Government Property Agency

AtkinsRéalis



MANCHESTER DIGITAL CAMPUS

Environmental Statement
Volume 4 - Appendix 4.1:
EIA Scoping Report

NOVEMBER 2024

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This document has 184 pages including the cover.

Document history

Document title: Environmental Statement Volume 4 - Appendix 4.1 EIA Scoping Report

Document reference: MDCX-ATR-XX-XX-RP-Z-000023

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
1.0	Planning submission issue	PW	IL	TC	NB	25/11/2024

Government Property Agency

Manchester Digital Campus EIA Scoping Report

Government Property Agency

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This document has 181 pages including the cover.

Document history

Document title: EIA Scoping Report

Document reference: MSIP-ATK-XX-ZZ-RP-Z-000001

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
01	For issue	various	PW	IL	TC/NB	27/09/2024

List of Acronyms

Acronym	Definition
APIS	Air Pollution Information System
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQS	Air Quality Strategy
ASR	Annual Status Report
AVR	Accurate Visual Representations
AW	Ancient Woodland
BEIS	Department of Business, Energy and Industrial Strategy
BGL	Below Ground Level
BGS	British Geological Survey
BIS	Business, Innovation and Skills
BMV	Best and Most Versatile
BNG	Biodiversity Net Gain
BPM	Best Practicable Measures
BREEAM	Building Research Establishment Environmental Assessment Method)
CAMS	Catchment Abstraction Management Strategy
CC	City Council
CCTV	Closed-circuit Television
CEA	Cumulative Effects Assessment
CEMP	Construction Environmental Management Plan
CFD	Computational Fluid Dynamics
CIRIA	Construction Industry Research and Information Association
CoPA	Control of Pollution Act 1974
COPD	Chronic Obstructive Pulmonary Disease
CO_2e	Carbon dioxide equivalent
CRTN	Calculation of Road Traffic Noise
CSM	Conceptual Site Model
CTMP	Construction Traffic Management Plan
dB	Decibel
DCLG	Department of Communities and Local Government
DCO	Development Consent Order
DEFRA	Department for Environment, Food and Rural Affairs
DMOY	Do Minimum Opening Year
DMRB	Design Manual for Roads and Bridges

Acronym	Definition
DT	Diffusion tube
DWPA	Drinking Water Safeguard Zone
EA	Environment Agency
EIA	Environmental Impact Assessment
EC	European Commission
EcIA	Ecological Impact Assessment
EPUK	Environmental Protection UK
EQS	Environmental Quality Standard
ES	Environmental Statement
EU	European Union
FRA	Flood Risk Assessment
GHG	Greenhouse Gas
GI	Ground Investigations
GLVIA	Guidelines for Landscape and Visual Impact Assessment
GMAAS	Greater Manchester Archaeological Advisory Service
GMBAP	Greater Manchester Biodiversity Action Plan
GMBRC	Greater Manchester Biological Record Centre
GPA	Government Property Agency
GQRA	Generic Quantitative Risk Assessment
GVA	Gross Value Added
GMCC	Greater Manchester County Council
GPP	Guidance for Pollution Prevention
GWDTE	Groundwater-Dependent Terrestrial Ecosystems
HE	Historic England
HER	Historic Environment Record
HEWRAT	Highways England Water Risk Assessment Tool
HCA	Home and Communities Agency
HFAS	Highways Forecasting and Analytical Services
HGV	Heavy Goods Vehicle
HLC	Historic Landscape Characterisation
HRA	Habitat Regulation Assessment
HS2	High Speed 2
IAQM	Institute of Air Quality Management
ICE	Inventory of Carbon and Energy
IEMA	Institute of Environmental Management and Assessment

Acronym	Definition
INFANTTS	Infant Feedings and Tongue-Tie Specialists
INNPS	Invasive Non-Native Plant Species
IRZ	Impact Risk Zone
LAQM.TG	Local Air Quality Management Technical Guidance
LCC	Lawson Comfort Criteria
LCRM	Land Contamination Risk Management
LDDC	London Docklands Development Corporation
LDF	Local Development Framework
LGS	Local Geological Sites
LNR	Local Nature Reserve
LOAEL	Lowest Observed Adverse Effect Level
LPA	Local Planning Authority
LWS	Local Wildlife Site
MAGIC	Multi–Agency Geographic Information for the Countryside
MCC	Manchester City Council
MPA	Mineral Products Association
MSA	Mineral Safeguarding Area
Mt	Million tonnes
NATS	National Air Traffic Services
NCN	National Cycle Network
NIA	Noise Important Area
NIR	Noise Insulation Regulations 1975
NGR	National Grid Reference
NHLE	National Heritage List for England
NNR	National Nature Reserve
NO	Nitric Oxide
NOx	Oxides of nitrogen
NO_2	Nitrogen dioxide
NPPF	National Planning Policy Framework
NPPG	National Planning Practice Guidance
NPSE	Noise Policy Statement for England
NSR	Noise Sensitive Receptors
OCEMP	Outline Construction Environmental Management Plan
ONS	Office for National Statistics
OS	Ordnance Survey
O_3	Ozone
PCM	Pollution Climate Mapping

Acronym	Definition
PHE	Public Health England
PM	Particulate Matter
$PM_{2.5}$	Particulate Matter 2.5
PM_{10}	Particulate Matter 10
PPG	Planning Practice Guidance
PPS10	Planning Policy Statement 10
PPV	Peal Particle Velocity
PV energy	Photovoltaic energy
RBMP	River Basin Management Plan
RIGS	Regionally Important Geological Sites
RFFP	Reasonably Foreseeable Future Projects
SAC	Special Area of Conservation
SBI	Site of Biological Importance
SEND	Special Educational Needs and Disability
SFRA	Strategic Flood Risk Assessment
SI	Statutory Instrument
SOAEL	Significant Observed Adverse Effect Level
SPA	Special Protection Area
SPZ	Source Protection Zone
SRF	Strategic Regeneration Framework
SSSI	Sites of Special Scientific Interest
SuDS	Sustainable Drainage Systems
SWMP	Site Waste Management Plan
TA	Transport Assessment
TfGM	Transport for Greater Manchester
TWA Order	Transport and Works Act Order
TVIA	Townscape and Visual Impact Assessment
UDP	Unitary Development Plan
UK BAP	United Kingdom Biodiversity Action Plan
UKCP18	United Kingdom Climate Projections 2018
UXO	Unexploded Ordnance
µm	Micrometres
WEEE	Waste Electrical and Electronic Equipment
WFD	Water Framework Directive
WWII	World War II
ZTV	Zone of Theoretical Visibility

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1. Introduction

1.1. Background

1.1.1. This Environmental Impact Assessment (EIA) Scoping Report has been prepared in respect of the proposals for the Phase 1 development (Manchester Digital Campus), including forming the new ground levels for the proposed park, at the former Central Retail Park in New Islington in Greater Manchester (herein referred to as the 'Site'), see Figure 1-1.

1.1.2. There will be a separate planning application for The Park being brought forward by Manchester City Council for the development of a new public park on the former Central Retail Park.

1.1.3. The Government Property Agency (GPA) (herein referred to as the 'Applicant') will be submitting an application for Full Planning Permission for the new Manchester Digital Campus, comprising office buildings with ground floor commercial units along Great Ancoats Street, a basement level accessible car park, cycle parking, landscaping and public realm, alongside forming the new ground levels for the proposed new park.(herein referred to as the 'Proposed Development').

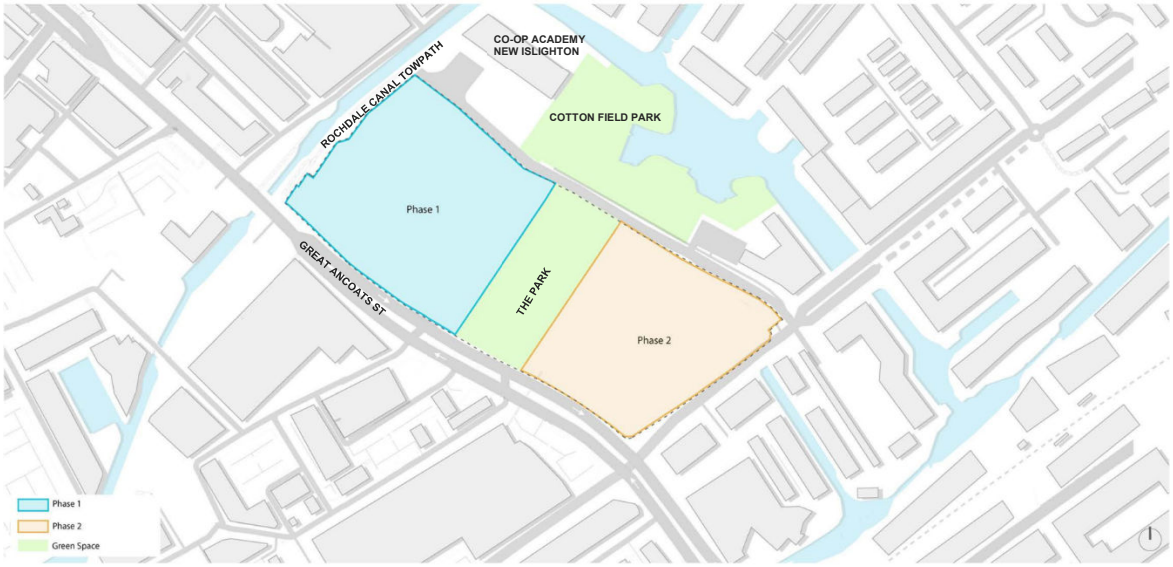


Figure 1-1 – Phase 1, The Park and Phase 2 placement on the former Central Retail Park, as per Development Parcels Plan in the former Central Retail Park Strategic Regeneration Framework

1.1.4. The Former Central Retail Park is approximately 4ha in total. The Proposed Development Site area is approximately 2.87 halt is located in Manchester City Centre's north-eastern fringe, at Ordnance Survey (OS) National Grid Reference (NGR) SJ 85031 98455. The Site is bounded by Great Ancoats Street to the south, Cotton Field Park and Co-op Academy New Islington Primary School to the north, Rochdale Canal Towpath to the northwest and the Phase 2 development to the southeast. The Site will be separated from the Phase 2 development by a park. Proposals for the park will be brough forward by Manchester City Council (MCC) separately, and proposals for Phase 2 are expected to come forward in due course. For the purpose of EIA Scoping the Site includes Phase 1 and a parcel of The Park, due to the enabling works required to form the ground levels for The Park.

1.1.5. AtkinsRéalis have been commissioned by the Applicant to prepare an EIA Scoping Report, in line with the requirements of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the "EIA Regulations"), to support the request for an EIA Scoping Opinion from MCC.

1.2. Purpose of the scoping report

1.2.1. Scoping is the process of determining the scope and information to be provided in the EIA and reported in the Environmental Statement (ES).

1.2.2. This Scoping Report describes the scope of the technical studies to be undertaken in order to provide a comprehensive assessment of significant effects likely to arise and to determine suitable mitigation measures for the construction and operational phases of the Proposed Development. It identifies the environmental topics to be assessed and those that do not need to be assessed because they are unlikely to have significant environmental effects i.e., those that can be 'scoped out'. This Scoping Report provides a mechanism for consulting on and agreeing the content and methodology of the EIA with MCC, statutory consultees, and other stakeholders.

1.2.3. This Scoping Report has been prepared in order to support a request for a Scoping Opinion as set out in Regulation 15 of the EIA Regulations.

1.3. Requirement for EIA

1.3.1. The EIA Regulations implement amendments to European Union (EU) Directive 2011/92/EU contained within the European Directive 2014/52/EU. They apply to the assessment of environmental impacts that are likely to arise from certain types of public and private projects.

1.3.2. EIA is a systematic process during which potential significant environmental effects from a proposed development project are identified and assessed, and the scope for minimising these is presented to the relevant decision maker (in the EU Directives, the 'competent authority') in an ES accompanying a planning application.

1.3.3. The aim of the EIA is to provide the competent authority with the information necessary to consider potential significant environmental effects (both negative and positive), to ascertain whether these are acceptable, and, where appropriate, to secure mitigation measures to minimise negative impacts prior to granting relevant consents.

1.3.4. The EIA Regulations set out thresholds for certain types of projects that by their scale or nature require an EIA to be prepared. Under the EIA Regulations, an ES must be submitted with planning applications for "EIA Development". EIA Development may be:

- Schedule 1 Development (development of a description set out at Schedule 1); and
- Schedule 2 Development likely to have significant effects on the environment by virtue of factors such as its nature, size or location (where Schedule 2 Development is development of a description mentioned in column 1 of Schedule 2 where the relevant thresholds in Column 2 are exceeded (or any part of the development is in a "sensitive area" (e.g., AONBs, National Parks)).

1.3.5. Schedule 1 Development always requires EIA. Schedule 2 development requires EIA, only if it is likely to have significant effects on the environment.

1.3.6. Schedule 3 of the EIA Regulations describes the criteria that must be taken into account in determining whether a development, which falls within the size threshold applicable to Schedule 2 Development, is likely to have significant impacts and hence should be subject to EIA. These include:

- The characteristics of the development;
- The environmental sensitivity of the location; and
- The characteristics of the potential impact.

1.3.7. The Proposed Development falls under Schedule 2 of the EIA Regulations 10(b) Urban development projects. The applicable threshold above which EIA is likely to be required includes for (i) development of more than 1ha of urban development that is not a dwelling house, or (ii) if the development includes more than 150 dwellings, or, (iii) if the overall development is over 5ha.

1.3.8. The Proposed Development covers an area of 2.19ha and therefore exceeds the threshold as set out in Schedule 2 indicating that EIA is likely required. Given the nature of the Proposed Development, an EIA is considered appropriate to test the likely significant effects of the Proposed Development. The Applicant therefore proposes to submit an ES in relation to certain topic areas where there is likely to be a significant effect of the environment in support of the planning application.

1.4. The Applicant

1.4.1. The GPA is an Executive Agency of the Cabinet Office. It is a national organisation, working with client departments across the country. The GPA is helping transform the way the Civil Service works and reshaping the relationship civil servants have with their place of work.

1.5. The EIA Project Team

1.5.1. The EIA Team is being co-ordinated and lead by AtkinsRéalis. AtkinsRéalis is also undertaking the assessments of all EIA topics apart from Townscape and Visual which will be undertaken by Heritage Architecture and Daylight, Sunlight, Overshadowing and Solar Glare will be undertaken by Delva Patman Redler.

1.6. Consultation

1.6.1. Consultation is an important part of the EIA and design development.

1.6.2. Information and views will be sought from a range of statutory and non-statutory bodies through meetings and public consultation and the intention is for consultees to be involved in the evolution of the design and assessment of environmental impacts.

- Initial consultation has already been undertaken with MCC officers, MCC Highways, Greater Manchester Archaeological Advisory Service (GMAAS), Transport for Greater Manchester (TfGM), Greater Manchester Police, Canals and Rivers Trust, Historic England (HE) and the Co-op Academy New Islington Primary School.

1.6.3. Further consultees will include, but are not limited to:

- Environment Agency (EA);
- Natural England (NE);
- United Utilities;
- National Air Traffic Services;
- Manchester Airport Group (MAG) and the Manchester airport safeguarding team;
- Barton Aerodrome
- Local residents and local community groups (to be agreed with the Planning Authority);
- Adjacent landowners; and
- Important neighbouring occupiers comprised of local business and industry.

1.6.4. A programme of community consultation will be undertaken by the Project Team who will continue to engage with third parties and stakeholders throughout the planning process. This has included a public consultation event in September 2024.

2. Description of the Site and Proposed Development

2.1. Site description

2.1.1. The former Central Retail Park is approximately 4ha in total. The Proposed Development Site area is approximately 2.87 ha and is centred on NGR SJ 85031 98455.

2.1.2. The 'Site' refers to the EIA boundary (which includes the Phase 1 development and the new ground levels for the proposed park) within the former Central Retail Park in New Islington in Greater Manchester.

2.1.3. The former Central Retail Park has since been demolished. The Site is currently vacant and comprises a disused hardstanding carpark with other hardstanding areas. Trees line the edge of the Site and patches of shrub and grass vegetation are scattered across the Site.

2.1.4. There is a significant ground level change across the former Central Retail Park between its northwest corner, descending towards its southeast corner where Great Ancoats Street and Old Mill Street intersect.

2.1.5. Currently the Site has a main vehicular access point located off Great Ancoats Street, and a secondary access point off Old Mill Street, formerly used for deliveries and waste collections.

2.2. Site context

2.2.1. The Proposed Development Site is located in New Islington, Greater Manchester. The location of the Proposed Development Site in its wider geographical context is shown in Figure 2-1.

2.2.2. The Site is located in a mixed-use area that is predominantly commercial and residential in nature. The Co-op Academy New Islington Primary School, Cotton Field Park, New Islington Marina, New Islington Medical Practice and Urban Village Medical Practice are located along the northern boundary of the Site. Opposite the Site, to the south of Great Ancoats Street, a number of businesses are located at the Urban Exchange, a retail outlet as well as residential buildings. There is also high-density residential accommodation within the surrounding area including to the west of the Site in Ancoats and southeast of the Site along Old Mill Street.

2.2.3. The Proposed Development Site is not within a conservation area; however the boundary of the Ancoats Conservation Area runs adjacent to the northwest of the Site, along the bank of the Rochdale Canal on the Former Central Retail Park side. There are six other conservation areas within 1km of the Proposed Development Site.

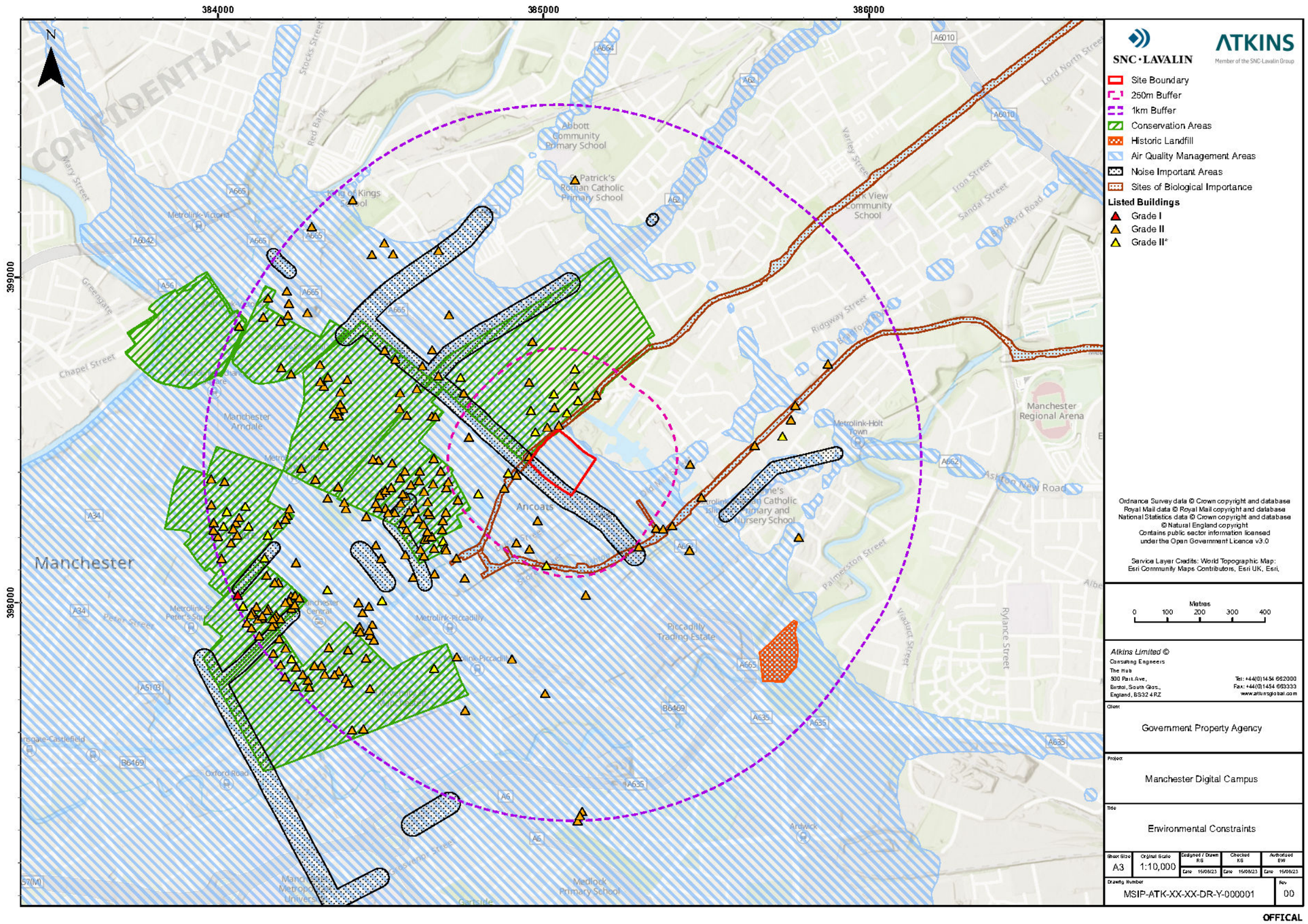
2.2.4. There are no statutory Listed Buildings within the Proposed Development Site, however there are 240 Listed Buildings within 1km, the closest being Grade II Rochdale Canal Lock Number 82 (ID: 1247485) located 11m west at NGR SJ850984. Additional listed assets relevant to the Rochdale Canal are close to the Site, and Sedgwick Mill (ID: 1270856) and Royal Mill (ID: 1247474) lining the west of Redhill Street.

2.2.5. The Proposed Development Site is located within the Manchester Air Quality Management Area (AQMA), which covers Manchester City Centre, the area around Manchester Airport and the main arterial traffic routes in the city. The pollutant declared for the AQMA is annual mean nitrogen dioxide (NO_2) with the source determined as a mixture of road types.

2.2.6. The Rochdale Canal is the closest waterbody to the Proposed Development Site, located adjacent to the west of the Site. The Proposed Development Site is within Flood Zone 1 (low probability of flooding).

2.2.7. There are nine Noise Important Areas (NIA) within 1km of the Proposed Development, the closest is NIA (ID: 10962) associated with Great Ancoats Street, which extends into the Site.

2.2.8. There are no historic landfills or permitted waste sites within 300m of the Proposed Development Site. The closest is historic landfill (ID: EAHLD16530) located 760m south-east of the Proposed Development Site.



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Figure 2-1 – Environmental constraints map

2.3. Strategic Context

2.3.1. The redevelopment of the Former Central Retail Park is a long-standing strategic priority for MCC. The Site presents a strategically important location for the city both as a Site in single ownership with the potential to create a new commercial, office led district of real ambition focused on digital skills, and as an opportunity to improve links, connectivity and permeability across the Site and between the surrounding districts which the former retail park had always turned its back on. A Strategic Regeneration Framework[1] (SRF) for the Site, prepared by MCC with input from the GPA, was endorsed by MCC's Executive Committee in March 2023. This sets out an ambition for the Site to create a high-quality, sustainable office district with an attractive public realm at its centre and establishes a series of key development principles.

2.4. The Proposed Development

2.4.1. The Proposed Development will comprise the redevelopment of the Site into two new buildings ranging in height up to 10 storeys (including basement and plant accommodation) which will include workspaces, supporting retail on the ground floor fronting Great Ancoats Street and provides cycle storage and changing facilities for staff for the whole Site. The Manchester Digital Campus will also include The Boulevard and Canal Plaza as public realm.

2.4.2. The Site will include a basement for accessible parking of 50 cars (plus 5 spaces associated with facilities management and operations), as well as deliveries, servicing and maintenance access. Access to the basement will be from the existing access point on Great Ancoats Street.

2.4.3. The Proposed Development also comprises of a package of enabling works including the establishment of new Site levels (including for the future Park development being brought forward by MCC under a concurrent separate application) and permanent boundaries, removal of services, highways alterations and other associated works.

Construction

2.4.4. Construction of the Proposed Development is proposed to commence on Site in 2025 including initial Site enabling and development improvement works.

