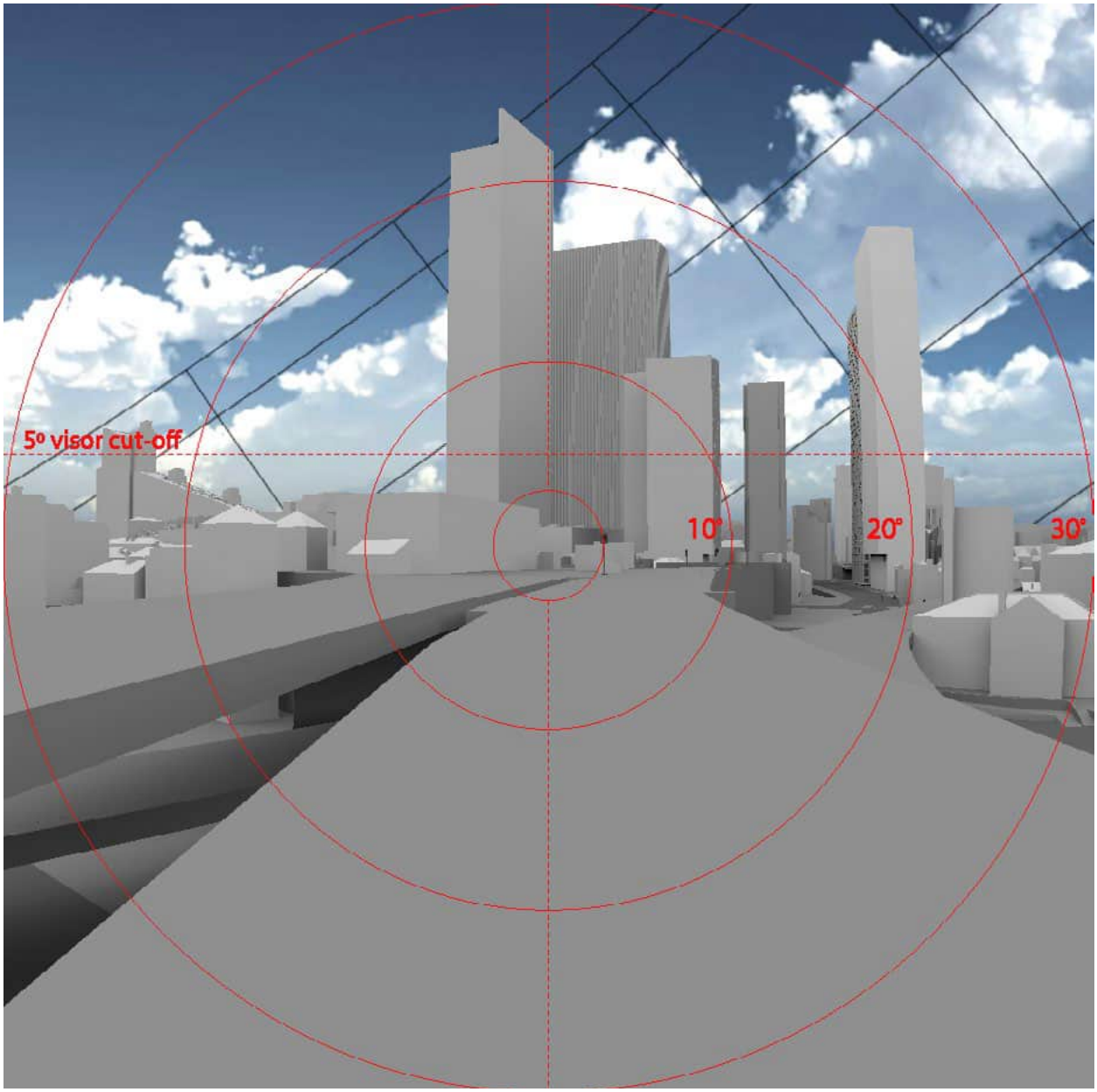
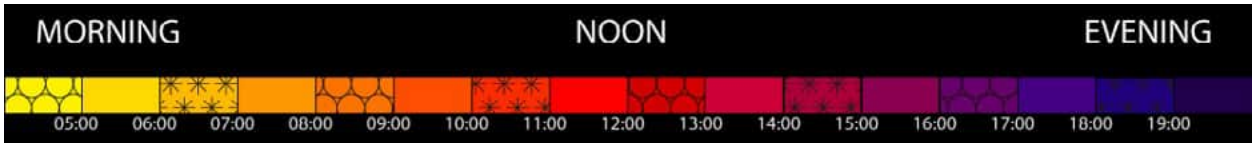


Fig. 70: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT TRAM 7 - EASTBOUND TO DEANSGATE-CASTLEFIELD