2.4.5. The details of the construction phasing and programme are still to be confirmed however, it is anticipated that enabling works will start in 2025 and the main build and fit out is anticipated to take place between 2026 to 2030, with phased handover and occupation of certain blocks throughout this time period.

2.4.6. Construction methods are still to be confirmed, however, they are likely to be comparable to those of any similar scale urban development. Detailed construction methodologies will be included within the project description chapter in the ES including details of the programme, proposed Site working hours, anticipated plant and equipment, construction traffic movements, access and egress, materials required and anticipated construction waste.

2.4.7. An Outline Construction Environmental Management Plan (OCEMP) setting out construction related environmental mitigation measures will be prepared and submitted as part of the ES. A detailed CEMP will be prepared by the contractor prior to commencement of the construction.

Operation

2.4.8. Once the Proposed Development is fully operational, it will be occupied by various government departments.

2.4.9. The development will be supported with retail and leisure (predominantly café/ food and drink) at ground floor level in appropriate locations adjacent to public realm spaces. Retail will be limited to the Great Ancoats Street frontage and Canal Plaza as outlined in the SRF.

[1] Former Central Retail Park framework | Manchester City Council

3. Policy Context

3.1.1. The EIA will consider legislation and relevant national and local planning policy guidance as summarised below.

3.2. National planning policy

3.2.1. The ES will have regard to the National Planning Policy Framework (NPPF)[2], which sets out the Government's economic, environmental, and social planning policies for England. The policies contained within the NPPF articulate the Government's vision of sustainable development, which are intended to be interpreted at a local level, to meet the requirements of local aspirations.

3.2.2. The NPPF should be read alongside the National Planning Practice Guidance (NPPG), which aims to make planning guidance more accessible, and to ensure that the guidance is kept up to date.

3.2.3. The ES will have regard to the most recent revision of the NPPF, published in December 2023.

3.3. Local planning policy

3.3.1. The ES will have regard to local planning policies, including but not limited to:

- Manchester's Core Strategy 2012 – 2027[3];
- Addendum to Manchester Core Strategy 2024[4]
- Places for Everyone (March 2024)[5]
- Unitary Development Plan for the City of Manchester (the UDP)[6];
- Former Central Retail Park Strategic Regeneration Framework (March 2023)[1];
- Greater Manchester Strategy 2021-2031[7];
- Ancoats, Bradford and Clayton Integrated Neighbourhood Team Plan 2021 – 2022[8];
- Manchester's Climate Change Action Plan 2020-2025[9];
- Ancoats and New Islington Neighbourhood Development Framework 2016[10];
- Eastlands Regeneration Framework – 2017 draft for consultation[11].

3.4. Other policy and guidance considerations

3.4.1. There are a number of supporting policy and guidance documents that are topic specific and will be considered on a topic-by-topic basis within the ES.

[2] National Planning Policy Framework - Guidance - GOV.UK (www.gov.uk)
[3] Core Strategy 2012-2027 | Core Strategy 2012-2027 | Manchester City Council
[4] Addendum to Manchester Core Strategy 2024 | Core Strategy 2012-2027 | Manchester City Council
[5] https://www.manchester.gov.uk/info/500113/city_centre_growth_and_infrastructure/8270/places_for_everyone
[6] About the Unitary Development Plan | Unitary Development Plan (UDP) | Manchester City Council
[7] The Greater Manchester Strategy 2021-2031 Summary (aboutgreatermanchester.com)
[8] Ancoats, Bradford and Clayton POAP (manchesterlco.org)
[9] Manchester Climate Change Framework 2020-25 | Manchester Climate Change
[10] Ancoats and New Islington | Manchester City Council
[11] Eastlands regeneration framework | Eastlands regeneration framework | Manchester City Council

4. EIA Approach and Methodology

4.1. Scoping process

4.1.1. Scoping is the process by which likely significant environmental effects associated with all phases of a proposed development (i.e., construction and operation) are identified. Scoping sets out the framework for the EIA as reported in the ES.

4.1.2. The scoping process requires a clear understanding of the baseline environment and the Proposed Development. Environmental specialists have considered the Proposed Development and what significant effects are likely to occur. The baseline situation has been informed by undertaking appropriate desk-based and site surveys and consultation with relevant stakeholders. The identification of likely impacts has involved the application of professional judgement and industry experience, based on knowledge of the types of impacts that could arise.

4.1.3. Specialists have developed a list of potential construction and operation impacts relevant to the Proposed Development. These are then supported by justifications as to whether they are likely to result in significant environmental effects, or not, and whether they should be scoped in or out of the EIA process. The proposed methodologies of assessment for the topics scoped into the EIA are then explained in more detail.

4.2. Environmental topics considered

4.2.1. The environmental topics considered in detail during this scoping exercise are:

- Chapter 6 – Air Quality
- Chapter 7 – Biodiversity
- Chapter 8 – Climate Vulnerability
- Chapter 9 – Effects on Climate
- Chapter 10 – Daylight, Sunlight, Overshadowing and Solar Glare
- Chapter 11 – Ground Conditions and Contamination
- Chapter 12 – Historic Environment
- Chapter 13 – Human Health
- Chapter 14 – Materials and Waste
- Chapter 15 – Noise and Vibration
- Chapter 16 – Socio-economics
- Chapter 17 – Townscape and Visual
- Chapter 18 – Transport
- Chapter 19 – Water Resources and Flood Risk
- Chapter 20 – Wind Microclimate
- Chapter 21 – Major Accidents and Disasters
- Chapter 22 – Cumulative Effects
- Chapter 23 – Aviation
- Chapter 24 – Electronic Interface

4.3. General approach to the EIA

4.3.1. The EIA will be undertaken in line with best practice and reference will be made to current EIA good practice guidance. The process will identify likely significant environmental effects associated with the Proposed Development and highlight potential opportunities for avoiding or reducing any adverse effects within the design development process. The EIA process will ensure that these effects are understood by members of the public, decision makers, relevant competent authorities, statutory bodies, and other interested parties.

4.4. Establishing the baseline

4.4.1. The EIA will primarily describe environmental impacts in terms of the extent of likely change to the baseline environment. The baseline represents the environmental condition of a site at the time of the assessment, a cleared and vacant site.

4.4.2. Information to develop a comprehensive understanding of the baseline will be gathered through desk-based research and site surveys. It will consist of the existing environmental characteristics and receptors for each environmental topic that will be considered within the EIA.

Spatial scope

4.4.3. The Site boundary of the Proposed Development is shown in Figure 2-1, assessment study areas will vary by topic areas, according to the baseline information and the nature of likely impacts. These are outlined where relevant in the topic chapters.

Temporal Scope

4.4.4. The ES will assess the environmental impacts of the Proposed Development during and construction and operation. The assessment will compare current and future baseline conditions (as appropriate) to those conditions expected with the construction and operation of the Proposed Development.

4.4.5. The assessment will consider the totality of the Proposed Development from construction through to operation.

4.5. Assessment of effects and defining significance

Assessing the impacts

4.5.1. The potential impacts that are likely to arise from the construction and operation of the Proposed Development will be determined, and whether any direct or indirect effects would be significant in nature.

4.5.2. The definition of significance thresholds and criteria will take account of the:

- Value / sensitivity of the resource (international, national, regional, and local level importance);
- Magnitude of the impact (for example the numbers of receptors);
- Duration of the impact; and
- Reversibility of the effect.

Defining sensitivity/value

4.5.3. Sensitivity or value of a receptor is determined by its importance locally, regionally, and nationally, as well as its capacity to cope with change arising from the construction and/or operation of a Proposed Development, i.e., its sensitivity to change. The criteria for defining sensitivity may vary between environmental topics, but they broadly follow the descriptions set out in Table 4-1.

Table 4-1 – Sensitivity and value criteria

Sensitivity/value	Description
High	High importance and rarity, national scale, and limited potential for replacement.
Medium	Medium or high importance and rarity, regional scale, some potential for replacement.
Low	Low or medium importance and rarity, local scale.
Negligible	Very low importance and rarity, local scale.

Defining impact magnitude

4.5.4. A variety of factors are considered when defining the magnitude of an impact, these include:

- Is it direct or indirect
- Is it short or long-term
- Is it adverse or beneficial

4.5.5. Table 4-2 sets out the general and commonly used criteria for defining magnitude. Specific environmental topics may vary in language used depending on the guidance followed for the individual assessment.

Table 4-2 – Magnitude of impact criteria

Magnitude of Impact		Typical criteria description
Major	Adverse	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements.
	Beneficial	Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality.
Moderate	Adverse	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements.
	Beneficial	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality.
Minor	Adverse	Some measurable change in attributes or reduction in quality; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements.
	Beneficial	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring.
Negligible	Adverse	Very minor loss or detrimental alteration to one or more characteristics, features or elements.
	Beneficial	Very minor benefit to or positive addition to one or more characteristics, features or elements.
No Change		No loss or alteration of characteristics, features or elements; no observable impact in either direction.

Defining significance

4.5.6. Generally, significant effects are identified by considering the combination of impact magnitude and receptor sensitivity, as shown in Table 4-3 below. Individual environmental topics may have differing approaches based on the guidance of different professional bodies which are specific to these said topics.

Table 4-3 – Significance effect matrix

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

4.5.7. For the purposes of the ES, an effect will be potentially ‘significant’ if it is classed as either ‘moderate’ or ‘major’. The classification of the effect will also consider the following descriptors:

- Adverse, neutral, or beneficial

- Permanent or temporary
- Duration / frequency or likelihood
- Direct or indirect

4.5.8. The duration of the effect will be assessed to be either temporary or permanent where:

- Temporary (e.g., demolition and construction phase)
- Short term (<5 years)
- Medium term (5-10 years)
- Long term (>10 years)
- Permanent (e.g., once the Proposed Development is completed or operational)

4.6. Mitigation approach

4.6.1. During the EIA, there will be an on-going design process, looking at ways to best mitigate any likely environmental effects through amendments to the design of the Proposed Development. This will constitute embedded design mitigation and where this has occurred it will be identified within the relevant topic chapters within the ES.

4.6.2. Further assessment mitigation measures may be introduced where adverse environmental impacts remain following the culmination of the design process and, in these instances, further mitigation will be proposed where feasible within the relevant technical chapters.

4.6.3. Proposals for mitigation will follow the following hierarchy set out in Figure 4-2. Where beneficial effects and or opportunities for enhancement and betterment are identified, measures to maximise these will also be proposed.

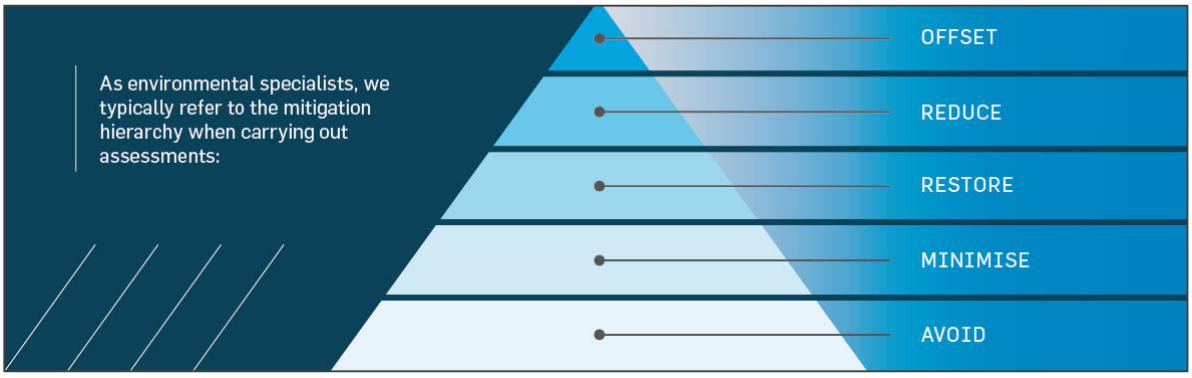


Figure 4-1 – Mitigation hierarchy

4.6.4. Design mitigation will include compliance with legislation, industry good practice, Best Practicable Measures (BPM) and construction environmental management procedures. Design features that have been adapted to reduce or prevent impacts will be described.

4.7. Residual effects

4.7.1. The residual effects will be assessed using the same system as described above taking account of any mitigation proposals. Generally, based on the described classification and professional judgement, any residual effects considered to be moderate or major will be deemed significant, and those considered to be minor or negligible will be deemed not significant.

4.7.2. Residual effects will be presented within each individual topic chapter and summarised in the conclusions chapter.

4.8. Cumulative effects

4.8.1. The EIA Regulations specify that an ES should include *"a description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative…effects."*

4.8.2. Two types of cumulative effects will be considered in the assessment. These include intra-scheme effects which are the combined effects of individual topic impacts from the Proposed Development on a particular receptor, and inter-project effects which are the combined effects of different development projects on a particular receptor, alongside the Proposed Development.

4.8.3. Inter-project cumulative effects are the combined effects of one or more development schemes (in conjunction with the Proposed Development) which may not, on an individual basis be significant but, cumulatively, could have a significant effect.

4.8.4. Chapter 22 of this Scoping Report includes scope of the cumulative effects assessment for the Proposed Development. An initial long-list of Reasonably Foreseeable Future Projects (RFFP) that could potentially interact with the Proposed Development to give rise to inter-project cumulative effects for certain receptors has been provided in Chapter 22.

4.8.5. MCC officers are invited to identify any additional committed or consented major development that officers believe are likely to require consideration within the ES as a result of likely significant inter-project cumulative environmental effects.

4.9. Demolition and construction

4.9.1. The ES will include a chapter describing the proposed construction methodology, the likely phasing of the Proposed Development and the proposed construction timescales. It will indicate the likely plant and equipment to be used, demolition and construction traffic access and management, the location and size of demolition and construction welfare facilities, materials and resource use the anticipated waste quantities.

4.9.2. An Outline Construction Environmental Management Plan (CEMP) will also be provided to accompany the application, setting out construction related mitigation measures that will be implemented.

4.10. Consideration of alternatives

4.10.1. The ES will include consideration of the main alternatives considered during the design process, such as the location and heights of the buildings and the rationale for the selection of the preferred option will also be included within the ES.

5. Environmental Topics

5.1. Topics proposed to be scoped into the EIA

5.1.1. The following topics are proposed to be scoped into the EIA and the baseline conditions, potential impacts, proposed scope, and assessment methodologies are outlined in Chapters 6 to 22 below:

- Air Quality
- Biodiversity
- Climate Vulnerability
- Effects on Climate
- Daylight, Sunlight, Overshadowing and Solar Glare
- Ground Conditions and Contamination
- Historic Environment
- Human Health
- Materials and Waste
- Noise and Vibration
- Socio-economics
- Townscape and Visual
- Transport
- Water Resources and Flood Risk
- Wind Microclimate
- Cumulative Effects
- Major Accidents and Disasters

5.2. Topics proposed to be scoped out of the EIA

5.2.1. It is considered that the following topics are unlikely to give rise to significant effects on the environment and would not therefore require inclusion in the EIA, or are sufficiently assessed outside of EIA in standalone documents to support the planning application:

- Aviation
- Electronic Interference

5.2.2. Chapters 23 and 24 of this report provide justification as to why these have been scoped out.

6. Air Quality

6.1. Planning policy and legislation

6.1.1. The following planning policy and legislation has been considered within this scoping exercise and will be taken forward within the Air Quality assessment within the ES:

- Air Quality (England) Regulations 2000 (SI (Statutory Instrument) 2000 No. 928)[12]
- Air Quality (England) (Amendment) Regulations 2002 (SI 2002 No. 3043)[13]
- The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 (SI 2023 No. 96)[14]
- The EU (Withdrawal Agreement) Act 2020 – the air quality limit values that are included in the EU Directive on ambient air quality and cleaner air for Europe (2008/50/EC)[15] (The Air Quality Directive) and were previously included in The Air Quality Standards Regulations (SI 2010 No. 1001[16]) as amended by SI 2016 No. 1184[17].
- Department for Environment, Food and Rural Affairs' (Defra) 2007 Air Quality Strategy (AQS) for England, Scotland, Wales, and Northern Ireland[18]
- The Environment Act 2021[19]
- Targets for $PM_{2.5}$ were set in legislation (SI 2023 No.96)[14],
- Defra's Environmental Improvement Plan 2023[20]
- Interim targets for $PM_{2.5}$
- Air Quality Management 'Guidance on the assessment of dust from demolition and construction' (Institute of Air Quality Management (IAQM) Construction Dust Guidance)[21]
- Planning Practice Guidance (PPG)[22]
- Greater Manchester Air Quality Action Plan (AQAP)[23]
- Greater Manchester Transport Strategy 2040[24]
- Greater Manchester Low-Emission Strategy[25]
- 5 Year Environment Plan for Greater Manchester[26]
- Manchester City Council's Core Strategy 2012-2027[3] in particular:
  - Policy CC 5 Transport
  - Policy EN 16 Air Quality

[12] The Air Quality (England) Regulations 2000: http://www.legislation.gov.uk/uksi/2000/928/contents/made
[13] The Air Quality (England) (Amendment) Regulations 2002: http://www.legislation.gov.uk/uksi/2002/3043/contents/made
[14] TNA (2023) 'The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023' Available at: https://www.legislation.gov.uk/uksi/2023/96/contents/made
[15] The Air Quality Standards (Amendment) Regulations 2016. Available at: https://www.legislation.gov.uk/uksi/2016/1184/contents/made.
[16] The Air Quality Standards Regulations 2010. Available at: http://www.legislation.gov.uk/uksi/2010/1001/contents/made.
[17] The Air Quality Standards (Amendment) Regulations 2016. Available at: https://www.legislation.gov.uk/uksi/2016/1184/contents/made
[18] Defra (2007) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland' Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69336/pb12654-air-quality-strategy-vol1-070712.pdf
[19] The Environment Act 2021: Environment Act 2021 (legislation.gov.uk)
[20] Defra (2023) 'Environmental Improvement Plan 2023' Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1133967/environmental-improvement-plan-2023.pdf
[21] IAQM (2018) 'Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites' V1.1 Available at: https://iaqm.co.uk/text/guidance/guidance_monitoring_dust_2018.pdf
[22] Planning Practice Guidance, Air Quality, Ministry of Housing, Communities & Local Government, November 2019. (Available from: Air quality - GOV.UK (www.gov.uk)
[23] TfGM, May 2016, 'Greater Manchester Air Quality Action Plan 2016-2021' Available from: https://www.greatermanchester-ca.gov.uk/media/1272/air-quality-action-plan-2016-21.pdf [Accessed August 2023]
[24] TfGM
[25] TfGM, December 2016, 'Greater Manchester Low-Emission Strategy' Available from: https://www.greatermanchester-ca.gov.uk/media/1276/low-emission-strategy-dec-2016.pdf [Accessed August 2023]
[26] GMCA (2019) '5 Year Environment Plan for Greater Manchester – Executive Summary 2019-2024' Available from: https://www.greatermanchester-ca.gov.uk/media/1975/5_year_plan_exec_summ_digital.pdf

- Policy DM 1 Development Management
- Places for Everyone Policy JP S5 Clean Air

- Guide to Development in Manchester Supplementary Planning Document and Planning Guidance[27]
- Air Quality & Planning Technical Guidance[28]

6.2. Summary of baseline conditions

Study area

6.2.1. The Proposed Development is situated within the administrative boundary of MCC.

6.2.2. The air quality study area for the potential effects of construction dust is defined as the area within 350m of the Site and/or within 50m of the route(s) used by construction vehicles on the public highway up to 500m from the Site entrance, in accordance with the (IAQM) Construction Dust Guidance[21].

6.2.3. For the operational impacts on air quality, the study area will be defined as the area within 200m of a road affected by changes in traffic exceeding the air quality assessment screening criteria in accordance with the Environmental Protection UK (EPUK)/IAQM Planning Guidance[27].

6.2.4. In the absence of traffic data at the time of writing this scoping report, it is assumed that the roads which could potentially be affected by a change in traffic, and thus by a change in air quality, would not extend more than 2km from the Proposed Development extent. This area is the indicative study area for the air quality assessment of operational effects.

6.2.5. The indicative air quality study area, i.e., the area within 2km of the Site is shown in Figure 6-1.

Data sources

6.2.6. Information on existing ambient air quality i.e., baseline conditions, has been collated from the following sources:

- Information on AQMA and baseline air quality conditions from the latest MCC Air Quality Annual Status Report (ASR) [29]
- Defra UK-AIR Mapped Background Data and Pollution Climate Mapping (PCM)[30] for the base year of 2022 and the future base years of 2025 (construction start year) and 2029 (projected construction completion year)

6.2.7. The following sources have been used to identify receptors and potential constraints:

- OpenStreetMap for mapping[31]
- Defra Multi–Agency Geographic Information for the Countryside (MAGIC) website[32] to identify boundaries of designated ecological sites.
- Sites of Biological Importance in Greater Manchester[33] to identify boundaries of locally designated ecological sites.

[27] Manchester City Council, April 2007, 'Guide to Development in Manchester Supplementary Planning Document and Planning Guidance' Available from: https://www.manchester.gov.uk/downloads/download/644/guide_to_development_in_manchester_-_supplementary_planning_document_and_planning_guidance_spd [Accessed August 2023]
[28] Manchester City Council (2022) 'Air Quality & Planning Technical Guidance' Available from: https://www.manchester.gov.uk/info/500207/planning_and_regeneration/1962/additional_planning_guidance/3
[29] GMCA (2023) '2022 Air Quality Annual Status Report (ASR)' Available from: https://assets.ctfassets.net/tlpgbvy1k6h2/3eJDZpHcCKNK0ZO7TcUkl/3363e762b28868a832ab2200286a4841/Greater_Manchester_Air_Quality_Annual_Status_Report_2022.pdf
[30] Defra UK-AIR (2023) 'Background Mapping data for local authorities'. Available from: https://uk-air.defra.gov.uk/data/laqm-background-home [Accessed August 2023]
[31] OpenStreetMap [Online] Available: https://www.openstreetmap.org
[32] Magic.Defra.gov.uk. Magic Map Application. [online] Available from: https://magic.defra.gov.uk/MagicMap.aspx
[33] Data.gov.uk, April 2023, 'Sites of Biological Importance (SBI / LWS) in Greater Manchester' Available from: https://www.data.gov.uk/dataset/81cbf1a0-6304-470c-ade8-60272be0d219/sites-of-biological-importance-sbi-lws-in-greater-manchester [Accessed August 2023]

- UK Air Pollution Information System (APIS) website[34] to establish background concentrations of oxides of nitrogen (NO_x) at ecological sites.

Constraints and receptors

6.2.8. Existing and proposed receptors could be affected by changes to air quality during both construction and operation, potentially constraining the Proposed Development. Receptors could potentially be affected by construction dust emissions, and by changes in traffic emissions during both the construction and operational phases.

Human health receptors

6.2.9. Sensitive human health receptors for the purposes of air quality assessment include residential properties, locations of susceptible populations e.g., schools, hospitals and care homes for the elderly, or any other location where a member of the public may be exposed to an air pollutant for the relevant exposure time period. These receptors can all be of potentially high sensitivity. Due to the urban nature of the Site there are human health receptors in the area surrounding the Proposed Development.

6.2.10. The closest residential receptors to the Proposed Development are apartment buildings which are located: to the south off Great Ancoats Street, approximately 45m from the Site boundary; along Redhill Street, approximately 20 m to the northwest and on Old Mill Street, approximately 170 m to the southeast. The Co-op Academy New Islington Primary School is located adjacent to the north and Ancoats Primary Care Centre (a health care facility) is approximately 80 m to the east of the Site. There are also cafés, shops, commercial buildings, footpaths (along the canals) and public amenity areas nearby.

Ecological receptors

6.2.11. Designated nature conservation sites may contain features that are sensitive to increased concentrations of airborne pollutants and dust. IAQM Designated Site Guidance[35] requires assessment of air quality effects on Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar sites, Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs), Local Nature Reserves (LNRs), Local Wildlife Sites (LWSs) and areas of Ancient Woodland (AW) within 200m of any road affected by the Proposed Development.

6.2.12. In the absence of traffic data to determine the affected roads, ecological sites within the indicative air quality study area for the Proposed Development, which could potentially be affected are shown in Figure 6-1.

6.2.13. No internationally or nationally designated ecological sites have been identified within 2km of the Site. However, two non-statutory designated sites have been identified within the study area; Rochdale Canal Stott's Lane LWS (immediately adjacent to the north of the Site) and Ashton Canal LWS (approximately 190m south of the Site at the closest point). Both LWSs have a background NO_x concentration[34] of 29.7 µg/m^3, just below the annual mean criterion of 30 µg/m^3.

[34] UK APIS [online] Available from: http://www.apis.ac.uk/ [Accessed August 2023]
[35] IAQM (2020) A Guide to the assessment of air quality impacts on designated nature conservation sites' v1.1. Available from: https://iaqm.co.uk/text/guidance/air-quality-impacts-on-nature-sites-2020.pdf

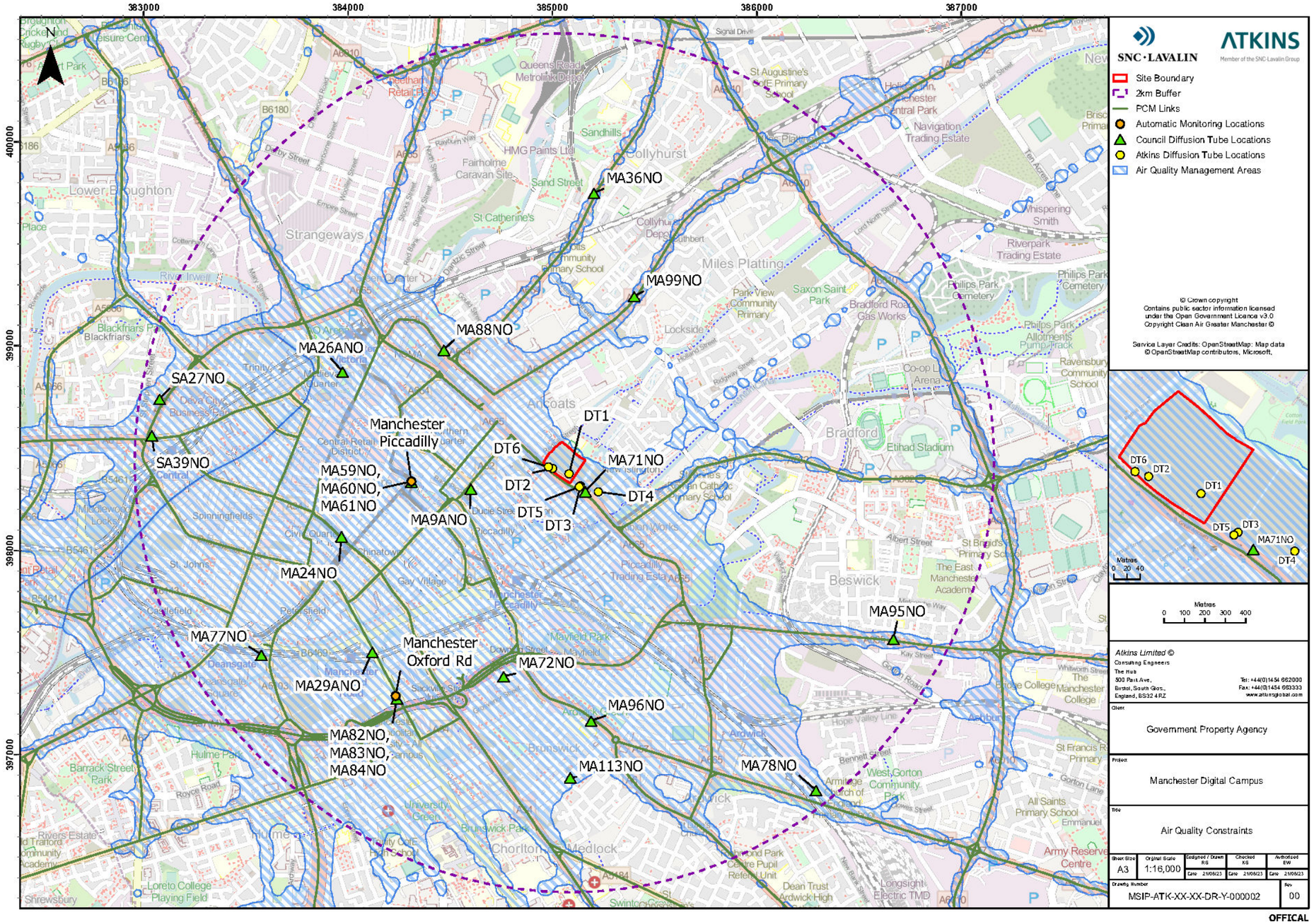


Figure 6-1 – Air Quality Constraints

Local air quality management

6.2.14. The Proposed Development boundary lies within the GCMA AQMA, amended by MCC in 2016, for exceedances of the annual mean NO_2 AQS objective[36].

Air pollutants

6.2.15. The air pollutants of concern in the context of this chapter are the key pollutants associated with vehicles: NO_2, PM_{10} and $PM_{2.5}$. These pollutants are the most likely to be present at concentrations close to or above air quality criteria in an urban environment and are hence the focus of the assessment.

Nitrogen dioxide

6.2.16. NO_2 is a secondary pollutant produced by the oxidation of nitric oxide (NO) in ambient air. The pollutants NO and NO_2 are collectively termed oxides of nitrogen NO_x. One third of UK NO_x emissions are from road transport, while a quarter are from other forms of transport[37]. The majority of NOx emitted from vehicles is in the form of NO, which oxidises rapidly in the presence of ozone (O_3) to form NO_2. In high concentrations NO_2 can affect the respiratory system, whereas NO does not have any observable effect on human health at the range of concentrations found in ambient air. High concentrations of NO_x can have an adverse effect on vegetation, including leaf or needle damage and reduced growth. Deposition of pollutants derived from NO_x emissions contribute to acidification and/or eutrophication of sensitive habitats.

Particulate matter

6.2.17. Particulate matter in vehicle exhaust gases consists of carbon nuclei onto which a wide range of compounds are absorbed. These particles have an effective aerodynamic diameter of less than 10 micrometres (µm). Particles in this size range are referred to as PM_{10}. Diesel engines produce the majority of particulate emissions from the vehicle fleet. Approximately 12 percent of PM_{10} emissions in the UK are derived from road transport[38]. Particulate matter is associated with a range of symptoms of ill health including effects on the respiratory and cardiovascular systems, on asthma and on mortality. There is evidence that exposure to a finer fraction of particles ($PM_{2.5}$, which typically make up around two thirds of PM_{10} emissions and concentrations) has a significant contributory role in human all-cause mortality and in particular in cardiopulmonary mortality[39].

Dust

6.2.18. Dust is defined within the IAQM Construction Dust Guidance[21] as solid particles that are suspended in air or that have settled out onto a surface after having been suspended in air. It includes particles that give rise to soiling (deposited dust) and to human health and ecological effects.

6.2.19. The IAQM Construction Dust Guidance states that there is evidence that, without effective mitigation, major construction sites can lead to an increase in annual mean PM_{10} concentrations and the number of exceedances of the short-term 24-hour objective for PM_{10}. In addition, construction activities have the potential to cause higher than normal levels of dust deposition in the surrounding area. Dust emissions from a construction site may be mechanically generated due to land preparation (e.g., demolition, land clearing and earth moving) or released from site plant and from the movement of road vehicles on temporary roads, open ground and haul routes.

Air quality monitoring

Automative (continuous) monitoring[29]

6.2.20. Greater Manchester conducts automative (continuous) monitoring of NO_2, PM_{10} and $PM_{2.5}$ at 20 locations, two of which are within 2km of the Proposed Development. The location of the 'urban

[36] Defra UK-AIR, 'AQMA Details' Available from: https://uk-air.defra.gov.uk/aqma/details?aqma_ref=36 [Accessed August 2023]
[37] National Atmospheric Emissions Inventory (NAEI) 'About Nitrogen Oxides' Available at: http://naei.beis.gov.uk/overview/pollutants?pollutant_id=6
[38] NAEI 'About PM_{10} (Particulate Matter < 10µm)' Available at: http://naei.beis.gov.uk/overview/pollutants?pollutant_id=24
[39] Air Quality Expert Group (AQEG) (2021) 'Fine Particulate Matter ($PM_{2.5}$) in the UK' Available at: https://uk-air.defra.gov.uk/assets/documents/reports/cat11/1212141150_AQEG_Fine_Particulate_Matter_in_the_UK.pdf

centre' monitoring site at Manchester Piccadilly is approximately 650m from the Site and the location of the 'kerbside' monitoring site at Manchester Oxford Road is approximately 1.35km from the Site. Both automatic monitoring sites within the study area could be considered representative of the Site.

6.2.21. The monitoring data in Table 6-1 indicates that concentrations of NO_2 remained below the annual mean objective (40 µg/m^3) at Manchester Piccadilly between 2018 and 2022. However, concentrations at Manchester Oxford Road have consistently exceeded the objective, with the exception of 2020, when NO_2 reduced significantly.

6.2.22. Table 6-2 shows that the 1-hour mean objective for NO_2 (200 µg/m^3) was met in all years at the kerbside Manchester Oxford Road, as the number of exceedances remained well below the standard, where the objective is not to be exceeded more than 18 times per year. There were no exceedances of the 1-hour mean NO_2 objective at the urban centre Manchester Piccadilly site between 2018 and 2022.

Table 6-1 – Annual mean NO_2 concentrations at continuous monitoring sites (µg/m^3), 2018-2022

Site ID	Site Type	X	Y	2018	2019	2020	2021	2022
Manchester Oxford Road	Kerbside	384233	397287	**62**	**59**	36	**44**	**43**
Manchester Piccadilly	Urban Centre	384310	398337	35	36	27	30	29

Exceedances of the NO_2 annual mean objective of 40 µg/m^3 are shown in **bold.**

Table 6-2 – Number of exceedances of the 1-hour mean NO_2 objective, 2018-2022

Site ID	Site Type	X	Y	2018	2019	2020	2021	2022
Manchester Oxford Road	Kerbside	384233	397287	2	1	0	0	3
Manchester Piccadilly	Urban Centre	384310	398337	0	0	0	0	0

Exceedances of the NO_2 1-hour mean objective of 200 µg/m^3 (not to be exceeded more than 18 times/year) are shown in **bold.**

6.2.23. Measured annual mean PM10 concentrations for the years 2018-2022 at Manchester Oxford Road and Manchester Piccadilly are presented in Table 6-3 and the number of exceedances of the 24-hour mean PM10 standard are shown in Table 6-4. Concentrations at both monitoring sites were below the annual mean objective for PM10 (40 µg/m3) and the 24-hour mean objective (50 µg/m3 not to be exceeded more than 35 times per year) in all years.

Table 6-3 – Annual mean PM_{10} concentrations at continuous monitoring sites (µg/m^3), 2018-2022

Site ID	Site Type	X	Y	2018	2019	2020	2021	2022
Manchester Oxford Road	Kerbside	384233	397287	30	26	18	18	18
Manchester Piccadilly	Urban Centre	384310	398337	21	20	15	15	17

Exceedances of the PM_{10} annual mean objective of 40 µg/m^3 are shown in **bold.**

Table 6-4 – Number of exceedances of the 24-hour mean PM_{10} objective, 2018-2022

Site ID	Site Type	X	Y	2018	2019	2020	2021	2022
Manchester Oxford Road	Kerbside	384233	397287	15	18	5	2	8

Manchester Piccadilly	Urban Centre	384310	398337	2	7	1	2	4

Exceedances of the PM_{10} 24-hour mean objective of 50 µg/m^3 (not to be exceeded more than 35 times/year) are shown in **bold.**

6.2.24. Table 6-5 presents the annual mean $PM_{2.5}$ concentrations for the years 2018-2022 at Manchester Piccadilly. The annual mean $PM_{2.5}$ concentrations were below the current objective of 20 µg/m^3 and would also meet the new interim target of 12 µg/m^3 to be met by January 2028 in all years.

Table 6-5 – Annual mean $PM_{2.5}$ concentrations at continuous monitoring sites (µg/m^3), 2018-2022

Site ID	Site Type	X	Y	2018	2019	2020	2021	2022
Manchester Piccadilly	Urban Centre	384310	398337	11	12	8	9	10

Exceedances of the $PM_{2.5}$ annual mean objective of 20 µg/m^3 are shown in **bold.**

Passive monitoring[29]

6.2.25. Passive monitoring of NO_2 concentrations using diffusion tubes has been undertaken at 426 locations across GCMA, 17 of which are within 2km of the Proposed Development. Pollutant concentrations for the period 2018-2022 are summarised in Table 6-6.

6.2.26. The diffusion tube measurements indicate that concentrations of NO_2 in the local area have gradually declined over recent years. Between 2018 and 2022 there has been a fall in the number and frequency of exceedances of the annual mean objective for NO_2 (40 µg/m^3), however concentrations are likely to have been lower than normal since 2020 due to the Covid-19 lockdown periods. Of the six urban background diffusion tubes, five showed results that met the NO_2 air quality objective in 2022.

6.2.27. Site ID MA71NO is the closest diffusion tube to the Site, positioned on the A665 Great Ancoats Street, approximately 87m from the Proposed Development and recorded exceedances in the years 2018 to 2019, which reduced to below 40 µg/m^3 in the years 2020 to 2022.

Table 6-6 – Annual mean NO_2 concentrations at diffusion tube site (µg/m^3), 2018-2022

Site ID	Site Type	X	Y	2018	2019	2020	2021	2022
MA24NO	Kerbside	383968	398070	**40.3**	**40.8**	26.8	31.8	32.4
MA26ANO	Urban Background	383973	398874	33.4	33.0	22.9	25.9	27.5
MA29ANO	Roadside	384119	397503	**58.8**	**55.4**	39.0	**44.8**	**49.8**
MA36NO	Roadside	385203	399750	33.1	31.7	24.3	26.7	27.4
MA59NO	Urban Background	384310	398337	32.2	31.6	22.4	24.6	25.3
MA71NO	Roadside	385161	398290	**46.1**	**45.3**	31.4	34.2	34.4
MA72NO	Urban Background	384761	397384	33.4	32.8	24.5	27.5	26.3
MA77NO	Urban Background	383576	396828	**41.0**	**43.7**	26.9	30.8	33.1
MA78NO	Urban Background	386289	396828	33.2	33.0	23.2	27.5	27.2
MA82NO	Urban Background	384239	397276	**54.0**	**52.0**	34.1	**40.7**	**42.6**
MA88NO	Kerbside	384469	398981	**46.8**	**45.2**	30.1	36.8	35.7
MA95NO	Roadside	386668	397566	-	**43.4**	31.5	34.1	33.7

Site ID	Site Type	X	Y	2018	2019	2020	2021	2022
MA96NO	Roadside	385189	397167	-	**46.0**	36.4	**41.0**	**43.5**
MA99NO	Roadside	385400	399245	-	-	26.9	32.9	32.7
MA9ANO	Kerbside	384601	398303	**45.8**	**44.9**	32.5	35.7	37.5
SA27NO	Roadside	383078	398741	34.1	37.2	26.7	28.8	27.2
SA39NO	Roadside	383040	398563	39.1	**41.7**	30.4	33.0	35.1

Exceedances of the NO_2 annual mean objective of 40 µg/m^3 are shown in **bold.**

Proposed Development specific monitoring

6.2.28. In addition, AtkinsRéalis undertook a six-month diffusion tube survey at and around the Site between October 2022 and April 2023[40]. This data has been annualised and bias adjusted, in accordance with the methodology described in the Defra Local Air Quality Management Technical Guidance (LAQM.TG(22))[41]. The annual mean NO_2 concentrations (provided in Table 6-7) at all locations within the survey, after application of bias adjustment and annualisation, were well below the annual mean NO_2 national objective of 40 µg/m^3. The AtkinsRéalis diffusion tube survey locations (DT1 to DT6) are shown in Table 6-7.

Table 6-7 – Annualised and bias adjusted diffusion tube results – NO_2 concentrations (µg/m^3)

Site ID	X	Y	Annualised and bias adjusted concentrations 2022 (time weighted)^#
DT1	385081	398374	26.4
DT2	385001	398400	27.2
DT3	385138	398315	26.5
DT4	385224	398286	26.4
DT5	385131	398311	28.7
DT6	384981	398409	33.6

^ Note: Annualisation factor of 0.85 and bias adjustment factor of 0.87 are applied to the period average for each site.

Note: As the time of each monthly sample was not constant, a time weighted average was calculated as per Defra's LAQM.TG(22) advice.

Pollution Climate Mapping (PCM)

6.2.29. Defra's PCM model provides estimates of roadside concentrations of annual mean NO_2, which are used in reporting regarding compliance with limit values. The model provides projected roadside concentrations for the years 2018-2030 inclusive, based on a 2018 reference year.

6.2.30. There are multiple PCM links within 2km of the Proposed Development. The road immediately adjacent to the Site, the A665 Great Ancoats Street (ID 802047457), had a roadside NO_2 concentration of 28.2 µg/m^3 in 2023, reduced from 36.3 µg/m^3 in 2018 bringing the value further below the limit value of 40 µg/m^3.

Background mapping

6.2.31. Estimates of current and future year background pollutant concentrations in the UK are available on the Defra UK-AIR website[30]. The background estimates, which are a combination of measured and modelled data, are available for each 1 x 1km grid square throughout the UK for a reference year of 2018 which is the basis for the future year estimates up to 2030. These background estimates include contributions from all source sectors, e.g., road transport, industry, and domestic and commercial heating systems.

[40]AtkinsRéalis, May 2023, 'Technical Note – Manchester GPA - Nitrogen Dioxide Diffusion Tube Survey Results'

[41] Defra, Local Air Quality Management Technical Guidance (TG22): https://laqm.defra.gov.uk/air-quality/featured/uk-regions-exc-london-technical-guidance/

6.2.32. Estimated annual mean background concentrations for the grid squares covering the air quality study area for the base year (2022) and the future base years of 2025 (construction start year) and 2029 (projected construction completion year at the time of baseline data collection[42]) are presented below in Table 6-8 for the pollutants NO_2, PM_{10} and $PM_{2.5}$.

6.2.33. The mapped concentrations of key pollutants indicate that background concentrations in the air quality study area are below the current objectives for NO_2, PM_{10} and $PM_{2.5}$ and are expected to remain below the current objectives in 2025 and 2029[42]. Background concentrations of $PM_{2.5}$ are also expected to be below the 2040 target of 10 µg/m^3 and the new interim target of 12 µg/m^3 by January 2028 in all years considered. The background NO_x concentrations in the air quality study area, however, are currently exceeding the annual mean objective of 30 µg/m^3 and despite a consistent decrease are projected to continue exceeding in the completion year of 2029.

Table 6-8 – Defra mapped background concentrations (µg/m^3)

Study Area Statistics	Background Concentration (µg/m^3)											
	2022				2025				2029			
	NO_2	PM_{10}	$PM_{2.5}$	NO_x	NO_2	PM_{10}	$PM_{2.5}$	NO_x	NO_2	PM_{10}	$PM_{2.5}$	NO_x
Average	20.4	12.3	8.1	29.8	18.5	12.0	7.8	26.7	17.1	11.9	7.8	23.9
Min	16.7	11.7	7.8	23.4	15.1	11.4	7.5	20.9	13.8	11.3	7.5	16.8
Max	26.3	13.8	8.7	**40.9**	24.1	13.4	8.5	**36.9**	22.6	13.4	8.4	**34.3**

Exceedances of the relevant annual mean objective are shown in **bold.**

6.3. Key issues and potential likely impacts

6.3.1. The Proposed Development has the potential to affect local air quality, both during the construction phase and once complete, in operation. In addition, the Site suitability will need to be considered during the development of the design, with respect to air quality, as there may be new areas of public exposure introduced such as the planned retail spaces on the ground floor of the Proposed Development.

Construction phase

6.3.2. During construction there could be increased emissions of dust from dust-raising activities on Site.

6.3.3. There is the potential for elevated dust deposition and soiling at nearby receptors if dust raising activities are not effectively controlled and mitigated. The level and distribution of dust emissions varies according to the duration and location of activity, weather conditions, and the effectiveness of suppression measures.

6.3.4. Air quality could also be affected by changes in traffic flows during construction, as a result of temporary traffic management measures and/or additional vehicles travelling to and from the construction site transporting materials, plant, and labour.

6.3.5. Any effects during the construction phase would be of a temporary nature only. At this stage it is estimated that the length of the construction phase for the Proposed Development will be approximately four years.

Operational phase

6.3.6. Once operational, there is potential for adverse effects on air quality at sensitive human health and ecological receptors due to potential changes in traffic on the road network and by vehicles using the proposed car park. There may also need to be consideration of the indoor air quality within the proposed building during the detailed design stage.

6.4. Proposed scope of assessment

6.4.1. The air quality assessment will include the following:

[42] The projected construction start is now estimated to be 2026, with completion in 2030.

- Consideration of baseline air quality at the Site and at any other locations within the study area which could be affected by changes in air quality;
- Determine the effects of construction dust activities during the construction phase;
- The effect of traffic emissions during both construction and operation, depending on whether changes in traffic meet the screening criteria for assessment; and
- Consideration of the indoor air quality should this be required.

6.5. Assessment methodology

Construction phase

6.5.1. The IAQM Construction Dust Guidance[21] provides a framework for a risk-based approach to the assessment of dust emissions from demolition and construction and proposes good practice control measures that are “highly recommended” or “desirable” for dust control for the various dust risk categories.

6.5.2. The assessment of dust emissions during construction is considered in the context of the overall scale and nature of the development under consideration and the potential sensitivity of neighbouring land uses. The quantity and distribution of dust emissions varies according to type, duration and location of activity, weather conditions and the effectiveness of suppression (mitigation) measures.

Construction dust risk assessment

6.5.3. Assessment of the potential impact of the construction phase of the Proposed Development on air quality with regards dust and PM_{10} emissions has been carried out with reference to the four step process described in the IAQM Construction Dust Guidance[21]. These steps are summarised below:

6.5.4. Step 1 (screening) – Identification of the number of human receptors within 350m of the boundary of the Proposed Development and/or within 50m of the route(s) used by construction vehicles on the public highway up to 500m from the Proposed Development entrance. Ecological receptors should also be identified within 50m of either the boundary of the Proposed Development and/or of the route(s) used by construction vehicles on the public highway up to 500m from the Proposed Development entrance. No further assessment is required if there are no receptors.

6.5.5. Step 2 – Assessment of the risk of dust effects by considering the area around the Proposed Development in the context of potential dust impacts and distances to nearby receptors in relation to proposed activities in terms of demolition, earthworks, construction, and trackout. Trackout can be defined as the deposition of dust and dirt from a construction site onto a public road network where it may then be re-suspended in the air by vehicles using the road network.

- Dust emission magnitude classes of ‘large’, ‘medium’ and ‘small’ are used to define the level of risk arising from each activity depending on the nature and scale of operation.
- The sensitivity of the area is defined as ‘high’, ‘medium’ or ‘low’ for dust soiling effects, human health impacts, and ecological impacts separately, taking into account the sensitivity of receptors, distance and number of receptors from dust generating activities, and other Site specific factors (defined in the IAQM Construction Dust Guidance). In addition, for the effect on human health, background PM_{10} concentrations are taken into account. The definitions are provided in Tables 2, 3 and 4 of the IAQM Construction Dust Guidance.

6.5.6. Step 3 – Site specific mitigation in terms of the identified risks is identified.

6.5.7. Step 4 – Assessment of the significance of the residual dust risk, after the application of the Site specific mitigation.

6.5.8. Tables 6 to 9 of the IAQM Construction Dust Guidance are used to define the risk of impact based on the dust emission magnitude and sensitivity of area. These are reproduced in Table 6-9 to – below.