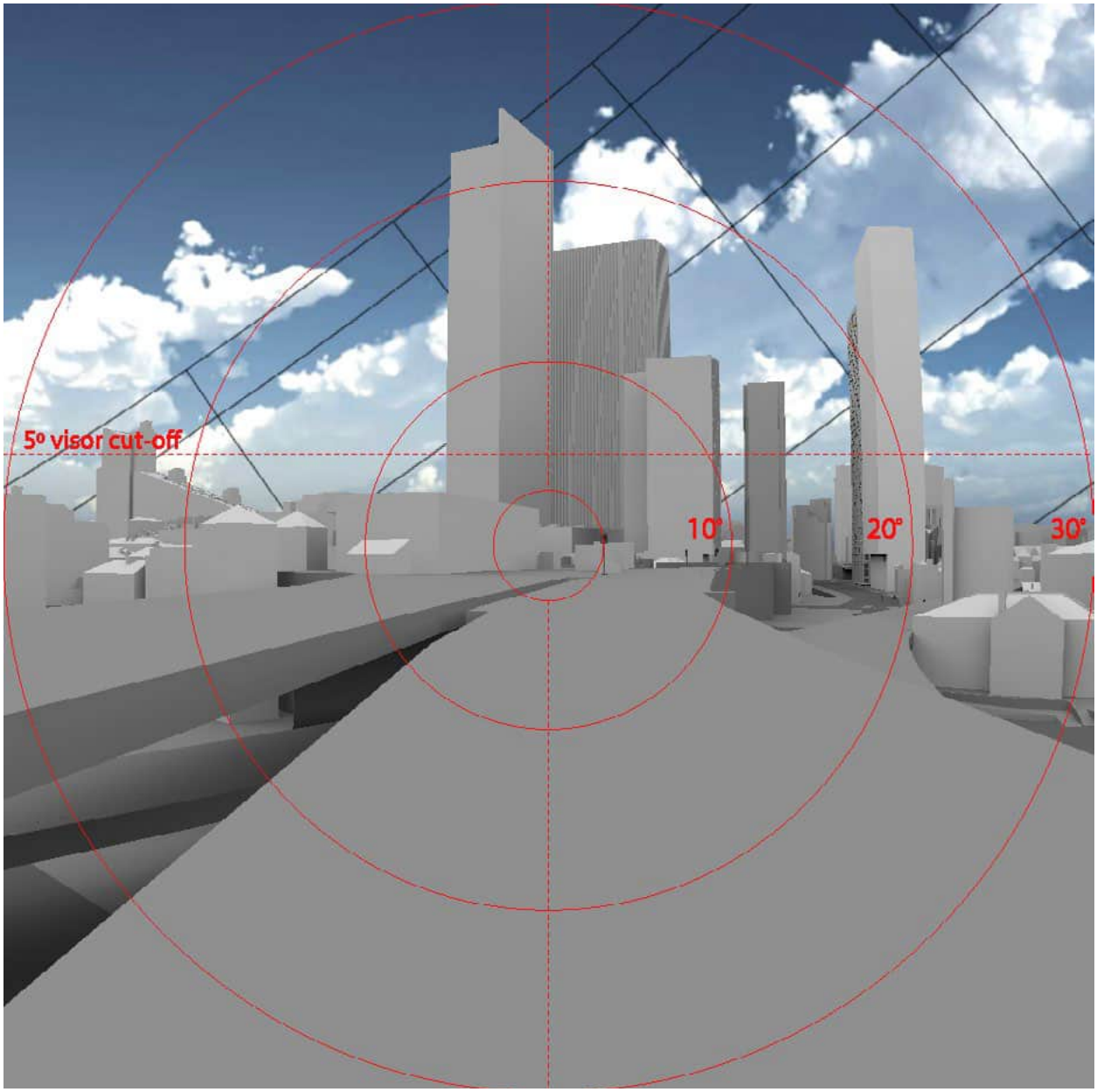


Fig. 71: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT RAIL 3 - EASTBOUND TO DEANSGATE

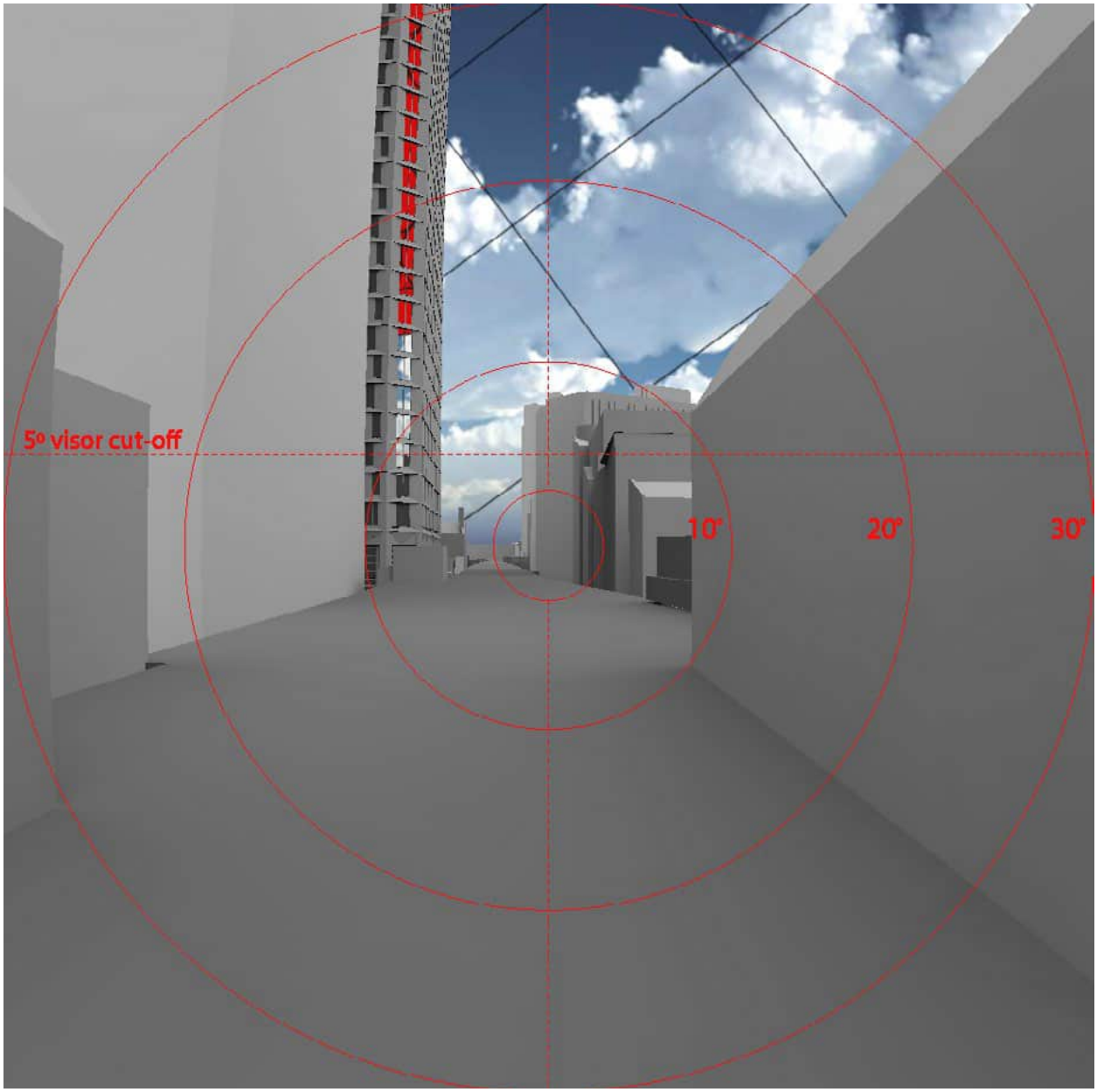
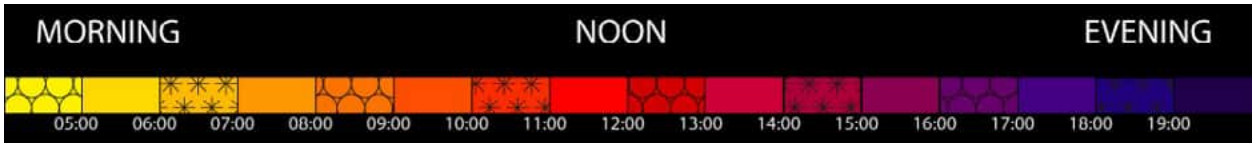