Table 6-9 – Air Quality: Risk of dust impacts – Demolition

Sensitivity of area	Dust emission magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Medium Risk
Medium	High Risk	Medium Risk	Low Risk
Low	Medium Risk	Low Risk	Negligible

Table 6-10 – Air Quality: Risk of dust impacts – Earthworks and construction

Sensitivity of area	Dust emission magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

Table 6-11 – Air Quality: Risk of dust impacts – Trackout

Sensitivity of area	Dust emission magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Low Risk	Negligible
Low	Low Risk	Low Risk	Negligible

Construction vehicle emissions

6.5.9. The potential impact of construction vehicle emissions on local air quality will be evaluated using criteria given in the EPUK/IAQM Planning Guidance[27], which advises that an air quality assessment would be required where a development causes:

- "a change in Light Duty Vehicle (LDV) flows on local roads of more than 100 per day within an AQMA, and/or
- a change in Heavy Duty Vehicle (HDV) flows on local roads of more than 25 per day within an AQMA"

6.5.10. Details of the numbers of construction vehicles are not available at the time of writing this scoping chapter, therefore no quantitative assessment has been undertaken. Further screening and assessment will be undertaken at the next stage.

6.5.11. Where detailed consideration is required for either construction and / or operational traffic flows, an assessment of changes in local air pollutant concentrations, relative to the air quality objectives, will be undertaken. The assessment will be appropriate to the location and scale of the Proposed Development, so may be qualitative, or comprise screening calculations or detailed dispersion modelling. The methodology will consider the requirements of the relevant local and regional policies and will be determined in consultation with the local authority.

Operation phase

Local air quality

6.5.12. The operational phase local air quality assessment will be undertaken in line with guidance outlined in the EPUK/IAQM Planning Guidance[27] and Defra's LAQM.TG(22)[41] and will consist of the following:

- Once traffic data is available to determine the affected roads, the air quality study area will be determined if relevant screening criteria (noted above at 6.5.9) are exceeded. In the addition, the proposed car park will be screened against the following criteria in the EPUK/IAQM Planning Guidance:

- The ventilation extract for the car park will be within 20m of a relevant receptor;
- Coupled with the car park having more than 100 movements per day (total in and out)
- Should quantitative modelling of vehicle emissions be required, an assessment of the likely changes in air pollutant concentrations during operation of the Proposed Development shall be undertaken at selected proposed and existing sensitive human receptors and ecological receptors. The assessment will follow the 'detailed' assessment methodology outlined in EPUK/IAQM Planning Guidance[27];
- Assessment of significance of the air quality effects with the Site in the opening year by considering the change in concentrations and the total concentrations at receptors; and
- Identification of the need for mitigation measures where appropriate.

6.5.13. The proposed underground car parking facility on Site is currently planned to provide 50 accessible car parking spaces (plus 5 spaces associated with facilities management and operations), which may exceed the screening criteria of 100 total movements per day, which would require further assessment at the next stage.

6.5.14. Determination of the need for an indoor air quality assessment should be assessed against the IAQM 'Indoor Air Quality Guidance'[43] and any other relevant guidance as appropriate, e.g., BREEAM (Building Research Establishment Environmental Assessment Method).

Designated ecological sites

6.5.15. Should habitats sensitive to nitrogen deposition be identified within 200m of roads affected by traffic changes meeting criteria, an assessment will be undertaken to calculate Nox concentrations and nitrogen deposition rates, in accordance with IAQM Designated Site Guidance[35] if required.

6.6. Proposed mitigation

Construction phase

6.6.1. Construction works associated with the Proposed Development have the potential to generate dust emissions, which will require effective control/minimisation for the duration of the construction project through an Outline CEMP or similar.

6.6.2. Mitigation measures as given in the IAQM Construction Dust Guidance will be provided following the outcome of the dust risk assessment. Appropriate mitigation measures will be selected if a significant adverse effect is expected. With appropriate mitigation measures in place, any adverse effects resulting from the construction works should be minimised such that there is no significant residual effect on nearby receptors.

Operational phase

6.6.3. The Proposed Development may result in changes in traffic on the wider road network which has the potential to affect local air quality at nearby sensitive receptors.

6.6.4. The Proposed Development will include cycle parking and associated changing facilities, improvements to allow better pedestrian movement around the Site with increased connectivity around Ancoats, New Islington and the city centre to encourage active transport.

6.6.5. As the potential effect of the Proposed Development cannot be quantified at this stage, no specific mitigation measures are currently proposed for operational air quality effects, however this will be re-evaluated in the ES. Appropriate mitigation measures will be selected if a significant adverse effect is expected. However, the EPUK/IAQM Planning Guidance[27] suggests the following in accordance with best practice:

- The provision of at least 1 Electric Vehicle (EV) "fast charge" point per 1000m^2 of commercial floorspace
- Where development generates significant additional traffic, provision of a detailed travel plan (with provision to measure its implementation and effect) which sets out measures to

[43] IAQM (2021) Indoor Air Quality Guidance: Assessment, Monitoring, Modelling and Mitigation' v1.0 Available from: https://iaqm.co.uk/wp-content/uploads/2013/02/iaqm_indoorairquality.pdf

encourage sustainable means of transport (public, cycling and walking) via subsidised or free-ticketing, improved links to bus stops, improved infrastructure, and layouts to improve accessibility and safety.

- All gas-fired boilers to meet a minimum standard of <40 mgNO_x/kWh.
- All gas-fired combined heat and power plant to meet a minimum emissions standard of:
  - Spark ignition engine: 250 mgNOx/Nm^3
  - Compression ignition engine: 400 mgNOx/Nm^3
  - Gas turbine: 50 mgNO_x/Nm^3
- A presumption should be to use natural gas-fired installations. Where biomass is proposed within an urban area it is to meet minimum emissions standards of:
  - Solid biomass boiler: 275 mgNOx/Nm^3 and 25 mgPM/Nm^3

"These suggested emission benchmarks represent readily achievable emission concentrations by using relatively simple technologies. They can be bettered by using more advanced control technology and at additional cost over and above the 'typical' installation."

6.6.6. With appropriate mitigation measures in place, any adverse effects resulting from the operation of the Proposed Development should be minimised such that there is no significant residual effect on nearby receptors.

7. Biodiversity

7.1. Planning policy and legislation

7.1.1. The NPPF sets out the Governments planning policies for England and how these are expected to be applied by Local Authorities within their LDF. The revised National Planning Policy Framework was published in December 2023. Section 15 (Conserving and enhancing the Natural Environment) paragraphs 174-182 provide policies in reference to nature conservation.

Local

7.1.2. Manchester's Local Development Framework Core Strategy Development Plan Document (Adopted July 2012) [44] considers biodiversity within Policy EN 15 (Biodiversity and Geological Conservation), which states: 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) (Cotterill 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 (GMBAP);
- Protected and priority species, as listed in the Manchester Biodiversity Strategy and included in the Greater Manchester Biodiversity Action Plan (GMBAP);
- 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.

7.1.3. 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 SACs, including the Rochdale Canal SAC just outside the district boundary;
- The River Basin Management Plan for the North West;
- The Manchester Tree Strategy

7.1.4. The 'Biodiversity Strategy 2022 – 2030: The City of Manchester's Nature Recovery' is endorsed by Manchester City Council and sets out a strategy to improve places for nature in Manchester. A city

[44] Core Strategy | Core Strategy | Manchester City Council

centre focussed action on this strategy's action plan is to 'Encourage wildlife-friendly development and regeneration schemes integrating nature-based solutions'[45].

7.1.5. Objective six of the Manchester Core Strategy 2012 to 2027 is to 'Protect and enhance both the natural and built environment of the City and ensure the sustainable use of natural resources, in order to mitigate and adapt to climate change, support biodiversity and wildlife, improve air, water and land quality, recreational opportunities and provide networks of high quality green infrastructure, ensuring that the City is inclusive and attractive to residents, workers, investors and visitors'. As part of this objective, a Green Infrastructure Framework is currently being prepared which will include networks of urban green. This is defined as the collective resource of private gardens, pocket parks, street trees, verges, green roofs and green walls[44].

7.1.6. The GMBAP [46] aims to provide an over-arching document across all ten districts in Greater Manchester. The overall aim of the GMBAP is: *"To promote the conservation, protection and enhancement of biological diversity in Greater Manchester for current and future generations".* The Greater Manchester audit identified those species and habitats that are of local conservation importance and require action in order to conserve and protect them. Those habitats and species selected for the GMBAP were included for the following reasons: They *are priority habitat or species within the UK BAP and occur in the Greater Manchester area. They are considered to be of conservation concern locally within Greater Manchester*.

7.1.7. The Places For Everyone Joint Development Plan Document for Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan 2022 To 2039 (Adopted 21 March 2024)[47] includes the following policies relating to biodiversity: Policy JP-G7 states: "*We will work to deliver the aims and objectives of the Greater Manchester Tree and Woodland Strategy, aiming to significantly increase tree cover, protect and enhance woodland, and connect people to the trees and woodland around them"* and Policy JP-G8 states that "*Through local planning and associated activities a net enhancement of biodiversity resources will be sought".*

Legislation

7.1.8. The following legislation is of direct relevance to the biodiversity assessment:

- The Environment Act 2021;
- Conservation of Habitats and Species Regulations (EU exit) 2019;
- The Natural Environment and Rural Communities (NERC) Act 2006 (Section 40 and 41);
- Countryside and Rights of Way Act 2000;
- Wildlife and Countryside Act 1981 (as amended);
- The Hedgerows Regulations 1997;
- Wild Mammals (Protection) Act 1996;
- Protection of Badgers Act 1992;
- Water Environment (Water Framework Directive) (England and Wales) Regulations (2017)
- The Eel (England and Wales) Regulations 2009;
- Salmon and Freshwater Fisheries Act 1975.

Biodiversity Net Gain

7.1.9. Biodiversity Net Gain (BNG) is a specific, measurable requirement for projects. The objective is to ensure projects deliver demonstrable and quantifiable benefits for biodiversity compared to the baseline situation. Biodiversity metrics provide a way of measuring and accounting for biodiversity losses and gains resulting from development and/ or land management change. A BNG assessment will be carried out for the project using the Department for Environment, Food & Rural Affairs Statutory Biodiversity Metric[48].

[45] Biodiversity Strategy 2022-2030 The City of Manchester's Nature Recovery
[46] GMLRC Projects - Greater Manchester Biodiversity Action Plan
[47] Available at: Places for Everyone Joint Development Plan Document (greatermanchester-ca.gov.uk)
[48] Statutory biodiversity metric tools and guides - GOV.UK (www.gov.uk)

7.2. Summary of baseline conditions

7.2.1. A desktop study including a data search with Greater Manchester Biological Record Centre (GMBRC) was undertaken in June 2021.

7.2.2. AtkinsRéalis carried out an ecological walkover survey in July 2021 with an updated survey in July 2023. Furthermore, a bat presence/ likely absence survey (endoscope inspection) was undertaken on the single security building on site in September 2022, this survey will be repeated on the 30th September 2024 to support the ES. No clear signs of bat roosting suitability were recorded within the trees on site; however, several trees were covered in dense ivy which may obscure suitable roosting features. As a precaution, these trees have been assigned a 'low' bat roosting suitability as due to the size and age of the trees concerned, they are considered to offer only very limited roosting suitability.

7.2.3. These data were published within a Preliminary Ecological Appraisal dated August 2021 and a Bat Technical Note dated September 2022.

Statutory and non-statutory designated sites

7.2.4. No statutory designated sites for nature conservation are located within 2 km of the Site.

7.2.5. Rochdale Canal (located adjacent to the Site) is hydrologically connected to Rochdale Canal SAC which is located approximately 4.7km north from the section of canal adjacent to the Site.

7.2.6. The Site is located within the SSSI Impact Risk Zone (IRZ)[49] for Rochdale Canal SSSI. The Proposed Development is not listed as a development where further consultation with Natural England is required (which includes airports, helipads, and other aviation proposals).

7.2.7. Two non-statutory designated sites were identified within 1km of the Site as outlined within Table 7-1.

Table 7-1 – Non-statutory designated sites within 1km[50] of the Site

Site name	Designation	Approximate location of designated site[51]	Features of interest (including qualifying features of internationally designated sites and reasons for designation for SSSIs)	Importance level
Rochdale Canal Stott's Lane – Ducie Street Basin	Site of Biological Importance (SBI)	Adjacent to the western aspect of the Site	Aquatic plants. Floating water-plantain *(Luronium natans).* Nine species of pondweed (*Potamogeton sp.*)	County
Ashton Canal (West)	SBI	75m east of the Site	Aquatic plants. Floating water-plantain.	County

7.2.8. Due to the close proximity to the Proposed Scheme and sensitivity of the SBI sites, these sites may pose a constraint to the Proposed Scheme, however, with the implementation of standard best practice means (such as pollution prevention), any impacts upon these sites are considered unlikely.

Irreplaceable habitats

7.2.9. No irreplaceable habitats (including ancient woodland or ancient or veteran trees) were identified within 500m of the Site.

[49] The Impact Risk Zones (IRZs) are a tool developed by Natural England to make a rapid initial assessment of the potential risks posed by development proposals to: Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites

[50] This is the zone of influence for designated sites.

[51] Where designated sites are situated outside of the Application Site boundary, the distance and direction is given to the closest point that the designated site is from the Application Site.

Habitats

7.2.10. The Site is vacant with hardstanding, with scattered ephemeral vegetation associated with derelict hardstanding areas (such as butterfly-bush, ragwort, thistle, and willowherb species). Planted around the Site boundary are a range of native and non-native scattered broad-leaved trees (mostly rowan and false-acacia), ranging from young to mature in age and structure. A number of trees and introduced shrub (including Wilson's honeysuckle, snowberry, and wall cotoneaster) are located around the peripheries of the Site.

7.2.11. Lines of trees with varying maturity are also present around the peripheries of the Site, often within the introduced shrub planting. These consist mostly of small-leaved limes with ash, false-acacia, rowan, sycamore, hawthorn, and willow species.

Protected and priority species

Badgers

7.2.12. GMBRC provided 14 badger sett records within 1km of the Site; however, no badger setts or field signs were recorded in, or within 50m, of the Site.

7.2.13. There was no evidence (including setts or field signs) of badgers during the walkover survey, and the Survey Area (within 50m of the Site) did not provide suitable conditions for sett building due to predominantly consisting of a hardstanding lacking areas of loose earth suitable for digging. The surrounding dense urban area and several watercourses surrounding the Site would indicate that badger presence is unlikely due to poor connectivity and unsuitable habitats.

7.2.14. As no suitable habitat for badger has been recorded within the Survey Area, the Proposed Scheme is anticipated to have no impact on this species.

Amphibians

7.2.15. GMBRC provided no records of amphibians within 1km of the Site.

7.2.16. No ponds were identified within 500m of the Site, furthermore, connectivity for amphibian species is considered to be poor due to the Site being bounded on all sides by active canals (with sheer concrete edges) and marinas as well as dense urban areas on all sides (including major roads).

7.2.17. As no suitable habitat for amphibians has been recorded within the Survey Area, and due to no desk study records being reported, amphibians are not considered to be impacted by the Proposed Scheme.

Bats

7.2.18. GMBRC provided 67 bat records within 2km of the Site, including 26 bat roost records. This included a historic record of a 50-100 common pipistrelle maternity roost from 2003 within buildings approximately 30m northeast of the Site.

7.2.19. The waterbodies surrounding the Site (such as Rochdale Canal) and the lines of trees within the Site may provide suitable foraging and commuting habitats for bats. The habitats within the Site predominantly comprise hardstanding (with lines of trees on the borders) which provides limited suitable habitat for foraging and commuting bats (assessed as providing 'low' habitat suitability[52]).

7.2.20. A single small built structure (previously used as a site security office) was located within the Site boundary. The structure was brick-built and generally in good condition with limited bat roosting opportunities; however, there were gaps below the soffit boards that may provide suitable roosting opportunities. This building was subject to an endoscope and torch inspection in September 2022 and no bats or evidence of bats were recorded, this will be updated through a new survey on September 30th 2024.

7.2.21. No clear signs of bat roosting suitability were recorded within the trees on Site; however, several trees were covered in dense ivy which may obscure suitable roosting features. As a precaution,

[52] In accordance with Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). The Bat Conservation Trust, London

these trees have been assigned a 'low' bat roosting suitability[53] as due to the size and age of the trees concerned, they are considered to offer only very limited roosting potential.

7.2.22. As suitable foraging and commuting habitat for bats has been recorded within the Survey Area as well as potential roosting spaces within the single built structure on Site and several trees, there is potential for bats to be impacted by the Proposed Scheme. However, with the implementation of best practice means (such as sensitive lighting strategies and landscape planting) and a precautionary method of works, it is considered unlikely that there will be any significant impacts upon bats.

Birds

7.2.23. Sixty-five notable bird species records were provided by GMBRC within 1km of the Site boundary. This included three species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended): black redstart, little ringed plover, and peregrine. No records of nesting birds were provided within the Site boundary.

7.2.24. There was limited vegetation within the Survey Area; however, the scattered trees around the peripheries may provide suitable nesting opportunities for several species of birds associated with urban habitats. No active nests were identified during the walkover survey; however, nests may have been obscured by dense vegetation.

7.2.25. The Site comprises mostly of scattered patches of poorly developed and mostly non-native scrub and hardstanding and therefore does not provide suitable nesting or foraging habitat for Schedule 1 birds.

7.2.26. As suitable nesting habitat for common urban bird species has been recorded within the Survey Area, nesting bird species may be impacted by the Proposed Scheme. However, with the implementation of best practice (such as breeding bird checks and landscape planting), it is considered unlikely that there will be any significant impacts upon birds.

Reptiles

7.2.27. GMBRC provided no records of reptiles within 1km of the Site.

7.2.28. The habitats within the Site predominantly consisted of hardstanding with limited features suitable for reptile foraging or cover. Furthermore, the Site is poorly connected to the surrounding area being surrounded by canals and dense urban areas. Due to this, it is considered highly unlikely that reptiles would be present within the Site boundary.

7.2.29. As no suitable habitat for reptiles has been recorded within the Survey Area, and due to no desk study records being reported, reptiles are not considered to pose a constraint to the Proposed Scheme.

Otter and water vole

7.2.30. GMBRC provided no records of otter or water vole.

7.2.31. The Site is bounded by several waterbodies (namely the New Islington Marina to the north, the Rochdale Canal on the western boundary, and Ashton Canal to the east). These waterbodies were considered to provide unsuitable breeding or resting opportunities for otter and water vole due to their concrete bank edges. However, it is possible that both species could use these watercourses for foraging and commuting purposes. Connectivity between Rochdale Canal (and connectivity waterways) and the Site boundary is poor due to the presence of walled boundaries.

7.2.32. The habitats within the Survey Area consisted predominantly of hardstanding which does not offer suitable habitat for these species. Due to the lack of any suitable habitat for otter and water vole recorded within the Survey Area, and the poor connectivity from Rochdale Canal to the Site (including brick walls) these species are not considered to pose a constraint to the Proposed Scheme.

Other priority species

7.2.33. GMBRC provided two records of hedgehog within 1km of the Site.

[53] In accordance with Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). The Bat Conservation Trust, London

7.2.34. The walkover survey found there to be limited suitable habitat for hedgehog within the Survey Area. Connectivity between the Site boundary and surrounding area is poor for ground based terrestrial mammals due to the presence of walled boundaries and several major roads.

7.2.35. Due to the lack of any suitable habitat for hedgehog recorded within the Survey Area, and the poor connectivity from the Site (including brick walls) this species is not considered to pose a constraint to the Proposed Scheme.

7.2.36. The waterbodies adjacent to the Site (namely the New Islington Marina to the north, the Rochdale Canal on the western boundary, and Ashton Canal to the east) have potential to contain notable aquatic fish, invertebrate and macrophyte species. Desk study indicates that the Rochdale Canal and Ashton Canal contains the nationally scarce[54], UKBAP and European Protected species: floating water-plantain, as listed above under the SBI (see Table 7-1). Desk study also identified a record of the nationally scarce and UKBAP species grass wrack pondweed (*Potamogeton compressus*) approximately 1.5km to the west of the Site. No Environment Agency fish, invertebrate, macrophyte or diatom data are available within 2km of the Site for either the Rochdale Canal, New Islington Marina or Ashton Canal.

7.2.37. Due to the close proximity to the Proposed Scheme and sensitivity of the waterbodies and their associated species, aquatic species (fish, invertebrates and macrophytes) may pose a constraint to the Proposed Scheme, however, with the implementation of standard best practice measures (such as pollution prevention), any impacts upon these receptors are considered unlikely to be significant.

7.2.38. The River Medlock is located approximately 0.8km to the east of the Site and may be hydrologically connected to the canal systems adjacent to the Site. However, due to the distance from the Proposed Scheme and assuming implementation of standard best practice measures, no impacts are anticipated to this feature.

Non-native invasive plant species

7.2.39. No records of invasive non-native plant species (INNPS) were provided by GMBRC.

7.2.40. During the walkover survey, wall cotoneaster[55] was recorded within the surrounding perimeter vegetation within the mixed scrub.

7.2.41. Butterfly bush was also recorded throughout the Survey Area. Whilst this species is not listed[56] as an INNPS, it is a species that spreads quickly and may damage or weaken masonry.

7.3. Key issues and potential likely impacts

7.3.1. The key constraints of the Proposed Development include the following:

- Potential impacts upon the adjacent SBI through increased lighting and if any water abstraction and new discharges are required;
- Potential presence of nesting birds if vegetation removal works are undertaken during the bird-breeding season (1 March – 31 August inclusive);
- Presence of 'low' suitability foraging and commuting habitat for bats; and
- Presence of INNPS.

Construction phase

7.3.2. The construction phase has the potential to impact the above constraints through:

- Habitat loss including the loss of foraging and commuting habitat for bats, and nesting habitat for birds;
- Habitat degradation (such as reduced water quality through pollution of the adjacent SBI);
- Disturbance including increased lighting to the adjacent SBI; and
- Spread of INNPS.

[54] Occurring in 16-100 hectares in Great Britain.
[55] Listed upon Schedule 9 of the Wildlife and Countryside Act 1981 (As amended)
[56] Upon Schedule 9 of the Wildlife and Countryside Act 1981 (As amended)

Operation phase

7.3.3. The operational phase has the potential to impact the above constraints through:

- Disturbance including increased lighting to the adjacent SBI.

7.4. Proposed scope of assessment

7.4.1. The biodiversity assessment will include the following:

- Describing the ecological baseline through updated survey and desk study;
- Identifying and evaluating 'Important Ecological Features' (IEFs);
- Identifying and characterising the likely effects on IEFs;
- Determining the significance of effects in the absence of mitigation;
- Describing mitigation, compensation, and/or enhancement measures associated with the development and assessing residual significance; and
- Identification of monitoring requirements.

7.5. Assessment methodology

7.5.1. The assessment methodology will be developed with reference to the CIEEM Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland[57]. Updated walkover surveys and desk studies will be undertaken to inform the assessment. The assessment methodology will include outlining the ecological baseline, identifying IEFs, an assessment of impacts (including cumulative and in-combination effects), details of appropriate avoidance and mitigation measures, and details of any residual effects (should any exist following mitigation), following consultation with the relevant statutory and non-statutory organisations. The findings of the ecological survey work will feed into the scheme design to ensure any impacts are avoided or mitigated where possible, in line with the CIEEM mitigation hierarchy. Recommendations for ecological enhancement will also be provided.

Determining value

7.5.2. The baseline conditions will be examined and IEFs identified based on their conservation status and the local populations observed. The nature conservation value of the IEFs will be considered within a defined geographical context the level of values outlined within Table 7.2.

Table 7-2 – Determining value of ecological receptors

Level of value	Examples
International and European	An internationally/European designated site for nature conservation (e.g. Special Protection Areas (SPA), Special Areas of Conservation (SAC), and Ramsar sites) or site meeting criteria for international designations. This includes candidate sites.
	Species present in internationally important numbers.
National	A nationally designated site for nature conservation. (e.g. Sites of Special Scientific Interest (SSSI) or National Nature Reserves (NNR), or sites meeting the criteria for national designation).
	Species present in nationally important numbers.
	Cited species that are connected to SSSI or NNR.
	Large areas of priority habitats listed on Annex 1 of the Habitats Directive and smaller areas of such habitats that are essential to maintain the viability of that ecological resource.
Regional	Species present in regionally important numbers.