Fig. 72: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT RAIL 3 - EASTBOUND TO DEANSGATE

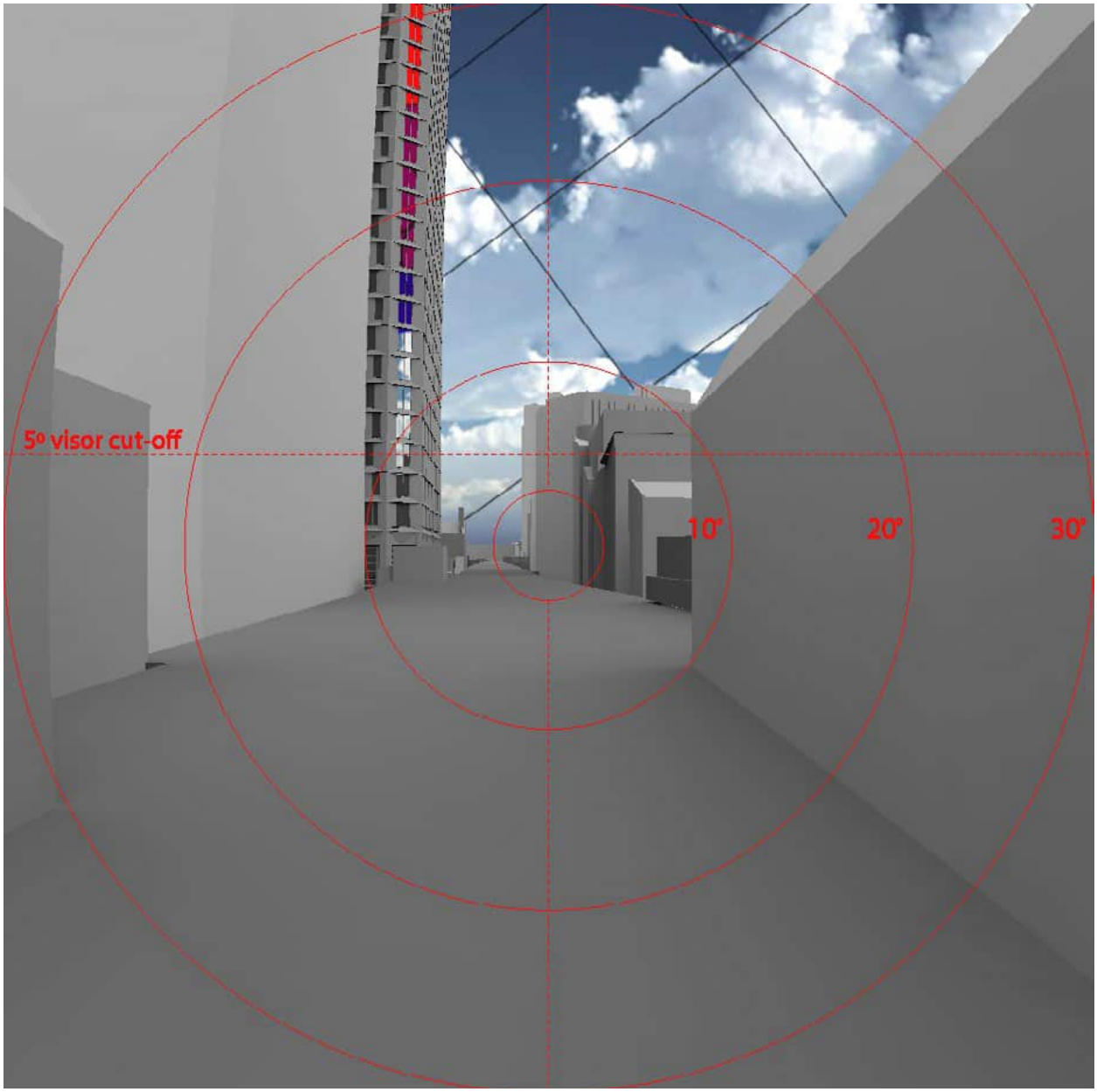


Fig. 73: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT RAIL 4 - EASTBOUND TO DEANSGATE

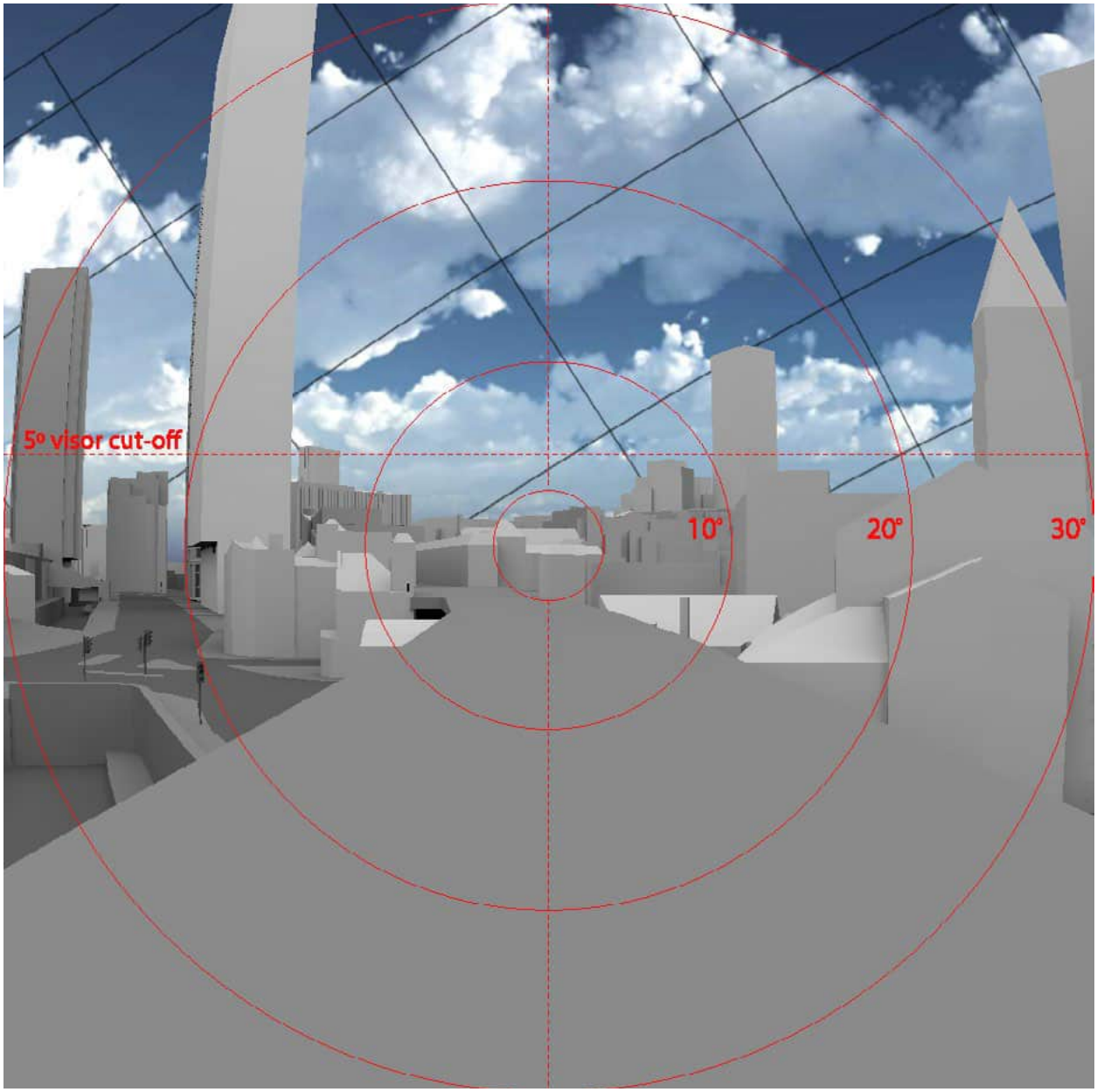
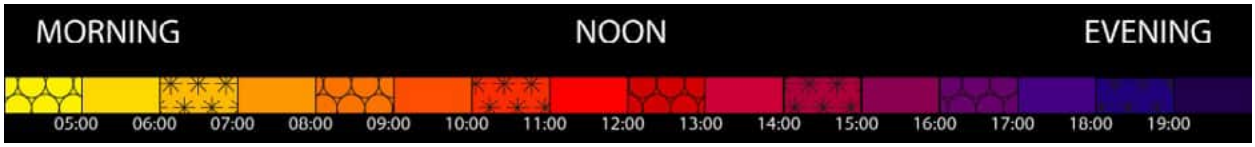


Fig. 74: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT RAIL 4 - EASTBOUND TO DEANSGATE

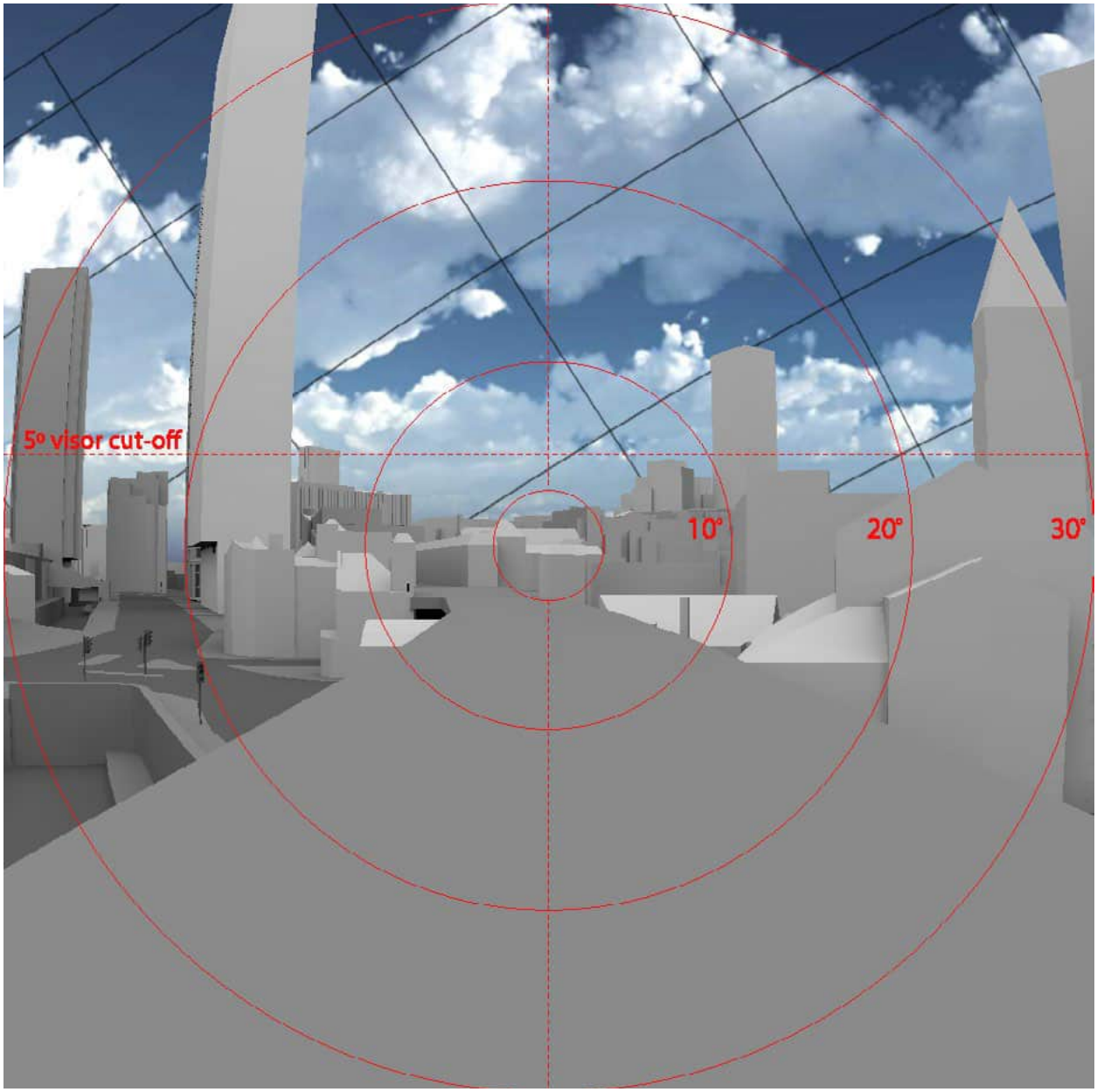


Fig. 75: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT RAIL 5 - EASTBOUND TO DEANSGATE