[57] Available at: https://cieem.net/resource/guidelines-for-ecological-impact-assessment-ecia/ (Accessed 23/10/2023)

Level of value	Examples
	Sites designated as Local Nature Reserves (LNRs), Local Wildlife Sites (LWS), or equivalents.
Metropolitan, County, vice-county or other local authority-wide area	Sites designated as LNRs, LWS, or equivalents that may be designated according to criteria at the local authority level.
Local	Other species of conservation interest, e.g. local Biodiversity Action Plan (BAP) species that contribute to the local community.
	Sites falling below criteria for selection as an LWS.
	Areas of habitat or species considered to appreciably enrich the ecological resource within the local context.
Less than local (Site value)	Usually widespread and common habitats and species. Receptors falling below local value are not considered in detail in the assessment process unless they have policy implications for the Proposed Development, e.g. legally protected species.

Identifying effects and determining magnitude

7.5.3. An effect is defined as a change in distribution or status of a receptor as a result of the Proposed Development and can be adverse, neutral, or beneficial. When describing ecological impacts and effects, reference will be made to the following: whether the impact/effect is positive or negative, the extent, magnitude, duration, frequency, timing, and reversibility.

7.5.4. In accordance with the CIEEM guidelines, a cumulative effect is defined as *'additional changes caused by a proposed development in conjunction with other developments or the combined effect of a set of developments taken together'*. The purpose of a cumulative effect assessment is to identify effects that might not be significant on their own but become significant when considered in combination with effects from other plans or developments. Therefore, the assessment will ensure any impacts both alone, and in-combination with other plans or developments.

Determining significance

7.5.5. After assessing the impacts of the proposal, measures will be made to avoid and mitigate ecological impacts. Once measures to avoid and mitigate ecological impacts have been finalised, assessment of the residual impacts will be undertaken to determine the significance of their effects on the IEFs.

7.5.6. In accordance with the CIEEM guidelines, a significant effect, in ecological terms, is defined as *'an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features''.*

7.6. Proposed mitigation

7.6.1. Ecological mitigation measures would primarily involve the following:

- Any retained trees within, or adjacent to the Site, would be protected in line with guidelines provided in BS 5837 Trees in relation to Construction[58];
- Guidance for Pollution Prevention (GPPs) guidelines[59] and the Construction Industry Research and Information Association (CIRIA) guidance on the control of water pollution from construction sites[60] would be followed at all times;

[58] British Standards Institute (2012) BS5837:2012 – Trees in relation to design, demolition and construction. Recommandations.
[59] https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/guidance-for-pollution-prevention-gpps-full-list/
[60] The CIRIA documents are a series of publications developed by the Construction Industry Research and Information Association. Each document is targeted at a particular type of business or activity and covers environmental good practice to minimise pollution.

- Dust and air quality best practice guidelines[61] would be followed during any ground-breaking works;
- If water abstraction is required from the adjacent SBI sites, the location would be agreed with an ecologist and the local planning authority and be a location that does not contain any sensitive features (such as any aquatic plants listed on the SBI citation). Filters would also be used on any abstraction device to prevent any animal entrapment;
- Removal of the vegetation within the Site would be undertaken outside the core bird nesting season (the nesting season is 1 March to 31 August, though it should be noted that variation in dates is possible, for example from geographical variations in climate, or due to a particularly mild winter) to avoid damage or destruction of occupied nests or harm to breeding birds. If this cannot be achieved, works within the core bird nesting season will require an inspection of vegetation to be cleared for breeding birds and their occupied nests by a suitably qualified ecologist no more than 24 hours prior to any works being undertaken. If any nesting birds are identified during the survey, they will be left in situ for their entire nesting period and alternative approaches to the work proposed. This may include leaving an exclusion zone around the nests to avoid disturbance.
- As a precaution, if clearance of any trees covered in ivy is required, soft felling, where tree limbs are cut in sections under an ecological watching brief would be undertaken;
- Any excavations are filled or covered overnight to prevent animals (such as fox) becoming entrapped. Where excavations cannot be filled or covered overnight, a plank of wood (or similar) would be placed into the excavation at an angle that allows means of escape;
- Lighting installed as part of the design should be directed downwards and installed in accordance with the Bats and artificial lighting guidance note (2023)[62]. No additional lighting should be directed upon the surrounding aquatic habitats;
- Any stands of wall cotoneaster (INNPS) would be eradicated prior to any works commencing to avoid the spread of this species during construction; and
- If any protected species or evidence of protected species, or any INNPS, are unexpectedly encountered at any point during the works, all works would cease, and an ecologist would be contacted for further advice on how to proceed.

7.6.2. The following ecological enhancements have been recommended for consideration:

- Native landscape planting;
- Bird and bat nesting boxes;
- Invertebrate habitat piles; and
- Tree planting.

Biodiversity metric reporting

7.6.3. In order to align with local and national planning policy, developments should promote and achieve biodiversity net gain where possible. For developments in Greater Manchester, the minimum level of BNG is considered to be achieved when the biodiversity units for the habitats (for example, area-based habitats, rivers and/ or hedges) impacted by the development is increased by 10% or more after the development[63]. This means delivering 10% gain for area base habitats, hedges, and rivers if any of these habitats are present on Site[64].

7.6.4. The Statutory Biodiversity Metric[65] will be utilised to capture a quantifiable value of habitats present within the Site, with the aim of providing enhancements for biodiversity. The ecological enhancements mentioned above have the potential to support the net gain assessment within the Site boundary.

[61] Holman et al (2014). IAQM Guidance on the assessment of dust from demolition and construction, Institute of Air Quality Management, London. www.iaqm.co.uk/text/guidance/construction-dust-2014.pdf
[62] Guidance Note 8 Bats and Artificial Lighting | Institution of Lighting Professionals (theilp.org.uk)
[63] gmca-bng-guidance-update_250221-final-edited.pdf (greatermanchester-ca.gov.uk)
[64] https://www.greatermanchester-ca.gov.uk/media/4244/gmca-bng-guidance-update_250221-final-edited.pdf
[65] Statutory biodiversity metric tools and guides - GOV.UK (www.gov.uk)

8. Climate Vulnerability

8.1. Planning policy and legislation

8.1.1. The following legislation and policies govern the assessment of vulnerability to climate change and have been consulted in preparing this section.

Table 8-1 – Framework for the Vulnerability to Climate Change Assessment

Legislation/ Regulation/ Policy	Summary of requirements
National	
Climate Change Act, 2008[66]	The UK passed legislation that introduced the world's first long term legally binding framework to tackle the risks posed by climate change. The Climate Change Act (2008) created a new approach to managing and responding to climate change in the UK, by: • Setting ambitious, legally binding reduction targets; • Taking powers to help meet those targets; • Strengthening the institutional framework; • Enhancing the UK's ability to adapt to the impacts of climate change; and • Establishing clear and regular accountability to the UK Parliament and to the developed legislatures. Key provisions of the Act in respect of climate change adaptation include a requirement for Government to report, at least every five years, on the risks to the UK of climate change, and to publish a programme setting out how these will be addressed. This Act also introduces powers for Government to require public bodies and statutory undertakers to carry out their own risk assessment and make plans to address those risks. The Adaptation Sub-Committee of the Committee on Climate Change will provide advice to, and scrutiny of, the Government's adaptation work.
Local	
Manchester City Council Climate Change Action Plan 2022 refresh[67]	The action plan “supports city wide adaptation to climate change”. This includes a commitment under workstream 4 that supports the installation of green infrastructure and nature-based solutions.
Places for Everyone (March 2024)[68]	This plan sets out policies to establish Manchester as ‘A place at the forefront of action on climate change with clean air and a flourishing natural environment’.
Manchester’s Core Strategy 2012 – 2027[69]	The Core Strategy policies have been partially replaced by Places for Everyone policies.

[66] http://www.legislation.gov.uk/ukpga/2008/27/contents
[67] https://www.manchester.gov.uk/downloads/download/7523/climate_change_action_plan_2022_refresh
[68] https://www.manchester.gov.uk/info/500113/city_centre_growth_and_infrastructure/8270/places_for_everyone
[69] Core Strategy 2012-2027 | Core Strategy 2012-2027 | Manchester City Council

8.2. Summary of baseline conditions

Current climate

8.2.1. The current climate baseline presented below is sourced from Met Office data[70].

8.2.2. Mean annual temperatures in Northwest England depend very much on altitude and, to some extent, proximity to the coast. Over the lower lying areas inland the average varies from around 10.5°C in Cheshire to 9°C in the Solway Plain near Carlisle and there is an approximate decrease of 0.5°C for each 100 metres increase in altitude. The highest values occur along the coasts of the Isle of Man, Merseyside and Lancashire, whilst the lowest occur at the higher altitudes such as the Lake District fells and Pennines. Over the UK, mean annual temperatures range from about 7°C in the Shetlands to over 11°C in Cornwall and the Channel Islands.

8.2.3. Temperature shows both a seasonal and a diurnal variation. January is usually the coldest month with mean daily minimum temperatures varying from below 0°C over the highest ground to about 2 to 2.5°C along the coasts and in Merseyside. The lowest known temperature recorded in the region was -21.1°C at Ambleside (Cumbria) in January 1940.

8.2.4. July is the warmest month, with mean daily maximum temperatures of about 21°C in Cheshire, however only 17°C to 18°C on the Isle of Man and in upland areas such as the Pennines and Lake District. Extreme maximum temperatures can occur in July or August. For example, on 3 August 1990 a temperature of 34.5°C was recorded at Knutsford, Cheshire, and in the heat wave in July 2006 34.3°C was achieved at Crosby, Merseyside on the 19th.

8.2.5. The exposure of North West England to westerly maritime air masses and the presence of extensive areas of high ground mean that the region has some of the wettest places in the UK. The higher parts of the Lake District are particularly wet, with an average of over 3200 mm of rain each year. In contrast, the reputedly wet city of Manchester averages only 830 mm and the more sheltered areas of Cheshire and the Eden valley in Cumbria are even drier with less than 800 mm per year. These areas benefit from the 'rain shadow' effect of the high ground of North Wales and the Lake District respectively. Whilst rainfall is generally well distributed through the year, there is a seasonal pattern. The driest season is spring whilst there is an autumn/winter maximum, when the Atlantic depressions are at their most vigorous.

8.2.6. Periods of prolonged rainfall can lead to widespread flooding, especially in winter and early spring when soils are usually near saturation. The autumn of 2000 was particularly wet, with over twice the normal rainfall in much of the Pennines, Greater Manchester and Cheshire. Widespread and severe flooding affected Cumbria in January 2005 and November 2009. The January 2005 floods in Carlisle were considered to be the worst to affect the city since 1822. On 19 November 2009, Seathwaite (Cumbria) reported 253mm in 24 hours.

8.2.7. The current climate baseline that will be reported in the ES will use published regional weather monitoring data to demonstrate in more detail the current and past climate impacts on the study area. Data for this will be obtained from the Met Office. The ES will also use data from the nearest long running met station and would include identification of recent weather patterns and extreme weather events in the study area. Historical climate hazards resulting from weather patterns and extreme weather events would also be identified.

Projected climate

8.2.8. The projected climate baseline presented in this section is sourced from United Kingdom Climate Projections 2018 (UKCP18) data[71]. These projections have been developed by the Met Office Hadley Centre Climate Programme which is supported by the Department of Business, Energy and Industrial Strategy (BEIS) and Defra. They provide the most up-to-date assessment of how the climate of the UK may change over the 21st century.

[70] https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/weather/learn-about/uk-past-events/regional-climates/south-west-england_-climate---met-office.pdf
[71] https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18_headline_findings_v4_aug22.pdf

8.2.9. Climate change trends projected over the UK for the 21st century show an increased chance of warmer, wetter winters and hotter, drier summers along with an increase in the frequency and intensity of extremes.

8.2.10. By the end of the 21st century, all areas of the UK are projected to be warmer, more so in summer than in winter. By 2070, in the UKCP high emission scenario, this range amounts to 1.3°C to 5.1°C in summer, and 0.6°C to 3.8°C in winter.

8.2.11. Rainfall patterns across the UK are not uniform and vary on seasonal and regional scales and will continue to vary in the future. By 2070, in the UKCP high emission scenario, this range amounts to -45% to +5% in summer, and -3% to +39% in winter (where a negative change indicates less precipitation, and a positive change indicates more precipitation).

8.2.12. The projected climate baseline that is reported in the ES will identify and quantify, at a catchment scale, the likely future changes to the climate in the study area.

8.3. Key issues and potential likely impacts

Construction phase

8.3.1. Construction impacts associated with the current climate are not expected to occur unless construction coincides with extreme weather event(s) such as heatwaves, droughts or storms, the frequency, duration, and intensity of which can be linked to climate change. Where appropriate these will be addressed by the relevant topics in the ES and included in the climate vulnerability ES chapter, for example:

- Appropriate construction controls will be identified in the Water Environment and Flood Risk Chapter of the ES to manage construction related flood risk effects.
- Appropriate construction controls will be identified, if necessary, in the Air Quality Chapter of the ES to manage dust suppression requirements which would increase during hot and dry weather.

Operation phase

8.3.2. The following potential climate vulnerability impacts may occur during operation and are scoped into further assessment:

- Drier summers could damage the Proposed Development's landscaping.
- Drier summers and wetter winters could cause soil instability (intensify and extend soil moisture deficits and impact groundwater levels and earth pressures) affecting structures and embankments and potentially increasing maintenance requirements.
- The Site could be affected by more regular loss of power resulting from increasingly regular and intense extreme weather, storms with high wind.
- Hotter summers could damage materials (rutting, shrinkage, and expansion) increasing maintenance requirements – embedded mitigation within the design will reduce any impacts to acceptable levels.

8.3.3. The following potential climate vulnerability impacts will be addressed in the climate vulnerability assessment, and relevant ES chapters:

- Heavier rain and wetter winters could increase the risk of pluvial or surface flooding – will also be covered within the Flood Risk Assessment.
- Hotter summers could affect users of the Proposed Development by exposing them to uncomfortably high temperatures, – embedded mitigation within the design will reduce any impacts to acceptable levels.
- Climate change will reduce future water availability and will increase water demand. In operation the Proposed Development will require water affecting local water resource availability, – embedded mitigation within the design will reduce the scheme's water demand to acceptable levels and regional impacts on water resources are considered by United Utilities Water Resource Management Plan which factors in growth impacts.

- Average increases in temperature and humidity could reduce the lifespan of electrical equipment, increasing maintenance and requiring more regular replacement cycles,– embedded mitigation within the design will reduce any impacts to acceptable levels.

8.3.4. The Sites inland position (>20km from the coast) means that sea level changes are not expected to affect the Site during its operation and therefore this is scoped out.

8.4. Proposed scope of assessment

8.4.1. Potential climate vulnerability impacts will be assessed and outlined in the ES, including construction and operational impacts.

8.5. Assessment methodology

8.5.1. The climate vulnerability assessment would follow the method set out in the Institute of Environmental Management and Assessment (IEMA) guidance (2020).

8.5.2. Broadly, the approach follows the following steps:

- Identify the emerging baseline, taking account of the influence of climate change.
- Identify the potential impacts on the Proposed Development during construction and operation identified in the other environmental assessment topics.
- Assess the sensitivity of baseline receptors to climate change.
- Assess the scale of impact of the Proposed Development in combination with climate change.
- Assess the significance of the combined impact.

8.6. Proposed mitigation

8.6.1. Climate vulnerability mitigation will include mitigation such as the following during construction:

- Appropriate construction controls will be identified in the Water Environment and Flood Risk Chapter of the ES to manage construction related flood risk effects.
- Appropriate construction controls will be identified, if necessary, in the Air Quality Chapter of the ES to manage dust suppression requirements which would increase during hot and dry weather.

8.6.2. For operation, mitigation will primarily be included as design modifications (embedded mitigation), such as:

- Managing flood risk by including climate change allowances in the selection of the design storm size that the drainage infrastructure will be designed to withstand.
- Using Sustainable Drainage Systems (SuDS) to manage water quality from surface water runoff generated by extreme weather.
- Selecting materials that meet the designs specific performance requirements.
- Using a best practice landscape design that uses an appropriate mix of species.
- Emergency back-up power sources will be included in the detailed design if critical services / infrastructure are identified.
- Undertaking Ground Investigations (GI) and detailed design of the proposed ground works to ensure the Site's stability is not affected by climate hazards (both slow onset changes in average conditions and quick onset climatic events, i.e., extreme weather).
- Implementing a water sensitive design, for example using water efficient fittings and considering grey water re-use opportunities.
- Hotter summers would increase the potential for photovoltaic (PV) energy generation infrastructure which could be fitted to buildings.
- Shading will be incorporated into the design of outside spaces.
- Buildings throughout the development will be designed to achieve comfortable temperature levels and indoor air quality.

9. Effects on Climate

9.1. Planning policy and legislation

9.1.1. The following planning policy and legislation have been considered within this scoping exercise and will be taken forward for the Climate Effects assessment within the ES:

- Paris Agreement 2015[72]
- Climate Change Act 2008, amended in 2019[73]
- National Planning Policy Framework (NPPF) 2023[74]
- UK Construction 2025[75]
- 5 Year Environment Management Plan for Greater Manchester (2019-2024)[76]
- Manchester City Council Climate Change Framework 2020 – 2025[77]
- 2022 Update to Manchester's Climate Change Framework[78]
- Manchester's Core Strategy 2012 – 2027[79];
- Addendum to Manchester Core Strategy 2024[80]
- Places for Everyone (March 2024)[81]

9.2. Summary of baseline conditions

9.2.1. The baseline conditions for the greenhouse gas (GHG) assessment are informed by the total background emissions of GHGs from all sources, i.e., all UK GHG emissions, as provided by national statistics. In addition, emissions for the local and regional area in which the Proposed Development is located are provided for context, along with a discussion of emissions currently likely to be generated within the Proposed Development area.

National baseline

9.2.2. The total UK territorial emissions for 2021 (last reported year) were 426.5 million tonnes (Mt) carbon dioxide equivalent (CO_2e)[82].

9.2.3. Provisional figures have been released for 2022[83], with the total UK territorial emissions for 2022 being 417.1 $MtCO_2e$, 2.2% lower than 2021, following warmer weather in 2022 and despite the recovery from the COVID-19 pandemic. Emissions from the public sector were provisionally reported to be 7.6 $MtCO_2e$ in 2022, a 1.4% increase from 2021 and accounting for 2.3% of all territorial CO_2e emissions. In the period from 1990 to 2022 territorial CO_2 emissions from the public sector decreased 52.4%.

Regional baseline

9.2.4. The total Manchester city emissions for 2021 (last reported year) were 2,95.6 $ktCO_2e$, a 2.6 $ktCO_2e$ increase from 2020[84]. This most likely reflects the change in restrictions from the COVID-19 pandemic. Emissions from the public sector in Manchester were 288.1 $ktCO_2e$ in 2021, accounting for 13.7% of all emissions emitted in the city.

[72] The Paris Agreement | UNFCCC
[73] Climate Change Act 2008 (legislation.gov.uk)
[74] National Planning Policy Framework - Guidance - GOV.UK (www.gov.uk)
[75] Construction 2025: strategy - GOV.UK (www.gov.uk)
[76] 5-year-plan-branded_3.pdf (greatermanchester-ca.gov.uk)
[77] Manchester Climate Change Framework 2020-25 | Manchester Climate Change
[78] MANCHESTER CLIMATE CHANGE FRAMEWORK(2020-25) | 2022 UPDATE
[79] Core Strategy 2012-2027 | Core Strategy 2012-2027 | Manchester City Council
[80] Addendum to Manchester Core Strategy 2024 | Core Strategy 2012-2027 | Manchester City Council
[81] https://www.greatermanchester-ca.gov.uk/what-we-do/planning-and-housing/places-for-everyone/
[82] Provisional UK greenhouse gas emissions national statistics 2021 - GOV.UK (www.gov.uk)
[83] Provisional UK greenhouse gas emissions national statistics 2022 - GOV.UK (www.gov.uk)
[84] UK local authority and regional greenhouse gas emissions national statistics, 2005 to 2021 - GOV.UK (www.gov.uk)

Site-specific baseline

9.2.5. The total current baseline emissions are considered to be negligible, given that the Site is a vacant plot of brownfield land, predominantly made up of hardstanding material. Therefore, for the assessment, a conservative GHG emissions baseline of zero is applied, which represents a robust, worst-case scenario.

Future baseline scenario

9.2.6. In the absence of the Proposed Development being constructed and operated then the Site will continue to exist as a vacant brownfield site with negligible emissions. It is possible that the Site would be developed for another purpose leading to future emissions resulting from that development. However, the likelihood of that occurring is unknown. Therefore, for the assessment, a conservative GHG emissions future baseline scenario of zero is applied, which represents a robust, worst-case scenario.

9.3. Key issues and potential likely impacts

9.3.1. The potential impacts of GHG emissions are very specific in terms of receptors and impacts because:

- There is only one receptor, the atmosphere, which is non-site specific;
- There is only one direct impact, climate change, which is also non-site specific; and
- All units of CO2e can be considered to have the same impact no matter where they are emitted.

Construction phase

9.3.2. The Proposed Development could lead to a negative effect on climate in the construction phase due to the generation of emissions that would not occur otherwise.

Operation phase

9.3.3. The Proposed Development could lead to a negative effect on climate in the operational phase due to the generation of emissions from operational energy consumption, maintenance and repair of the Scheme and operational waste and processes.

Likely Significant Impact

9.3.4. It is likely that the construction and operation phase would contribute only a small percentage to the UK's overall carbon budgets and it is therefore unlikely that the Proposed Development would generate a significant impact on climate. However, Effects on Climate assessment will be scoped into the EIA to ensure a robust assessment is undertaken to quantify the carbon emissions from the Proposed Development given the level of public scrutiny and importance that carbon management faces.

9.4. Proposed scope of assessment

9.4.1. Table 9-1 presents the elements scoped in or out of the assessment with reasoning for any elements scoped out.

Table 9-1 – Elements scoped in or scoped out of the assessment

Phase	Sub stages of life cycle (using PAS 2080:2023 categories)	Potential sources of GHG emissions (not exhaustive)	EIA Scope
Site Preparation and Construction	A1 – 3 Embodied carbon from material supply	Embodied GHG emissions associated with the required raw materials, transportation from source and their manufacture	Yes

Phase	Sub stages of life cycle (using PAS 2080:2023 categories)	Potential sources of GHG emissions (not exhaustive)	EIA Scope
	A4 Transportation of materials to worksite	Emissions from the transportation of workers and materials to site	Yes – Transportation of materials No – Employee travel to the site is unknown at the current stage of design, and would be expected to be only a small proportion of the total emissions during the construction phase
	A5 Construction processes	Activities for organisations conducting construction work.	Yes
	Land Use Change	GHG emissions mobilised from vegetation or soil loss during construction	Yes
Operational Phase	B1 Use	Emissions from the use of materials, production of waste during the Scheme's operation, worker travel to the site	Yes
	B2 – B5 Maintenance and repair	Embodied GHG emissions associated with the required replacement materials, transportation from source and their manufacture	Yes
	B6 Operational Energy Use	Energy consumption during the Scheme's operation	Yes
	B7 Operational Water Use	Water consumption during the Scheme's operation	Yes
	Land use Change	Ongoing land use GHG emissions/sequestration each year	No – there is anticipated to be minimal land-use change at the site involving ecological habitat creation or loss
Decommissioning / End-of-life Phase	C1-4	Deconstruction activities, transport and processing of waste, disposal of waste materials	No – activities not known at this stage given that there is no anticipated end-of-life date for the scheme

9.5. Assessment methodology

9.5.1. The assessment will be undertaken in accordance with the following guidance:

- IEMA (2022) Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance[85];
- PAS 2080 (2023): Carbon Management in Infrastructure[86]; and
- RICS (2017) Wholelife carbon assessment for the built environment[87]

Calculating construction emissions

9.5.2. A quantification of construction phase GHG emissions will be calculated using the AtkinsRéalis Carbon Knowledgebase tool, which contains a detailed library of calculation formulae and over 1,000 emissions factors from authoritative sources such as the Inventory of Carbon and Energy (ICE, versions 1.6(a), 2.0 and 3.0[88]), Defra Greenhouse Gas Reporting Conversion Factors[89], and the EMEP/CORINAIR Emission Inventory Guidebook[90]. The tool calculates the construction phase emissions in accordance with PAS 2080: Carbon Management in Infrastructure, the international standard for assessing carbon emissions throughout a project's lifecycle.