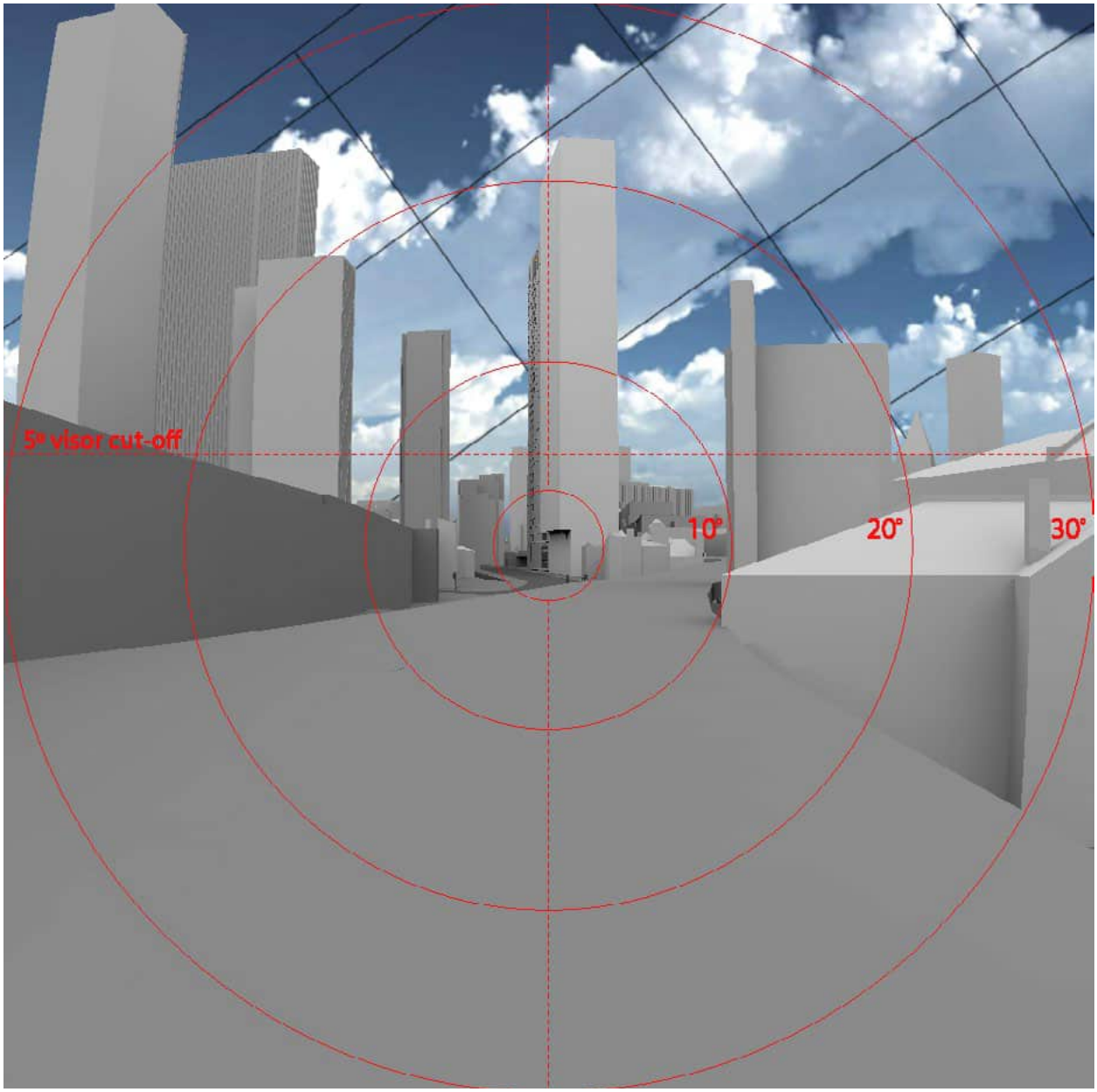
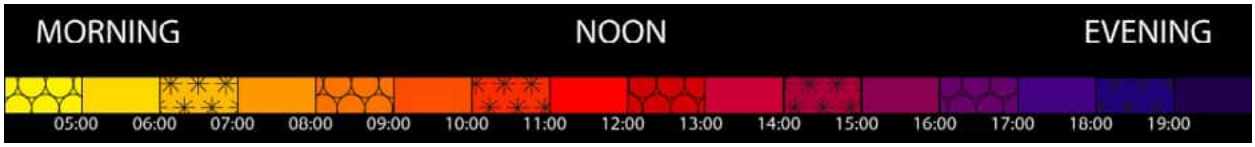


Fig. 76: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT RAIL 5 - EASTBOUND TO DEANSGATE