9.5.3. The design and construction information for the assessment will be provided from the Design team using the most up-to-date design at the time of the assessment.

Calculating operational emissions

9.5.4. Data on the energy consumption, water consumption and repair and maintenance for the Proposed Development will be provided from the Design team using the most up-to-date design at the time of the assessment.

9.5.5. A quantification of repair and maintenance and water consumption GHG emissions will be calculated using the AtkinsRéalis Carbon Knowledgebase tool as these mirror the emission calculations required for the construction phase.

9.5.6. The total annual anticipated energy requirement for the Proposed Development will be identified from the design and multiplied by the respective predicted yearly electricity emissions factors (these are produced yearly by Department for Energy Security and Net Zero) for 60 years starting from the first year of operational for the Proposed Development. This is done to reflect the anticipated decarbonisation of the National Grid during the operation of the Proposed Development.

Assessment of significance

9.5.7. The method of assessment of whether the calculated GHG emissions from the Proposed Development will have a significant effect on climate has been determined in accordance with IEMA's 2022 guidance. There is no legal limit for GHG emissions for any one development. The guidance suggests that the level of significance should be related to how a project contributes to reducing GHG emissions relative to a comparable baseline consistent with a trajectory towards net zero by 2050, as stated in section 6.2 of the guidance: *"The crux of significance…is not whether a project emits GHG emissions, nor even the magnitude of GHG emissions alone, but whether it contributes to reducing GHG emissions relative to a comparable baseline consistent with a trajectory towards net zero by 2050 (or other date as defined in targets for devolved administrations)."*

9.5.8. The IEMA 2022 guidance document notes that practitioners need to consider whether project GHG emissions are aligned to achieving net zero by 2050, using the science based 1.5°C trajectory. Where this is not the case, then the effects are judged to be moderate adverse or major adverse, and thus can be classed as a significant effect. Projects that are compatible with the trajectory can have their effects classed as minor adverse, or where the project achieves GHG emission mitigation that goes beyond the trajectory, negligible. In both cases, the effects are not considered to be

[85] IEMA - Launch of the Updated EIA Guidance on Assessing GHG Emissions - February 2022
[86] Revised PAS 2080:2023 | BSI (bsigroup.com)
[87] Whole Life Carbon Assessment for the Built Environment (rics.org)
[88] Embodied Carbon Footprint Database - Circular Ecology
[89] Greenhouse gas reporting: conversion factors 2022 - GOV.UK (www.gov.uk)
[90] EMEP/EEA air pollutant emission inventory guidebook — European Environment Agency (europa.eu)

significant. Projects that result in GHG emissions being avoided or removed from the atmosphere can be considered to have a significant beneficial effect. The IEMA 2022 guidance notes that the UK 2050 target for net zero and interim carbon budgets are considered by the UK Climate Change Committee to be compatible with the required trajectory.

9.5.9. The percentage contribution of the Scheme to the national carbon budgets will be determined in accordance with IEMA 2022 guidance on significance. Although the IEMA guidance suggests that, for context, it would be good practice to consider a project's GHG emissions in relation to sector-based targets, there are currently no sector budgets for public sector emissions or any other sector provided by the UK Climate Change Committee, the body responsible for developing the UK and devolved administrations' carbon budgets. Sector-based targets will therefore not be considered in accordance with current UK legislation.

9.6. Proposed mitigation

9.6.1. Emissions can be mitigated by following the PAS2080 carbon reduction hierarchy, which includes the steps of Avoid, Switch, and Improve. As a project progresses, the potential for significant carbon reductions diminishes, while the associated cost and disruption of implementing changes increase. Therefore, it is crucial to plan and incorporate these opportunities from the early stages of the project.

9.6.2. Typically, the greatest opportunity for reducing carbon emissions lies at the project's outset, when the strategy for achieving objectives is determined. By changing the approach and minimizing the need for extensive engineering, materials and construction processes can be significantly reduced.

9.6.3. During the design phase, there is a chance to employ smart engineering solutions for carbon reduction. It is important to consider the use of innovative low-carbon materials and design interventions that optimize the Proposed Development's efficiency.

9.6.4. Once the above steps have been addressed, the Proposed Development will identify, evaluate, and integrate measures to further reduce carbon emissions through offsetting or sequestration, either on-site or off-site.

10. Daylight, Sunlight, Overshadowing, Solar Glare, Obtrusive Light and Light Disturbance

10.1. Planning policy and legislation

10.1.1. There are no national planning policies or legislation for daylight, sunlight, and overshadowing (DSO). Manchester City Council (MCC) does not have any specific policies or guidance documents that directly relate to DSO assessments. However, MCC Core Strategy Development Plan Document[91], Policy DM1 outlines the need for all development to have regard for specific issues such as the effects on amenity, including light for which more detailed guidance may be given within a supplementary planning document. It should be noted that MCC Policy DM 1 and Places for Everyone Policy JP P1 Sustainable Places, do not mention any criteria or best practice guidance to be followed and make no mention of obtrusive light, which is a statutory nuisance under the Clean Neighbourhoods and Environment Act[2].

10.1.2. Local policies are normally built around the Building Research Establishment (BRE) Handbook guidance document BR209[92].

10.1.3. Currently, there is no indication of any national or local planning policies for solar glare and no recognised best practice guidance documents for road receptors. Therefore, AtkinsRéalis will be basing the road receptors assessment upon the methodology used for assessing glare for train drivers when locating signal positions.

10.1.4. Obtrusive light is a statutory nuisance and is covered by the Clean Neighbourhood and Environment Act[93] (CNEA). The CNEA grants the local authorities and Environmental Agency additional powers to deal with artificial lighting by classifying artificial light emitted from defined premises as a statutory nuisance. The CNEA amends Section 79 of the Environmental Protection Act 1990 to extend the statutory nuisance regime to include light spill and glare (emitted from certain premises) defined as, "(*fb)artificial light emitted from premises so as to be prejudicial to health or a nuisance*". Several defined types of premises are exempt from this provision, including premises where higher levels of light are to be expected for the purposes of safety, such as airports and lighthouses.

10.1.5. National Planning Policy Framework[94] (NPPF) 2023 sets out the government's policies and principles with respect to land use planning, including lighting. NPPF has been introduced as a more succinct and fit for planning document to support and guide developers and designers in relation to design, construction, and operation of relevant developments within the UK. The policy document noted the need to consider any likely and or cumulative effect on health and environment caused by new development and ensure these effects are mitigated.

10.1.6. Compliance at national level is normally deemed to be met by following the Institution of Lighting Professional (ILP) Guidance Note 01/21[95]. Other applicable guidance for lighting designers on this subject of obtrusive light from artificial lighting provision and potential mitigations is predominantly covered by the following international documents:

- CIE 150:2017[96]
- CIE 126:1997[97]

[91] Manchester's Local Development Framework Core Strategy Development Plan Document Adopted 11th July 2012
[92] Building Research Establishment, (2022), *Handbook: Site layout planning for daylight and sunlight: a guide to good practice (BR209 2022)*
[93] *The Clean Neighbourhood and Environment Act (CNEA) 2005, Section 10*
[94] *https://www.gov.uk/government/publications/national-planning-policy-framework--2*
[95] Institution of Lighting Professional(ILP) Guidance Note 01/21, *The Reduction of Obtrusive Light (ILP GN01/21).*
[96] Commission Internationale de l'Eclairage 150, (2017), *Guide on the Limitation of the Effects of Obtrusive Light from Outdoor Lighting Installations (CIE 150:2017)*
[97] Commission Internationale de l'Eclairage 126, (1997), *Guidelines for Minimizing Sky Glow (CIE 126:1997)*

- Various documents deal with ecological considerations, ILP Guidance Note, GN08/23[98], which raises awareness of the impacts of artificial lighting on bats and what mitigations may be employed. The recommendations may be usefully applied to species other than bats.

10.2. Summary of baseline conditions

10.2.1. The local environs surrounding the Site consists of a mixture of low, medium, and high rise residential and commercial properties. This assessment will be limited to only residential properties within radius of the edge of the Site within 500m. It is worth noting that any residential properties within the 500m radius with no view of the Site will be scoped out of the ES.

10.2.2. The Site is currently occupied by a vacant hardstanding area. As such, daylight, and sunlight appear to be good for the residential properties on the western side of Redhill Street.

10.2.3. The residential properties on Old Mill Street from Great Ancoats Street to Lampwick Quay are a considerable distance away from the Proposed Development, however, until the final massing of the development is concluded, these properties cannot be scoped out of the ES.

10.2.4. Similarly, to the north, the residential properties on the northern bank of the Cotton Field Marina are a substantive distance from the Site, however, until the final massing of the development is concluded, these properties cannot be scoped out of the ES.

Overshadowing

10.2.5. The orientation of the Proposed Development on the Site indicates that there this is potential for an overshadowing effect on the Co-op Academy New Islington Primary School playground and sports areas and Cotton Field Park.

Solar glare

10.2.6. There are no railway lines within the immediate vicinity of the Proposed Development. It is therefore proposed that potential effects on railways as a result of solar glare is scoped out of the ES. The only road that will need to be assessed for solar glare is Great Ancoats Street. The views of the Proposed Development from the west are obstructed by the adjacent developments on Redhill Street and Jersey Street.

10.2.7. Currently, the views of the Site are open to all drivers proceeding west. The development on the corner of Old Mill Street obstructs some of the views of the eastern elevations of the Proposed Development. The currently undeveloped eastern half of the Site allow views of the Proposed Development. These views may be obstructed when the eastern half of the Site is developed.

Existing lighting provision

10.2.8. The existing Site currently has no system of external lighting due to the demolition of the former retail park. The approach roads are currently lit using column mounted units with Lighting Emitting Diode (LED) light sources configured in a mixture of single sided and staggered arrangements.

10.2.9. As no environmental zone for external lighting control is provided by MCC, the environmental zone for this proposed assessment will be specified by a competent lighting designer based on experience from similar assessments.

10.2.10. The criteria used to provide a baseline for the impact of lighting on the surrounding environment are drawn from ILP GN01/21, based on the derived Environmental Zone. The Site lies within a high district brightness similar to town/city centres with high levels of night-time activity and corresponding with Environmental Zone E4 as defined by ILP GN01/21.

10.2.11. It is worth noting that although the Environmental Zone is E4 (city centre), the Site is a relatively dark area when linked with the marina and canal area.

10.2.12. The ES will consider the potential effects on ecological receptors as a result of disturbance from lighting.

[98] ILP Guidance Note 8/23, *Bats and Artificial Lighting at Night, (ILP GN08/23)*

10.3. Key issues and potential likely impacts

Construction phase

Daylight, sunlight, and overshadowing (DSO)

10.3.1. No significant adverse effects are anticipated due to the scale and temporary nature of the activities. The worst-case assessment for the ES is considered to be the operational phase as this assessment includes the greatest extent of the massing. Therefore, a construction phase assessment of DSO is proposed to be scoped out of the ES.

Solar glare

10.3.2. There is the potential for solar glare effects during construction, through the use of protective plastic sheeting with a high reflectance/gloss factor.

Obtrusive light

10.3.3. Uncontrolled lighting during demolition and construction activities has the potential to result in significant adverse effects on receptors. Contractors shall submit all lighting proposals associated with construction activities for approval prior to commencement of construction works. All such lighting should meet the constraints of the applicable Environmental Zone.

10.3.4. Construction lighting and light disturbance to be scoped into the obtrusive lighting assessment.

Operation phase

Daylight and sunlight

10.3.5. There is the potential for daylight and sunlight effects on the existing residential properties on Redhill Street and therefore this will be scoped into the ES.

10.3.6. The residential properties on Old Mill Street will be scoped into the ES as indicated within the summary of the baseline conditions (Paragraph 10.2.3).

10.3.7. It is not expected that residential properties to the south of Great Ancoats Street will be affected by the Proposed Development however, once the final massing is confirmed they will be reviewed and considered in the ES.

Overshadowing

10.3.8. Overshadowing will be assessed for the Co-op Academy New Islington Primary School, the Rochdale Canal Corridor, Cotton Field Park and New Islington Marina. From a high-level desk-based study undertaken for the purpose of this scoping report, there was an indication of reduction in Annual Probable Sunlight Hours for both amenity areas. Therefore, these three areas will be scoped into the ES.

Solar glare

10.3.9. Solar glare will be assessed for drivers approaching the Site from the southeast along Great Ancoats Street. It is unlikely that there will be issues coming from the opposite direction due to existing buildings obstructing views.

Obtrusive light

10.3.10. Permanent lighting will enhance the safety and security of users meeting statutory requirements and standards as well as mitigate the impact of artificial lighting on the surrounding environment.

10.3.11. Whilst it is recognised that lighting needs to be provided to safeguard and enhance the night-time environment, incorrect application, and control of lighting during the operational phase can be detrimental to health and wellbeing and the local environment, in the form of obtrusive light and nuisance.

10.3.12. A lighting strategy of the proposed permanent lighting that considers the environmental conditions, constraints of the applicable environmental zone and have minimal impact on the surrounding environment shall be submitted within the Design and Access Statement (DAS) for approval to support the planning application.

10.3.13. The lighting strategy shall comprise an indication or concept of the final external lighting designed to reduce obtrusive light to the requirements of ILP GN01/21[99].

Light disturbance

10.3.14. From a high-level desk-based study undertaken for the purpose of this scoping report, no significant issues/ impacts are currently identified or expected. However, light disturbance has been proposed to be scoped in the ES and reviewed later as to whether it is required upon the review of the ecological surveys.

10.3.15. Lighting disturbance and operation phase lighting to be scoped into the obtrusive lighting assessment.

10.4. Proposed scope of assessment

Daylight and sunlight

10.4.1. Daylight and sunlight will be assessed in line with BR209[100] guidance. This will include Vertical Sky Component (VSC), No Sky Line (NSL), Average Probable Sun Hours (APSH) and Winter Probable Sun Hours (WPSH) for the residential properties to the north, east and west abounding the Site. An assessment of all residential properties within 500m of the Site will also be included within the assessment.

Overshadowing

10.4.2. The overshadowing assessment will be mainly concerned with the Co-op Academy New Islington Primary School, Cotton Field Park and canal corridor. From desk-based study, there are currently new developments being built around New Islington Marina, which will change the numbers of sensitive receptors. The New Islington Marina area will be considered within the overshadowing assessment.

Solar glare

10.4.3. The solar glare study will include a computer simulation model of sensitive receptors along Great Ancoats Street. Laystall Street will be reviewed and the need for an assessment established. For the purpose of this scoping report, this will be scoped into the ES.

Obtrusive light

10.4.4. This will include all residential sensitive receptors identified within 500m of the Site.

Light disturbance

10.4.5. Light disturbance on the adjacent ecological receptors associated with the canal will be scoped into the ES.

10.5. Assessment methodology

Daylight, sunlight, and overshadowing

10.5.1. The assessment will include computer simulation using 3D computer models of the Proposed Development and GIS models. The criteria will be evaluated against the criteria identified in BRE BR209[101] (VSC, NSL, APSH and WPSH) to determine the potential for likely significant effects.

10.5.2. Overshadowing will be assessed by computer simulation using 3D computer models of the proposed developments and GIS models. The criteria will be evaluated against the criteria identified in BRE BR209.

10.5.3. Internal daylight assessment of the proposed buildings will be assessed accordingly when the surrounding proposed developments designs are further developed. It is worth noting that the

[99] Institution of Lighting Professional(ILP) Guidance Note 01/21, The Reduction of Obtrusive Light (ILP GN01/21).
[100] Building Research Establishment, (2022), *Handbook: Site layout planning for daylight and sunlight: a guide to good practice (BR209 2022)*
[101] Building Research Establishment, (2022), *Handbook: Site layout planning for daylight and sunlight: a guide to good practice (BR209 2022)*

internal daylight is scoped out of ES but will be included in the planning document as part of the DAS.

Solar glare

10.5.4. The computer simulation will assess the drivers' view at different positions on the street at different times of the year. If the solar glare appears within the driver's core field of view, glare will be present if the duration lasts longer than 5 seconds and will be termed glint if less than 5 seconds.

Obtrusive light

10.5.5. The sensitive residential receptors will be assessed via desktop study and confirmed by a physical survey. The baseline conditions will be assessed in terms illuminance and luminance for each confirmed receptor and recorded. The relevant guidance and legislation stated within this section will be considered and applied accordingly. The desk study information and data recorded on Site will be analysed and the outcome including recommendations presented in a report format.

Light disturbance

10.5.6. Light disturbance on the adjacent ecological receptors associated with the canal will be addressed within the ES, following the review of the ecological surveys.

10.6. Proposed mitigation

Daylight, sunlight, and overshadowing

10.6.1. Massing will be considered alongside early-stage assessments of the impact on daylight, sunlight and overshadowing and mitigation embedded through the design of the Proposed Development.

Solar glare

10.6.2. There are possibilities of solar glare becoming an issue during construction and in the final façade arrangements due to the orientation of glazing. Mitigations for construction will be to write conditions that the contractor shall follow regarding the use of temporary façade sheeting. For the final façade, mitigation measures will include choice of materials and shading to windows. All these measures will be included in the ES.

Obtrusive light:

10.6.3. All lighting to follow guidance within ILP GN01/21. Lighting for construction and operational phase will implement good lighting practice through selection of equipment and robust lighting design that eliminates or reduces impact on the surrounding environment. This will include:

- Look to the correct application of the lighting standards, defining the required lighting levels dependent on the task being undertaken and the level of activity and risk.
- Ensure that only the areas required are illuminated. Reductions in spill and obtrusive light to at least the constraints imposed by the applicable Environmental Zone should be achieved, through the careful consideration of luminaires and how they are installed.
- Energy efficient lighting installations with suitable control system that allows monitoring and control including variable lighting regime may be considered.
- Selection of good quality equipment that restricts light to the areas required and does not contribute to excessive levels of spill, intensity, or upward output.
- Selection of lighting equipment that demonstrates good output control, to limit distribution to the areas requiring illumination.
- Selection of lighting equipment can be easily fitted with shields, louvre, cowls, hood, or baffles.

Light disturbance

10.6.4. Proposed mitigation will be identified within the DSO and Ecology chapters of the ES.

11. Ground Conditions and Contamination

11.1. Planning policy and legislation

11.1.1. The following planning policy and legislation has been considered within this scoping exercise and will be taken forward in the Ground Conditions and Contamination assessment within the ES:

- National Planning Policy Framework (NPPF) 2023[102]
- Planning Practice Guidance 'Land affected by contamination'[103]
- Manchester City Council Local Plan 2012-2027[104] in particular:
  - Policy PA1 Developer Contributions
  - Policy EN15 Protecting Designated Biodiversity and Geological Conservation
  - Policy EN17 Water Quality
  - Policy EN18 Contaminated Land and Ground Stability
  - Policy EN20 Minerals
- Greater Manchester Mineral Plan (2013)[105]
- Places for Everyone (March 2024)[5] in particular:
  - Places for Everyone Policy JP S1 Sustainable Development
  - Places for Everyone Policy JP S4 Flood Risk and the Water Environment
- Wildlife and Countryside Act, 1981[106]
- The Conservation of Habitats and Species Regulations, 2017[107]
- Environmental Protection Act, 1990[108]
- Contaminated Land (England) Regulations, 2006[109]
- Contaminated Land Statutory Guidance, 2012[110]
- Land Contamination Risk Management (LCRM), 2023[111]
- The Water Framework Directive (WFD) (England and Wales) Regulations, 2017[112]
  - BS 10175:2011+A2:2017 (2017)[113]
  - River Basin Management Plan (2022)[114]

[102] Ministry of Housing, Communities& Local Government (2021) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf [Accessed [18 July 2023].
[103] Gov.UK (2019) Land affected by contamination - GOV.UK (www.gov.uk) [Accessed 20 July 2023].
[104] Manchester City Council (2012) https://www.manchester.gov.uk/downloads/download/5672/core_strategy [Accessed 20 July 2023].
[105] Manchester City Council (2013) Greater Manchester Joint Minerals Development Plan Documents | Manchester City Council [Accessed on 31/07/2023]
[106] Gov.UK (1981) Wildlife and Countryside Act 1981 (legislation.gov.uk) [Accessed 20/07/2023]
[107] Gov. UK (2017) The Conservation of Habitats and Species Regulations 2017 (legislation.gov.uk) [Accessed 20/07/2023]
[108] Environment Agency (in this Part 2 A (Environmental Protection Act 2020) Environmental Protection Act 1990 (legislation.gov.uk) [Accessed 31 July 2023].
[109] Gov.uk (2006) https://www.legislation.gov.uk/uksi/2006/1380/introduction [Accessed 20 July 2023].
[110] Department for Environment & Rural Affairs (2012) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/223705/pb13735cont-land-guidance.pdf [Accessed 20 July 2023]
[111] Environment Agency (2023) Land contamination risk management (LCRM) - GOV.UK (www.gov.uk) [Accessed 20 July 2023]
[112] Department for Environment, Food and Rural Affairs 7th March (2017) https://www.legislation.gov.uk/uksi/2017/407/resources [Accessed 21 July 2023]
[113] BSI (2017) BS 10175:2011+A2:2017 Investigation of potentially contaminated sites, Code of practice.
[114] Environment Agency (2022) River basin management plans: updated 2022 - GOV.UK (www.gov.uk) [Accessed 21 July 2023]

11.2. Summary of baseline conditions

Study area

11.2.1. To consider the effects of the Proposed Development on ground conditions and contamination, the study area is defined as the area within the Proposed Development boundary (the Site) and land immediately beyond up to a distance of 250m.

Current Site conditions

11.2.2. The Proposed Development is situated on the Site of a former retail park which was demolished in 2019 and the Site cleared down to ground. Hardstanding currently covers the majority of the Site. For the purpose of this scoping assessment, the baseline has been identified as vacant land with hardstanding in place.

Historical development

11.2.3. The history of the study area has been determined principally by reference to the historical maps dated from 1848 to 2023 presented in the Groundsure Report[115], as well as the Phase I and II Geo-environmental Site Assessment report previously prepared by e3p[116]. A summary of the historical development is shown in Table 11-1 below.

Table 11-1 – Summary of historical development

Map and scale	On-Site	Off-Site (within 250m)
1848 1:10,560 to 1851 1:1,056	The earliest available mapping for the Site shows it to be located within an urban setting with terraced residential homes and other buildings occupying the Site. There are four main streets that run through the Site from north-east to south-west namely, Allum Street, Newton Street, Fawcett Street and John Street. Allum Street Foundry (Engine and Mill Works) and part of Allum Street Mill (Cotton) are mapped present in the north-western corner of the Site. A wood yard is mapped in the approximate centre of the Site. An oil cloth manufactory, machine manufactory, iron foundry are mapped present in the south-western section of the Site. Given the names of the roads other industry and commercial premises are likely to have been present on Site e.g., Baker Street, Mason's Court, Fawcett Street, Smith's Court, Back Cotton Street, Pott Street Court.	The surrounding area is mapped as a mix of residential, commercial and industrial uses. Ancoats Street runs parallel to the south of the Site, Pott Street is on the south-eastern Site boundary and the Rochdale Canal is on the north-western boundary followed by Union Street. A coal yard and parts of Allum Street Mill and Allum Street Foundry are located on the north-eastern Site boundary and beyond. A smithy, cotton mill, spindle works, coal wharf, timber yard, iron works with associated boilers, chimneys, cranes, weighing machines and canals are mapped present approximately 20m to 150m north-east of the Site boundary. Shooters Brook Iron Works No. 1 is located approximately 10m south-east of the Site. A coal wharf, colliery wharf, timber yard, wire mill and associated cranes and weighing machines are mapped present approximately 20m south-west of the Site. A brass foundry, coal yard, part of the oil cloth manufactory and machine manufactory and cotton mills are mapped present from the north-western Site boundary and beyond.
1891 1:500	A sawmill is shown present in the location of the oil cloth manufactory and a timber yard is present in the south-	No significant changes mapped, although a lot of the industrial buildings surrounding the Site are not named.