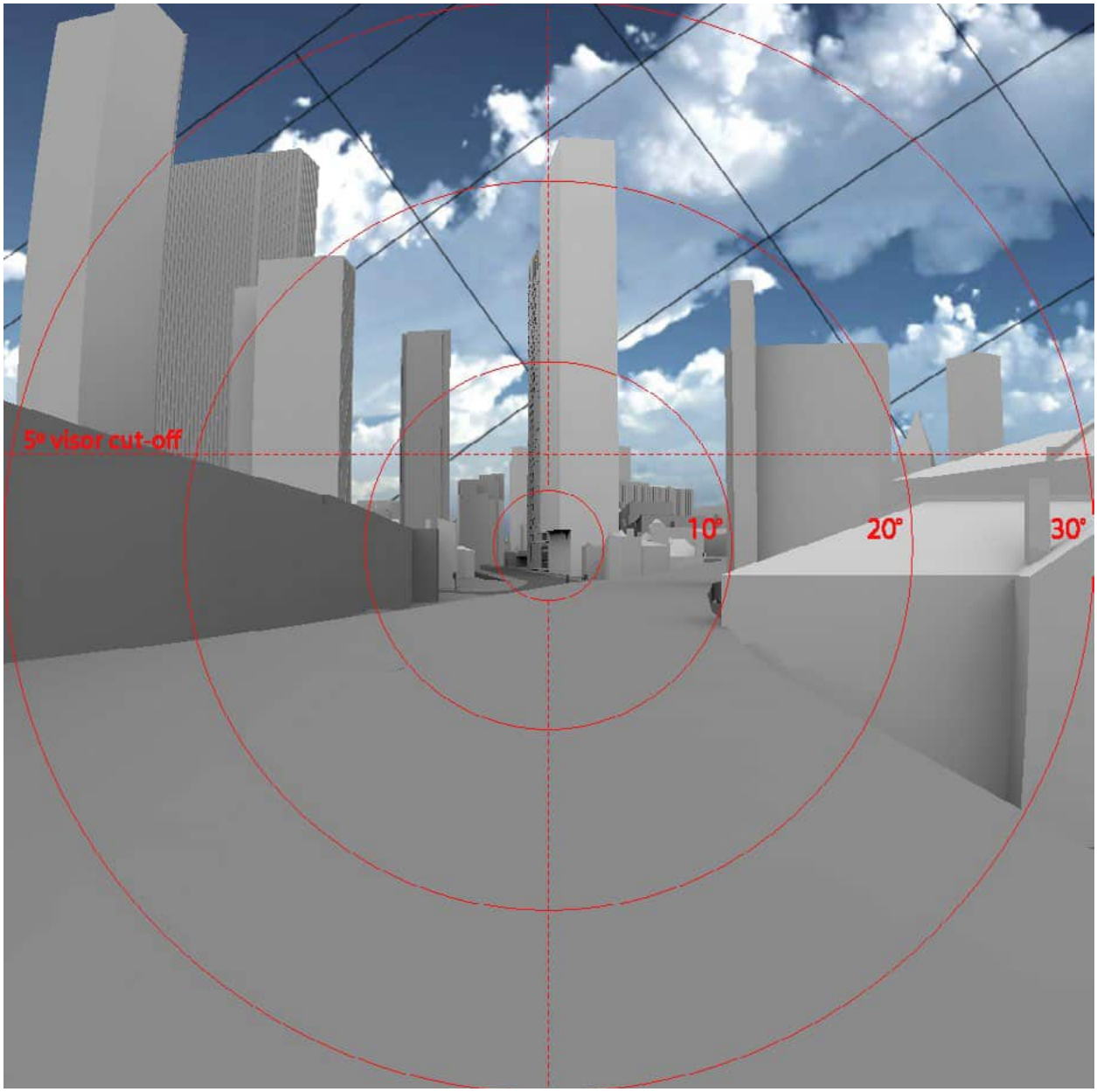


Fig. 77: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT RAIL 6 - EASTBOUND TO DEANSGATE

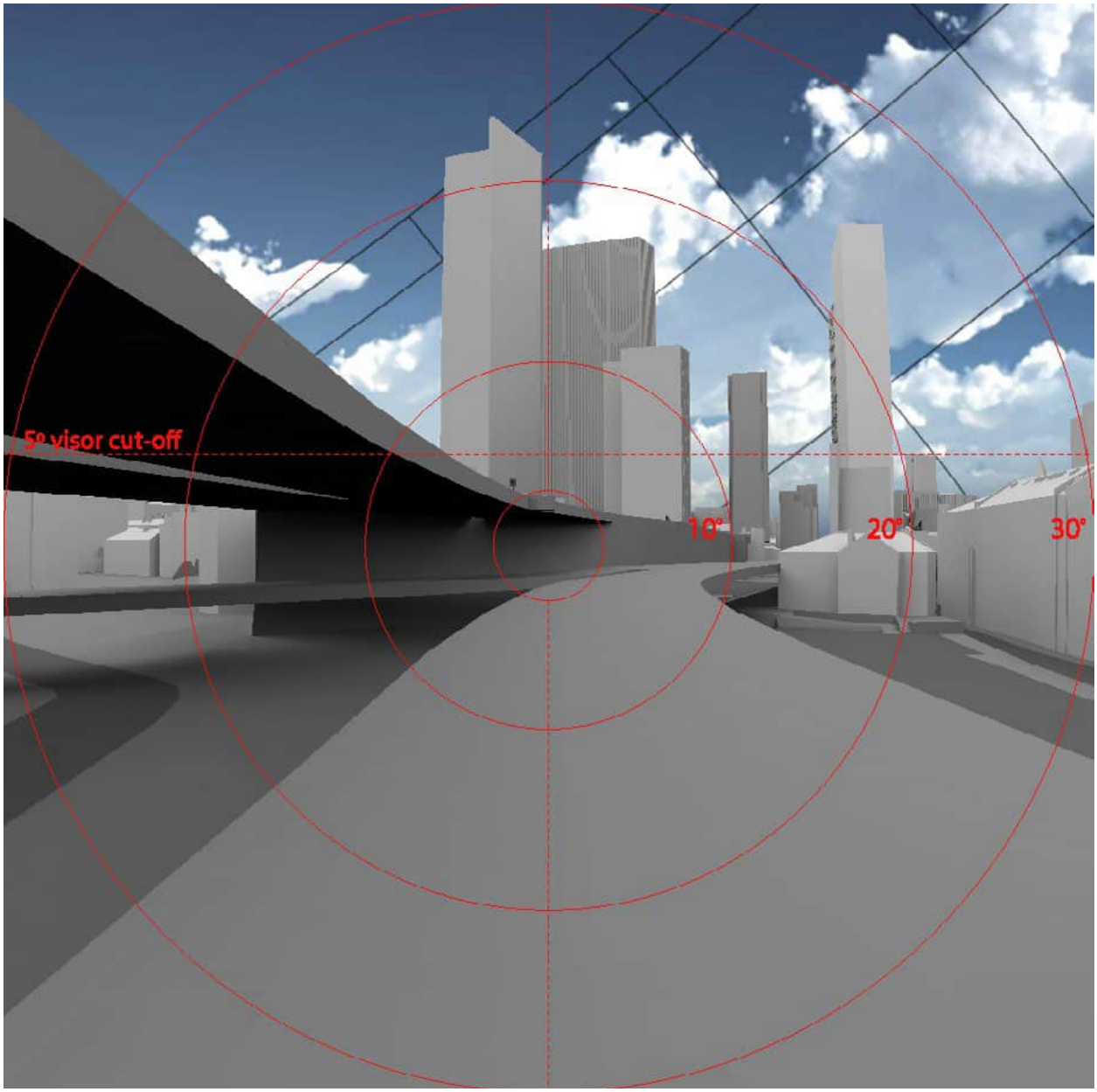
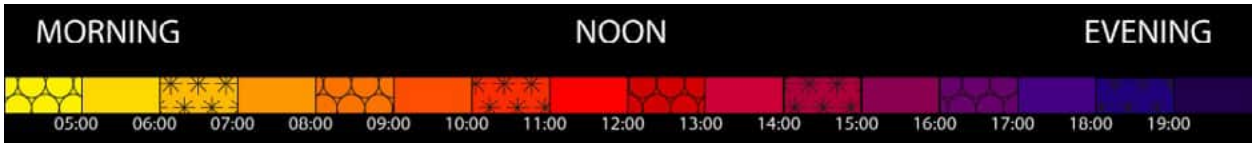


Fig. 78: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT RAIL 6 - EASTBOUND TO DEANSGATE

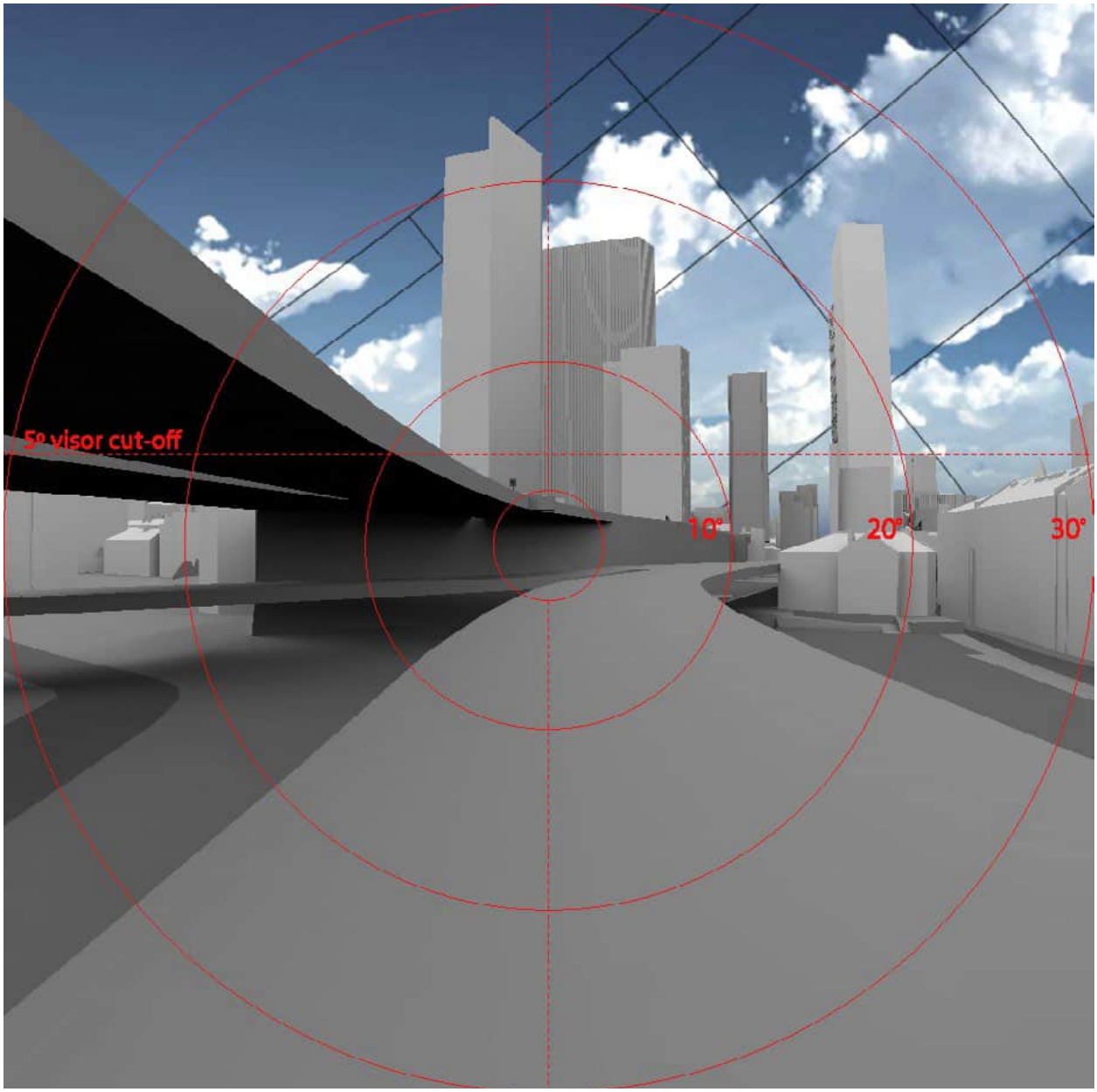


Fig. 79: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT RAIL 7 - EASTBOUND TO DEANSGATE

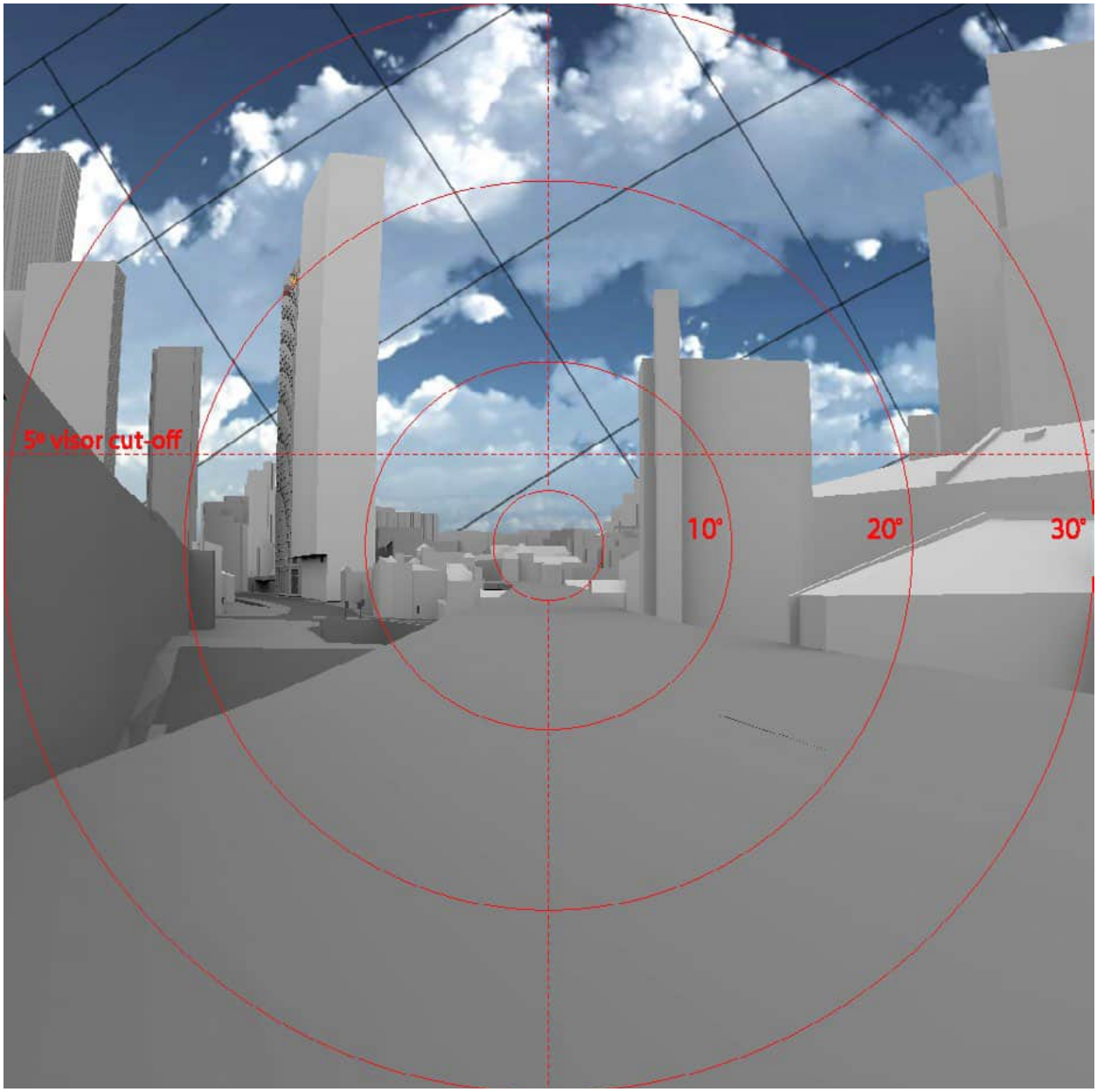
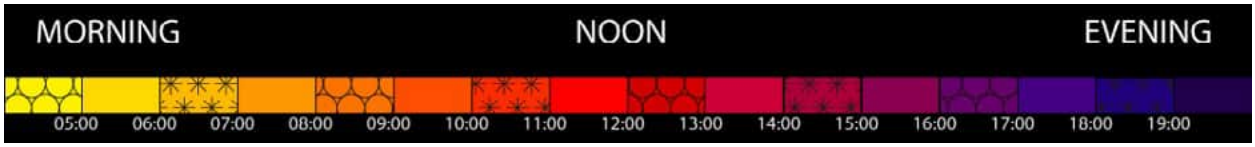