[115] Groundsure(2023) GS-N5Y-Y5P-M5I-37U
[116] e3P(2017) Phase I and II Geo-environmental Site Assessment Report (Ref. 11-834r1)

Map and scale	On-Site	Off-Site (within 250m)
	western section of the Site. Allum Street Foundry and Mill buildings are still present on the map but not named. Schools are shown mapped on John Street and Little Newton Street with churches and rectories mapped present on Fawcett Street, and Little Newton Street.	
1894, 1896 & 1906 1: 10,560	No significant changes.	A clothing factory and disused foundry are mapped present to the south of the Site.
1908 & 1922 1:2,500	Corporation Yard is shown present on Little Newton Street within the centre of the Site. The various industrial uses noted on previous maps are no longer noted present. A recreational ground is mapped present on the south-eastern Site boundary at the location of former houses.	Long Mill, Old Mill, Sedgewick Cotton Mill; Murray Street Mill, cotton works, Corporation Yard and Stone Wharf, sawmills, hydraulic power station, tin works, iron & steel warehouse, tarpaulin works, timber yard, wharfs, clothing factory, dye works, glass works, engineering works, galvanizing works, flour mill, waterproof factory, timber shed, bedstead and safe works are located surrounding the Site.
1923 1:10,560	No significant changes.	No significant changes.
1931 to 1932 1:2,500	A sawmill is encroaching on the north-western corner of the Site (former Allum Street foundry). Imperial Mill is mapped present in the north of the Site.	A lot of the previous industrial uses are still mapped as present with the addition of a sheet metal works, wastepaper works, additional clothing mills / factories, cabinet works, and machine tools works within 250m of the Site.
1934 to 1938 1:1,10,560	No significant changes.	No significant changes.
1952 to 1955 1:2,500	Garages and a timber shed are now mapped present in the approximate centre of the Site. A timber yard is mapped present in the west.	The majority of the industry remains present with the addition of an electricity sub-station, brass and iron works (Union Works) builders' yard, soap works, corporate cleansing department, and paint works. The canal / basin to the north has changed in configuration.
1956 to 1968 1:10,560	No significant changes.	A hospital is mapped to the east of the Site.
1963 to 1969 1:2,500	A timber warehouse is mapped present in the south-west of the Site. An engineering works and unnamed works are mapped present in the north-west, a warehouse in the south and another warehouse in the centre of the Site. A lot of the previous houses are no longer mapped.	Generally, no significant changes with the addition of some garages, scrap metal yard, and tanks identified on the maps.
1971 1:1,250	A depot is mapped present in the south-west of the Site.	No significant changes.

Map and scale	On-Site	Off-Site (within 250m)
1972 1:10,000	No significant changes.	No significant changes.
1978 1:1,250	No significant changes.	A lot of the industry noted present to the north-east of the Site has now been replaced by St Jude's Primary School located on the northern Site boundary and housing approximately 100m north of the Site. The canal / basin to the north is no longer mapped present.
1981 to 1985 1:10,000	No significant changes.	Some further conversion of the industrial buildings to smaller residential buildings to the north-east.
1983 to 1985 1:2,500	No significant changes.	No significant changes.
1985 1:10,000	No significant changes.	No significant changes.
1990 to 1995 1:2,500	Maps show that the Site has been redeveloped into three large buildings which cover the north-eastern section of the Site with the south-western section appearing to be car parking. The buildings and car parking are assumed to be part of the "Central Retail Park".	The sawmill, cabinet works, and later buildings noted as "works" mapped on the south-eastern boundary are now mapped as two large buildings with car parking and noted to be the "Central Retail Park". Further residential buildings are mapped present to the north-east. Some former factories in the south-west are now mapped as garages. Factories in the west are still noted as present although some buildings are no longer mapped.
1991 to 1994 1:10,000	No significant changes.	Offices are noted present to the west of the Site.
2001 1:10,000	No significant changes.	No significant changes.
2003 1:2,500	No significant changes.	Two additional small buildings are mapped adjacent to the south-eastern Site boundary and part of the retail park. The area to the south-west across the road from Great Ancoats Street is now mapped as a car park with the former garages no longer mapped present.
2010 1:10,000	No significant changes.	The school to the north and residential housing to the north-east are no longer mapped present with parts of the former canals reinstated along with new canals mapped.
2023 1:10,000	No buildings are mapped present on Site, just part of a road on the northern Site boundary.	The former buildings of the Central Retail Park are no longer mapped present. An Educational Facility is mapped to the north of the Site and further development has taken place north of the canals.

Geology

11.2.4. There are no sites of geological interest, Local Geological Sites (LGS) formerly known as Regionally Important Geological Sites (RIGS)[117], or geological SSSIs within the study area. There are also no sensitive / valuable non-designated geological features within the study area.

Mapped geology

11.2.5. Reference to the Groundsure report indicates that no Made Ground or artificial ground is noted present beneath the Site. However, given the historical development of the Site and wider study area Made Ground is anticipated to be present.

11.2.6. The Groundsure report indicates the Site is underlain by Devensian Till comprising 'a heterogenous mixture of clay, sand and gravel'. The bedrock underlying the Site comprises the Chester Sandstone Formation.

British Geological Survey (BGS) borehole logs

11.2.7. There are three BGS borehole logs noted present onsite and an additional 64 borehole logs within the study area. The borehole logs noted onsite were completed in 1999 and relate to the construction of St Jude's School to the north and are between 0.91m and 4m deep. TP25 and TP25A generally describe gravelly Made Ground of brick, limestone and sandstone up to 1.0m below ground level (bgl) where a concrete obstruction was encountered that terminated the pits. TP28 recorded a thin layer of topsoil (0.16m) underlain by another thin layer of sand and gravel (0.4m) underlain by a firm to stiff clay to 4m bgl. Groundwater was not encountered.

Faults

11.2.8. According to Groundsure there are no faults with the study area.

Natural ground subsidence

11.2.9. According to Groundsure the potential for natural ground subsidence due to shrinking or swelling clays, compressible deposits, running sands, collapsible deposits, ground dissolution and landslides within the study area is negligible to very low.

Mining and mineral safeguarding

11.2.10. According to the Groundsure report the study area is located in an area of known historical coal mining. e3p obtained a Coal Authority Mining Report in 2017 which identified that the Site could be affected by underground mining in three coal seams identified present between 360m and 1090m depth, and last worked in 1961. The report states that there are no known mine entries on or within 20m of the Site. The report indicates that no notices have been issued stating that the land is at risk of subsidence and "*any movement in the ground due to coal mining activity should have stopped*". There are no plans to grant future licences.

11.2.11. The Greater Manchester Joint Minerals Plan[118] does not record any mineral sites (brick clay, aggregates, building stone, or coal) within the study area.

Hydrogeology

11.2.12. According to the Groundsure report the superficial Devensian Till deposits are designated as a Secondary Undifferentiated aquifer by the Environment Agency (EA). The Environment Agency defines Secondary Undifferentiated aquifers as "*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*".

11.2.13. The Chester Sandstone Formation bedrock is designated as a Principal aquifer. The Environment Agency defines Principal aquifers as "*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*".

[117] Greater Manchester RIGS* Group (2023) Sites Map – Greater Manchester RIGS* Group (gmrigs.org.uk) [Accessed on the 31/07/2023]
[118] Greater Manchester Joint Minerals Plan April 2013. https://www.manchester.gov.uk/downloads/download/5550/greater_manchester_joint_minerals_development_plan_documents

11.2.14. The Groundsure report does not record any licensed potable groundwater abstractions within the study area. The study area is not located within a groundwater Source Protection Zone (SPZ).

Hydrology

11.2.15. The nearest surface water body recorded is the adjacent Rochdale Canal, with the Islington Wharf Marina and Ashton Canal approximately 30m northeast and southeast respectively. A summary of the WFD surface water ratings within the study area is presented in Table 11-2.

Table 11-2 – Summary of WFD Surface Water Classifications

Location	Name	Waterbody ID	Overall rating	Chemical rating	Ecological rating	Year
On site	Rochdale Canal, western section	GB71210517	Moderate	Fail	Moderate	2019
223 m South	Ashton Canal and Peak Forest Canal, lower section	GB71210219	Moderate	Fail	Moderate	2019

Flood risk

11.2.16. The Groundsure report indicates that the majority of the Site is not at risk of surface water flooding as a result of extreme rainfall events. This is described as "*land naturally vulnerable to surface water ponding or flooding*". However, a small area in the eastern section of the Site is recorded as being at risk from surface water flooding from a 1 in 1,000 year event, with a flood depth of between 0.1m and 0.3m.

11.2.17. The Groundsure report also indicated that the majority of the Site is at low risk of groundwater flooding but an area in the west of the Site is classed as a moderate to high risk.

Contamination and pollution incidents

11.2.18. The Groundsure report records three pollution incidents within the study area, as summarised in Table 11-3 below.

Table 11-3 – Summary of Pollution incidents

Location	Details	
7m northwest	Incident Date: 22/05/2001 Incident Identification: 6328 Pollutant: Contaminated Water Pollutant Description: Other Contaminated Water	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
13m northwest	Incident Date: 17/05/2001 Incident Identification: 5825 Pollutant: Contaminated Water Pollutant Description: Other Contaminated Water	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
204m southwest	Incident Date: 22/02/2003 Incident Identification: 138638 Pollutant: Other Pollutant Pollutant Description: Other	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

Landfill and waste facilities

11.2.19. The Groundsure Report indicates that there no historical or current registered landfill sites located within the study area.

Unexploded Ordnance (UXO)

11.2.20. A review of the online unexploded bomb risk maps provided by Zetica[119] indicates that the study area is in a moderate risk area for encountering UXO related to World War II (WWII) bombs. A moderate risk is described by Zetica as areas indicated as having a bombing density of 15 to 49 bombs per 1,000 acres.

Radon

11.2.21. Information from the Groundsure report indicates that the study area is within*" a low probability radon area, as "less than 1% of the homes are above the action level.*"

Sensitive Land Uses (for contamination receptors)

11.2.22. According to the Groundsure report[115] there are no environmental designations such as SSSIs, SPAs, SACs, ancient woodlands, nature reserves within the study area. The study area is however within a SSSI impact risk zone and the Site is classed as an open mosaic habitat which are described as "*brownfield sites that are identified under the UK Biodiversity Action Plan (UK BAP) as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates*."

11.2.23. According to Groundsure there are 23 Listed Buildings within the study area; these are generally Grade II or II* listed and mainly relate to former industries in the area including mills, warehouses and canals. The Site is adjacent to a conservation area, designated in 1989.

Previous Ground Investigations

11.2.24. In 2017, a pre-demolition (GI) was completed by e3p comprising a combination of window sample, cable percussive and rotary boreholes, 15 of which were located within the Site.

11.2.25. Made Ground, generally between 0.5m and 2.0m thick, was recorded on site as a variable gravelly sand and sandy gravel with materials including clinker, brick, ash, limestone, mudstone, slate, timber, and rare porcelain. No visual or olfactory evidence of hydrocarbon impacted soil or groundwater was observed.

11.2.26. Superficial Deposits were recorded to be stiff gravelly and sandy gravelly Clay with local horizons of more silty Clay. Within the deeper boreholes the superficial deposits were proven to a maximum depth of 29m bgl. Bedrock deposits comprised upper weathered horizons of Sandstone, becoming rock at depths of between 24.5m and 33m bgl on Site.

11.2.27. Groundwater monitoring and modelling completed by e3p indicated shallow groundwater at depths of between 0.5m and 4.2m bgl, and deeper groundwater on site between 21.0m and 24.5m bgl.

11.2.28. On completion of the works, e3p undertook a contaminated land generic quantitative risk assessment (GQRA) for the Site using the data collected. e3p concluded that significant site-wide contamination and a subsequent significant risk to human health or controlled wates had not been identified. Evidence of potentially volatile or soluble hydrocarbons was not noted present by e3P and the ground gas monitoring indicated no gas protection measures would be required in the redevelopment.

11.2.29. In addition to the e3p 2017 GI, a supplementary post-demolition GI for the Proposed Development has been undertaken by AtkinsRéalis in October 2023 and will be summarised within the ES.

[119] Zetica (2023) https://zeticauxo.com/downloads-and-resources/risk-maps/ [Accessed on 24 July 2023]

11.3. Key issues and potential likely impacts

Construction phase

Physical impacts

11.3.1. The Proposed Development may cause physical impacts associated with any required earthworks, temporary stockpiling of materials, foundations / piling and construction of new buildings and associated infrastructure. This may cause a temporary increase in erosion with the potential for increased runoff during earthworks. These may give rise to temporary or permanent impacts associated with soil erosion, soil compaction, and ground instability.

Impacts associated with land contamination

11.3.2. Construction works may potentially introduce new sources of contamination and disturb and mobilise existing sources of contamination if these are present. Construction activities may introduce new pathways for migration of existing contamination, such as excavation and exposure of contaminated ground, remobilisation of contaminants through ground disturbance and increased surface water run-off, flooding and ground gas migration. Additionally, the construction of any piles through the Made Ground and superficial deposits may create a preferential pathway for infiltration to groundwater and the principal bedrock aquifer. Construction works may also increase the generation of potentially contaminated dust and vapours.

Impacts associated with waste soils and soil re-use

11.3.3. Waste soils are likely to be generated during construction through the required earthworks, and construction of foundations, utilities, and infrastructure. There is the potential that soil arisings generated may be unsuitable for reuse on site (due to geotechnical and/or chemical properties, or surplus to requirements).

11.3.4. Off-site disposal of soils to landfill is an unsustainable practice using up limited landfill space, therefore every effort will be made to identify alternative disposal routes that will allow the materials to be re-used elsewhere, e.g., waste-soil recycling plants, or other nearby construction sites that have a genuine design need for the type of fill materials generated by the Proposed Development (subject to current environmental permitting and waste regulations and guidance).

Operation phase

11.3.5. Impacts are likely to be greatest during construction, with reduced impacts likely during operation. Physical impacts will mainly be related to the construction phase.

11.3.6. The operation of the Proposed Development may potentially introduce new sources of contamination i.e., spillages and leaks from vehicles and below ground services could create additional potential pathways for the migration of potential contamination which were not present at baseline. The Proposed Development may also generate limited waste soils during operation due to maintenance requirements which may include excavations for landscaping, repairs, and maintenance of services.

11.4. Proposed scope of assessment

11.4.1. An agricultural land assessment including Best and Most Versatile (BMV) land is not being undertaken as the Proposed Development is within an urban environment.

11.4.2. The Government's Good Practice Guide for Environmental Impact Assessment[120] states that the following potential environmental effects should be considered for ground conditions:

- Physical effects of the Proposed Development: e.g., changes in topography, soil compaction, soil erosion, ground stability, etc.;
- Effects on geology as a valuable resource: such as mineral resource sterilisation, loss, or damage to regionally important geology sites, geological SSSIs etc.

[120] Department for Communities and Local Government (2006) Environmental Impact Assessment: A guide to good practice and procedures (It should be noted that this document has been archived. However, it still constitutes good advice and should be referred to in the absence of alternative guidance documents)

- Effects on soil as a valuable resource: such as loss or damage to soil of good agricultural quality;
- Effects associated with ground contamination that may already exist on site: such as introducing or changing pathways and receptors;
- Effects associated with the potential for polluting substances used (during the various phases) to cause new ground contamination issues on site, such as introducing or changing the source of contamination and/or pathways; and,
- Effects associated with re-use of soils and waste soils: such as re-use of site-sourced materials on- or off-site, disposal of site-sourced materials off-site, importation of materials to the site etc.

Scoped in

11.4.3. Physical effects associated with soil erosion and the effects associated with the re-use of soils and generation of waste soils have been scoped into the ground conditions assessment given site conditions and possible design proposals.

11.4.4. The potential effects associated with contamination on human health, controlled waters and the environment is scoped in and will be considered within the assessment. This will be informed by the ground investigation currently underway and an update of the initial conceptual site model and generic quantitative risk assessments. Further consideration of impacts to water resources will be undertaken within the water resources and flood risk chapter of the ES.

11.4.5. Although the baseline has indicated that the following topics are unlikely to be impacted by the Proposed Development, they will still be considered within the ES:

- Ground subsidence due to shrinking or swelling clays, compressible deposits, running sands, collapsible deposits, ground dissolution and landslides
- Faults
- Mining
- Changes in topography, ground stability, and soil compaction
- Effects on geology as a valuable resource

Scoped out

11.4.6. The effects on soil as a valuable resource have been scoped out of the assessment at the beginning of this chapter as the Site is urban and soils have already been removed by previous development (there is no agricultural land present).

11.5. Assessment methodology

11.5.1. An impact assessment of the Proposed Development on ground conditions and contamination will be undertaken considering the potential effects on soil erosion, land contamination, soils reuse and waste soils. The study area for the assessment will remain at 250m from the Site unless otherwise considered appropriate. The general approach to the ground conditions and contamination assessment comprises:

- Updating the baseline conditions for the study area with the ongoing ground investigation information;
- Identification of potential impacts on identified resources and receptors from the construction and operational phases of the Proposed Development;
- Assessment of the significance of likely effects from the Proposed Development including the consideration of mitigation measures; and
- Identification of any residual effects.

Land contamination effects

11.5.2. The assessment of the potential impacts of the Proposed Development on land contamination will be undertaken over two stages:

- Stage 1 – a land contamination risk assessment; and
- Stage 2 – a land contamination impact assessment.

Stage 1 – Contamination risk assessment

11.5.3. The approach for the Stage 1 contamination risk assessment is based on LCRM and the Good Practice Guide to EIA. The process will entail the development of an initial Conceptual Site Model (CSM) from the baseline information. The level of risk will be ascertained by the estimation of probability and consequence of the risk in accordance with CIRIA C552[121]. The level of risk is identified using Table 11-4.

Table 11-4 – Estimate of Land Contamination Risk Level

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very High Risk	High Risk	Moderate Risk	Moderate/Low Risk
	Likely	High Risk	Moderate Risk	Moderate/Low Risk	Low Risk
	Low Likelihood	Moderate Risk	Moderate/Low Risk	Low Risk	Very Low Risk
	Unlikely	Modera/Low Risk	Low Risk	Very Low Risk	Very Low Risk

Stage 2 – Contamination impact assessment

11.5.4. The approach to the contamination impact assessment will entail undertaking land contamination risk assessments as described above for each of the following:

- **Baseline stage:** development of a CSM for the Site based on its current sources, pathways and receptors and an assessment of the current land contamination risks.
- **Construction stage:** development of the predicted CSM and risk assessment for the construction phase, addressing the potential for new sources of contamination to be introduced to the Site and the change in pathways and receptors.
- **Operational stage:** the predicted CSM for the Proposed Development, reflecting the final Site conditions including the status of contamination sources and the changes in the receptors.

11.5.5. The impact assessment then requires comparison of the baseline risk assessment with the construction phase and operational phase risk assessments. This approach enables changes in the contaminated land status during each phase to be identified, an assessment of the effects to be made and appropriate mitigation measures specified.

11.5.6. Following the classification of an effect, a clear statement is made as to whether the effect is 'significant' or 'not significant'. For land contamination, major and moderate effects will be classed as significant and minor and negligible effects not significant in accordance with standard EIA practice. However, professional judgement will also be applied where appropriate.

Physical effects, waste soils and soil re-use

11.5.7. The assessment of the potential physical effects (soil erosion) and the effects associated with soil re-use and waste soils will be undertaken using a qualitative approach considering the effects of the construction and operation of the Proposed Development. The assessment will be informed by the works required and the construction and operation methods proposed including enabling and temporary works, earthworks, proposed foundations and structures, and construction methods. Where information is not available, appropriate assumptions based on similar sites will be used.

11.5.8. After updating the baseline conditions, the significance of identified effects is determined based on the value/sensitivity of the resource (importance of receptor) and the magnitude of potential impact (change). The value/sensitivity and magnitude criteria will be developed in the assessment based on standard EIA practices.

[121] CIRIA (2001) Contaminated land risk assessment. A guide to good practice (C552) https://www.ciria.org/CIRIA/CIRIA/Item_Detail.aspx?iProductCode=C552&Category=BOOK [Accessed on 31July 2023]

11.5.9. Following the classification of an effect, a clear statement is made as to whether the effect is 'significant' or 'not significant'. For physical effects, soil reuse and waste soils, major and moderate effects will be classed as significant and minor and negligible effects not significant, in accordance with standard EIA practice. However, professional judgement is also applied where appropriate.

11.6. Proposed mitigation

Embedded mitigation

11.6.1. The following embedded mitigation measures are assumed to be incorporated into the Proposed Development design and will reduce impacts of physical effects and effects associated with land contamination, soil waste and soil re-use:

- Design in accordance with statutory guidance and best practice;
- An Outline CEMP setting out construction related environmental mitigation measures will be prepared and submitted as part of the ES;
- Incorporation of mitigation / remedial measures in the design to reduce impacts from soil compaction / settlement and contamination (as and if required);
- Maximising the potential to re-use site-won soils in the site redevelopment, minimise importation of soils and source local materials;
- Derivation of re-use criteria and implementation of a Materials Management Plan (MMP) where soils are to be re-used on site;
- Construction works will be undertaken in accordance with best practice methods; and
- The Proposed Development will be operated in accordance with the relevant regulations and best practise methods in applying Best Available Techniques.

Construction mitigation

11.6.2. Mitigation measures to be incorporated into the construction process include:

- Minimising the area and duration of soil exposure and timely reinstatement of vegetation or hardstanding to prevent soil erosion and reduce temporary effects on soil compaction;
- Stockpile management to reduce soil erosion, windblown dust and surface water run-off;
- Undertaking health and safety risk assessments, method statements and appropriate PPE for the protection of construction workers;
- Implementation of appropriate dust suppression measures to prevent migration of dust (whether contaminated or not);
- Implementation of working methods during earthworks to appropriately manage groundwater and surface water and ensure that there is no uncontrolled run-off from the works into adjacent surface watercourses;
- Implementation of appropriate pollution incident control e.g., plant drip trays and spill kits;
- Implementation of appropriate and safe storage of fuel, oils and equipment during construction;
- Appropriate management of materials during the works in accordance with relevant regulations and best practise methods; and
- Where waste soil is generated, it will be dealt with in line with the Government's waste hierarchy which is a guide to sustainable waste and material resource management.

Operational mitigation

11.6.3. Environmental impacts are likely to be greatest during construction, with minimal impacts likely during operation. However, the operation of the Proposed Development may potentially introduce new sources of contamination and below ground services could create additional potential pathways for the migration of potential contamination which were not present at baseline.

11.6.4. It is assumed, for the purposes of this assessment, that those mitigation measures identified for the construction phase will be undertaken and will support the mitigation of risks during operation. It is also assumed that the Proposed Development will be operated in accordance with the relevant regulations, best practice guidance and pollution prevention reducing risks.

12. Historic Environment

12.1. Planning policy, legislation and guidance

12.1.1. The following legislation and guidance are relevant to the assessment:

Legislation

12.1.2. Planning (Listed Buildings and Conservation Areas) Act 1990: Provides protection to listed buildings and Conservation Areas of 'special architectural or historic interest'.

12.1.3. Section 66 of the Act requires that the local planning authority shall 'have special regard to the desirability of preserving a listed building or its setting, or any features of special architectural or historic interest it possesses' when determining applications for development.