Fig. 80: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT RAIL 7 - EASTBOUND TO DEANSGATE

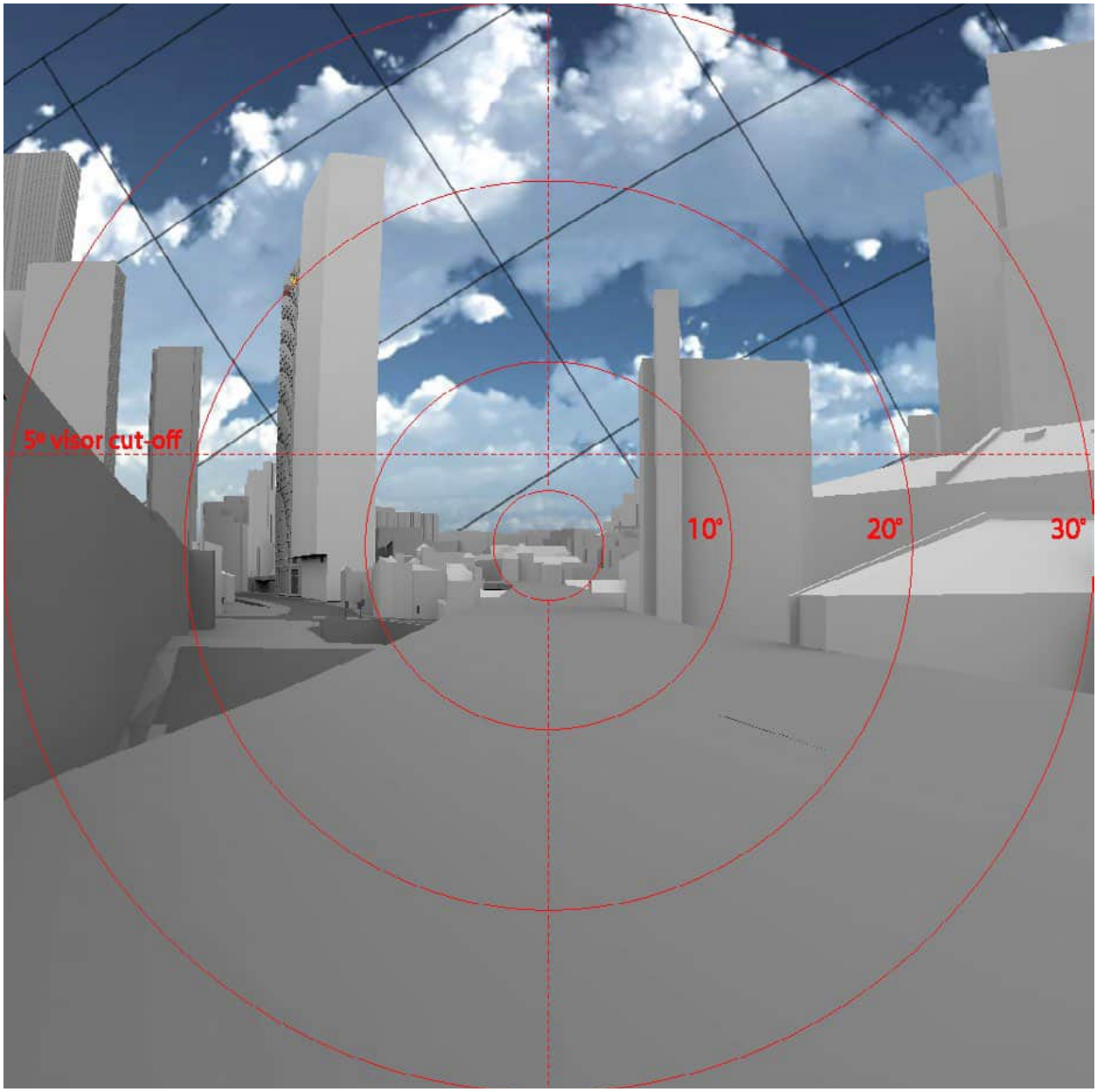


Fig. 81: Solar reflections



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What we do:

Building Surveying
Daylight & Sunlight
Light Obstruction Notices
Measured Surveys
Party Wall & Neighbourly Matters
Rights of Light
Solar PV
Wind Analysis

Where we are:

Belfast
Birmingham
Bristol
Dublin
London
Manchester

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