12.1.4. Section 72 of the Act also addresses conservation areas, for which decision makers must 'pay special attention to the desirability of preserving or enhancing the character or appearance'.

Planning Policy

12.1.5. The Proposed Development will be subject to the following legislation and planning policy:

- National Planning Policy Framework (NPPF)[122]
- Manchester's Local Development Framework: Core Strategy Development Plan Document[123]
- Places for Everyone (March 2024)[5] in particular:
  - Places for Everyone Policy JP P2: Heritage
- Strategic Regeneration Framework: Former Central Retail Park[124]
- Manchester Unitary Development Plan[125]

Guidance

- The Setting of Heritage Assets Historic Environment Good Practice Advice in Planning Note[126]
- National Planning Practice Guidance: Historic Environment (NPPG)[127]
- Regulations for Professional Conduct[128]
- Standards and Guidance for Commissioning Work or Providing Consultancy Advice on Archaeology and the Historic Environment[129]
- Standards and Guidance for Historic Environment Desk-Based Assessments[130]
- Managing significance in decision-taking in the historic environment, Historic Environment Good Practice Advice in Planning Note 2[131]

[122] Department for Levelling Up, Housing and Communities, 2021, National Planning Policy Framework. Available at: National Planning Policy Framework - Guidance - GOV.UK (www.gov.uk)

[123] Manchester City Council, 2012, Manchester's Local Development Framework: Core Strategy Development Plan Document. Available at: Core strategy development plan | Manchester City Council

[124] Manchester City Council, 2023, Strategic Regeneration Framework: Former Central Retail Park. Available at: https://www.manchester.gov.uk/downloads/download/7267/former_central_retail_park_draft_framework

[125] Manchester City Council, 2007, Unitary Development Plan. Available at: About the Unitary Development Plan | Unitary Development Plan (UDP) | Manchester City Council

[126] Historic England, 2017, The Setting of Heritage Assets Historic Environment Good Practice Advice in Planning Note 3. Available at: https://historicengland.org.uk/images-books/publications/gpa3-setting-of-heritage-assets/

[127] Ministry for Housing, Communities and Local Government, 2021, National Planning Practice Guidance: Historic Environment. Available at: https://www.gov.uk/guidance/conserving-and-enhancing-the-historic-environment

[128] Chartered Institute for Archaeologists, 2021, Regulations for professional conduct. Available from: https://www.archaeologists.net/sites/default/files/Regulations%20for%20professional%20conduct.pdf

[129] Chartered Institute for Archaeologists, 2020, Standards and Guidance for Commissioning Work or Providing Consultancy Advice on Archaeology and the Historic Environment. Available from: CIfAS&GCommissioning_2.pdf (archaeologists.net)

[130] Chartered Institute for Archaeologists, 2020, Standards and Guidance for Historic Environment Desk-Based Assessments. Available from https://www.archaeologists.net/sites/default/files/CIfAS%26GDBA_4.pdf

[131] Historic England, 2015, Managing significance in decision-taking in the historic environment, Historic Environment Good Practice Advice in Planning Note 2. Available from: Managing Significance in Decision-Taking in the Historic Environment | Historic England

- Preserving Archaeological Remains, Decision-taking for Sites under Development[132]

12.2. Summary of baseline conditions

12.2.1. For the purpose of this assessment, a study area extending 250m around the footprint of the Proposed Development was defined.

12.2.2. Baseline conditions for this topic have been identified from the following sources:

- National Heritage List for England (NHLE)[133] maintained by Historic England, for listed buildings, scheduled monuments, registered parks and gardens, and registered historic battlefields.
- The Greater Manchester local Historic Environment Record (HER)[134], for information relating to non-designated assets, including unlisted buildings and structures of historic interest, known archaeological sites and areas of archaeological potential, Historic Landscape Characterisation (HLC), find spots and past archaeological investigations (events).
- Local archival sources.
- Online resources: web-published material, including local planning authority (LPA) policies.
- A site inspection undertaken in October 2022.

12.2.3. A preliminary assessment of the value of heritage assets has been undertaken and is presented below. The values have been assessed using a five-point scale in accordance with the criteria set out in Table 12-2 below:

Heritage assets

12.2.4. A total of 166 heritage assets were identified within the study area from the above data sources. These comprise:

- 23 listed buildings comprising:
  - 9 grade II* listed buildings
  - 14 grade II listed buildings
- Two conservation areas
- 141 non-designated heritage assets

12.2.5. The location of designated assets is shown in Figure 2-1, Environmental Constraints.

Listed Buildings

12.2.6. There are 23 listed buildings recorded within the study area. The most pertinent to the Proposed Development include:

- The grade II* Royal Mill (1247474)
- The grade II* Brownsfield Mill (1207994)
- The grade II* Decker Mill and Old Mill (1247473)
- The grade II* Doubling Mill & Fireproof Mill (1270855)
- The grade II Sedgwick Mill (1270856)
- The grade II listed buildings associated with the Rochdale Canal comprising:
  - Lock 82 (1247485)
  - The grade II listed Rochdale Canal retaining Wall (1270860)
  - The grade II listed Rochdale Canal Footbridge (1270859)

[132] Historic England, 2016, Preserving Archaeological Remains Decision-taking for Sites under Development Available at: Preserving Archaeological Remains | Historic England

- [133] Historic England. 2023. National Heritage List for England. Available at: Search the List - Find listed buildings, monuments, battlefields and more | Historic England. [Accessed 04/08/2023].

[134] Greater Manchester Archaeological Advisory Service. 2023. *Greater Manchester Archaeological Advisory Service Monument Full Report: Historic Environment Record*. Manchester: Greater Manchester Archaeological Advisory Service

12.2.7. The principal elevation of the grade II * listed Royal Mill (1247474) overlooks the north-western boundary of the Site. This six-storey former cotton spinning mill, dated to 1912, is constructed of red brick with distinctive baroque detailing, affording a commanding presence within the Ancoats Conservation Area, the Site and the wider local townscape. The mill formed part of the McConnell Kennedy works which was one the dominant milling concerns within Manchester during the 19th century. The construction of the mill to be powered by mains electricity is also of note.

12.2.8. Decker Mill and Old Mill (1247473) is located approximately 50 m northeast of the Site. The original mill was built in 1798, however, this was superseded by a cotton mill dating to 1802, which was added to the eastern regions of the original mill. Constructed for the Adam and George Murray partnership, the company came to be one of the pre-eminent textile firms in Manchester. Similarly, to other nearby grade II* listed mills (noted above), Decker Mill boasts impressive proportions with its tall, seven-storey elevations and uniform architectural treatment, aligned parallel to Rochdale Canal. In contrast to the adjacent mills, Decker Mills is of more utilitarian design, with less architectural embellishment.

12.2.9. Overlooking the north-western boundary of the Site, the grade II listed Sedgwick Mill (1270856) was developed in two phases. Constructed around a central courtyard, the mills comprise an eight-storey U-plan block of 17 bays fronting onto Redhill Street (1818-1820), with Sedgwick New Mill (1868) located to the north and formed by a five-storey block of 15 bays. Both mills were constructed using fireproof construction[135], and retain evidence of the former location of boiler and engine houses in their fabric.

12.2.10. The buildings of Royal Mill; Sedgwick Mill; Decker Mill and Old Mill; and Doubling Mill and Fireproof Mill form a group united by architecture and shared history. Developed from the early 19th century by McConnell and Kennedy; and Murray, these mills were innovative for their time, being early adopters of technology such as fireproof construction, and gas lighting, as well as new developments in plan form and cotton manufacture. Of six and seven stories, the mill buildings form a near-continuous wall to Redhill Street, punctuated by the north-south roads running into the core of the Ancoats Conservation Area. The scale and rhythmic elevations of these buildings continue to be imposing, evidencing the importance of Manchester's textile industry throughout the 19th and early 20th centuries. Views of the group of mill buildings remain imposing and contributes to their significance. The setting of the mills in relation to the historic townscape of Ancoats, now designated as the Ancoats Conservation Area, forms a valuable aspect of their significance, evidencing the historic context of the mills and range of building types which supported the local mill working community. Royal Mill, Sedgwick Mill, Decker Mill, and Doubling and Fireproof Mill have been assessed to be of High value.

12.2.11. Brownsfield Mill (1207994) is located approximately 45m west of the Site, to the west of Great Ancoats Street. Constructed as a cotton spinning mill in 1825, the building is now converted to residential use. The mill is constructed on an L-plan in brick, with regular multi-paned windows over seven storeys, and a triple height round-headed window to the west of the building revealing the former engine house location. Constructed directly on the canal front, the former location of a canal basin serving the mill is now indicated by a shipping hole in the west elevation of the building. The former mill operated on the 'room and power' principle, with the mill owners renting out space to individual milling concerns, rather than operating the building as a single concern. Brownsfield Mill is assessed to be of High value.

12.2.12. The completion of the Rochdale Canal in 1804 was integral to the development of Ancoats, providing a vital artery for import and export of goods and materials, and direct links to Liverpool and to the east coast via the Calder and Hebble Canal. The grade II listed Lock 82 (1247485) is the nearest listed building to the Site, situated approximately 8m north of its north-western boundary. The canal lock is dated to approximately 1800 and forms a 14-foot-wide chamber constructed of coursed sandstone. The lock remains in use today. The north of wall of the canal is constructed in red brick with millstone grit capping and retains evidence of blocked openings which formerly served the mills along Redfern Street. The grade II listed Rochdale Canal Footbridge (1270859) is located approximately 80m southwest of the Site. Formed by a pair of slab-walled cobbled ramps, which provide access to a modern wooden footbridge linking to Brownsfield Mill (1207994). These assets are all assessed to be of Medium value in consideration of their architectural and historic

[135] Fireproof construction was adopted from the late 19th century and employed cast iron columns supporting a brick jack-arch structural ceiling which was covered in a layer of sand and flag flooring.

interest, and their designation as grade II listed buildings. Whilst listed individually, these assets form a coherent and inter-related group, and this group value forms an important aspect of their value.

12.2.13. The remaining 16 listed buildings are located within the core of the Ancoats Conservation Area and largely relate to industrial heritage. The majority of these comprise former cotton mills, canal infrastructure or warehouses. These assets were built between the late 18th and early 20th century and evidence the urban and industrial growth of Manchester during the post-medieval period.

Conservation areas

12.2.14. The Site sits immediately adjacent to the Ancoats Conservation Area, which terminates along the south side of the Rochdale Canal. The conservation area comprises the surviving historic townscape associated with Ancoats' development as an industrial and manufacturing centre from the late 18th century onwards. The conservation area includes historic mills, terraced worker's housing along Anita Street and George Leigh Street, early social housing at Victoria Square, the Romanesque Church of St Peter, and a number of successful modern developments which respond well to their historic context. The range of building types and architectural styles creates a varied and contrasting historic townscape which remains predominantly industrial in character. The Rochdale Canal forms the southern boundary of the conservation area and constitutes an important element within it both in terms of its history and importance to the development of Ancoats, in addition to its modern role as an open space within the historic townscape. The conservation area is of significance for its preservation of the best and most complete examples of large-scale steam-powered factories in one area, illustrating their development across the 19th century, and evidence of the close relationship between manufacturing and transportation, described by Manchester City Council as the world's first industrial estate. Ancoats Conservation Area is assessed to be of High value.

12.2.15. Within the western peripheries of the study area, the Stephenson Square Conservation Area covers the eastern regions of Manchester City Centre and hosts wide streets lined by commercial buildings. The prevailing local vernacular of the area is comprised of former mills, warehouses, and factories, constructed in dark red brick. Despite the overlap of the Stephenson Square Conservation Area within the study area, due to intervening distance and buildings, there is no intervisibility between the conservation area and the Site. This asset has been assessed to be of Medium value.

12.2.16. A summary of the designated heritage assets relevant to the Proposed Development is provided in Table 12-1 below.

Table 12-1 – Designated heritage assets relevant to the Proposed Development

NHLE number	Name	Designation	Value
1247474	Royal Mill	Grade II* listed building	High
1247473	Decker Mill and Old Mill	Grade II* listed building	High
1207994	Brownsfield Mill	Grade II* listed building	High
1270855	Doubling Mill & Fireproof Mill	Grade II* listed building	High
1270856	Sedgwick Mill	Grade II listed building	High
1247485	Lock 82	Grade II listed building	Medium
1270860	Rochdale Canal retaining Wall	Grade II listed building	Medium
1270859	Rochdale Canal Footbridge	Grade II listed building	Medium
N/A	Ancoats Conservation Area	Conservation area	High

Non-designated heritage assets

12.2.17. There is a total of 141 non-designated heritage assets recorded within the study area, of which the following are the most relevant to the Proposed Development:

- Rochdale Canal (MGM 1921)

- Rochdale canal road bridge (MGM 7515)
- Seven historic industrial sites including:
  - Allum Street Mill (MGM 13563)
  - Site of the cotton tree public house (MGM 7514
  - Site of Albion Buildings (MGM 18546)
  - Site of former Wire Mill (MQM 12802)
  - Iron and Steel Warehouse (MGM 12420)
  - Site of Coal Wharf Ancoats (MGM 18123)
  - Site of Moore's Mill (MGM 18131)

12.2.18. These assets evidence the development of the study area during the 18th and 19th centuries, including evidence for development of infrastructure, industry, domestic and recreational activity. The value of these assets ranges from negligible to medium.

Potential for unknown archaeological remains

Examination of historic Ordnance Survey mapping has revealed the Site to formerly have contained a mixture of workers' housing, small-scale industry, and a canal basin until slum clearance in the 1960s. Buildings present within the Site included a foundry, cotton mill and oil cloth manufactory, as well as terraced, back-to-back and court housing. Whilst construction of the Central Retail Park in the 1980s resulted in ground reduction within the Site, a watching brief in April 2023 on Ground Investigation works undertaken for the Proposed Development identified the presence of archaeological remains within the Site. These included the remains of probable wall foundations, associated demolition deposits, a brick/stone surface, as well as organic waterlogged deposits containing waste material, all generally later post-medieval in date and related to the industrial occupation of the area[136] (OAN 2023). Based on this evidence, high potential for archaeological remains dating to the post medieval period has been identified within the Site. Any such remains are likely to be of Low to Medium value. There is low potential for remains of other periods to be present.

12.3. Key issues and potential likely impacts

Construction phase

12.3.1. The construction of the Proposed Development has the potential to impact on heritage assets in the following ways:

- Temporary impacts to the setting of designated and non-designated heritage assets surrounding the Site from construction works; and
- Truncation or removal of non-designated archaeological remains from construction works.

Operation phase

12.3.2. Based on currently available information, there is potential for permanent impacts to the setting of surrounding designated and non-designated heritage assets from the presence and operation of the completed development.

12.4. Proposed scope of assessment

12.4.1. Due to the potential for significant effects at construction and operation, it is proposed that assessment of the historic environment, comprising archaeological remains and historic buildings, is scoped into the EIA and considered for construction and operation. In accordance with the requirements of the NPPF, the assessment for the historic environment will be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the Proposed Development on their value.

[136] Oxford Archaeology, 2023, Former Central Retail Park, Great Ancoats Street, Manchester, Archaeological Watching Brief Report.

12.5. Assessment methodology

12.5.1. The study area for the EIA will be defined as a 250m buffer extending from the boundary of the Site. Dependent upon the final design of the Proposed Development, there may be the potential for impacts on the setting of designated assets beyond this area. Any such assets will be identified through site inspection and review of the Zone of Theoretical Visibility (ZTV) for the Proposed Development and included in the baseline. Based on the current ZTV, there are three designated assets beyond the 250m study area which will be subject to assessment:

- Crusader Mill (1293172)
- Rochdale Canal Lock Number 84 (1247557)
- Marble Arch Inn (1247604)

12.5.2. The existing desk-based study will be updated to determine baseline conditions and inform the updated assessments of value. This assessment will build upon information previously gathered for the Site and will include inspection of documentary sources held by the Greater Manchester HER, University of Manchester and Greater Manchester County Record Office as appropriate.

12.5.3. A scheme of archaeological evaluation through trial trenching will be undertaken across the Site in autumn 2023 in consultation with GMAAS, and informed by Archaeological and Heritage Desk Based Assessment (DBA) produced in in 2018[137]. The findings of this assessment will inform preparation of the ES and mitigation recommendations.

12.5.4. The methodology for assessment of value, magnitude of impact and significance of effect has been developed, based upon the guidance provided in LA104 and LA106 of the Design Manual for Roads and Bridges.

12.5.5. Assessment of the value of heritage assets will be informed by the findings of the desk-based study and undertaken in accordance with the methodology set out in Table 12-2 below. Assessment of the potential for unknown archaeological remains will also be undertaken, informed by archaeological evaluation works programmed to be undertaken in late 2023.

12.5.6. Magnitude of impact will be assessed on a five-point scale of major, moderate, minor, negligible and no change, applied equally to adverse and beneficial impacts in accordance with the criteria set out in Table 12-3 below.

12.5.7. Significance of effect is a function of asset value and impact magnitude and will be assessed using professional judgement informed by the matrix set out in Chapter 4 of this report.

Table 12-2 – Criteria for assessment of value of heritage assets

Value	Criteria
Very High	World Heritage Sites Assets of acknowledged international importance Historic landscapes recognised as being of international importance Assets that can contribute to acknowledged international research objectives
High	Scheduled Monuments or archaeological sites of schedulable quality Grade I and II* Listed Buildings Conservation areas with high concentrations of designated heritage assets or undesignated assets of national importance Grade I & II* Registered Parks and Gardens Designated Wreck Sites Undesignated heritage assets of national importance Undesignated historic landscapes of outstanding interest and national importance Battlefields included on the Register of Historic Battlefields Assets that can contribute to acknowledged national research objectives

[137] MacDonald M, 2018, Former Central Retail Park: Archaeological and Heritage Desk-Based Assessment, Manchester Life

Value	Criteria
Medium	Grade II Listed Buildings Grade II Registered Parks and Gardens Conservation areas with undesignated assets of regional importance Archaeological notification areas Undesignated heritage assets of regional importance (including archaeological sites and wreck sites) Undesignated historic landscapes of regional importance Assets that can contribute to acknowledged regional research objectives
Low	Locally designated heritage assets such as locally listed buildings Undesignated heritage assets of local importance (including archaeological sites and wreck sites) Historic landscapes of local importance
Negligible	Undesignated buildings, archaeological sites and historic landscapes with little or no importance historic interest Highly degraded heritage assets that no longer warrant designation or have lost their historic interest
Unknown	The importance of an historic asset cannot be ascertained at this time (e.g. potential areas of archaeological remains)

Table 12-3 – Criteria for assessment of impact magnitude

Impact Magnitude	Criteria (positive and negative)
Major adverse	Substantial harm to, or loss of an asset's value as a result of changes to its physical form or setting. For example, this would include demolition, removal of physical attributes critical to an asset, loss of all archaeological interest or the transformation of an asset's setting in a way that fundamentally compromises its ability to be understood or appreciated. The scale of change would be such that it could result in a designated asset being undesignated or having its level of designation lowered.
Moderate adverse	Less than substantial harm to an asset's value as a result of changes to its physical form or setting. For example, this could include physical alterations that remove or alter some elements of value, but do not substantially alter the overall value of the asset; notable alterations to the setting of an asset that affect our appreciation of it and its value; or the unrecorded loss of archaeological interest.
Minor adverse	Limited harm to an asset's value as a result of changes to its physical form or setting. For example, this could include physical changes that alter some elements of value but do not noticeably alter the overall value of the asset; and small-scale alterations to the setting of an asset that hardly affect its value.
Negligible	Very minor changes to archaeological materials or setting.
No change/neutral	No appreciable change to an asset's value.
Minor beneficial	Limited improvement of an asset's value as a result of changes to its physical form or setting.

Impact Magnitude	Criteria (positive and negative)
	For example, this could include physical changes that reveal or conserve some elements of value but do not noticeably alter the overall value of the asset; or small-scale alterations to the setting of an asset that improve our ability to appreciate it.
Moderate beneficial	Notable enhancement of an asset's value as a result of changes to its physical form or setting. For example, this could include physical alterations that conserve or restore elements of value; notable alterations to the setting of an asset that improve our appreciation of it and its value; or changes in use that help safeguard an asset.
Major beneficial	Substantial enhancement of an asset's value as a result of changes to its physical form or setting. For example, this could include major changes that conserve or restore elements of high value; alterations to the setting of an asset that very substantially improve our appreciation of it and its value; or changes in use that safeguard an asset, e.g., by taking it off the At Risk Register.

12.6. Proposed mitigation

12.6.1. As part of the EIA, mitigation measures will be identified and considered where necessary to avoid or reduce potential impacts of the Proposed Development.

12.6.2. In the first instance this will be achieved through design. To ensure the consideration of heritage at an early stage in the development of design and mitigation proposals, close liaison will be maintained between heritage specialists, townscape specialists, the design team and other environmental specialists. This will enable the development of a design which is sensitive to heritage constraints and maximises opportunities for the enhancement of heritage assets and their settings.

12.6.3. Consultation will be undertaken with Historic England and Greater Manchester City Council during development of the design and preparation of the Environmental Statement.

12.6.4. Following consultation with GMAAS, it is proposed to undertake a programme of archaeological fieldwork following determination of the planning application. This will comprise archaeological monitoring of removal of services across the Site, followed by a programme of archaeological evaluation and mitigation. The scope of these works will be agreed with GMAAS.

13. Human Health

13.1. Planning policy and legislation

13.1.1. The following planning policy and legislation has been considered within this scoping exercise and will be taken forward in the Human Health assessment within the ES:

- National Planning Policy Framework (NPPF) (2023)[138]
- Places for Everyone (March 2024)[5]
- The Town and Country Planning (Environmental Impact Assessment) Regulations 2017[139]
- Planning Practice Guidance (PPG) (2022)[140]
- Fair Society, Healthy Lives (the Marmot Review) 2010 and Health Equity in England (the Marmot Review 10 Years On) 2020[141]
- Sustainable Communities Act 2007[142]
- Equality Act 2010[143]
- Public Health Outcomes Framework[144]
- Public Health England (PHE) Strategy 2020-2025[145]
- Manchester's Core Strategy 2012 – 2027[146]
- Unitary Development Plan for the City of Manchester (the UDP) (1995)[147]
- Former Central Retail Park regeneration framework (March 2023)[148]
- Putting health at the heart of Greater Manchester: Improving health and care in Greater Manchester 2023-2028[149]
- Manchester Work and Skills Strategy 2022-2027[150]
- Greater Manchester Strategy 2021-2031 – good lives for all[151]
- Manchester Locality Plan – Our Healthier Manchester - 2021 Refresh[152]
- Ancoats, Bradford and Clayton Integrated Neighbourhood Team Plan 2021 – 2022[153]
- Manchester's Climate Change Action Plan 2020-2025[154]
- Manchester's Children and Young People's Plan 2020-2024[155]
- Family Poverty Strategy 2017-2022
- Manchester Population Health Plan (2018-2027)[156]
- Manchester: a great place to grow older 2017-2021[157]
- Eastlands Regeneration Framework – 2017 draft for consultation[11]

[138] National Planning Policy Framework - Guidance - GOV.UK (www.gov.uk)
[139] The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (legislation.gov.uk)
[140] Planning practice guidance - GOV.UK (www.gov.uk)
[141] Feb 2020 Health Equity in England: The Marmot Review 10 Years On - The Health Foundation
[142] Sustainable Communities Act 2007 (legislation.gov.uk)
[143] Equality Act 2010: guidance - GOV.UK (www.gov.uk)
[144] Sustainable Communities Act 2007 (legislation.gov.uk)
[145] PHE Strategy 2020 to 2025 - GOV.UK (www.gov.uk)
[146] Manchester City Council. 2012. Manchester's Local Development Framework. Core Strategy Development Plan Document.
[147] About the Unitary Development Plan | Unitary Development Plan (UDP) | Manchester City Council
[148] Former Central Retail Park framework | Manchester City Council
[149] Greater Manchester Integrated Care Partnership. 2023. Improving health and care in Greater Manchester 2023-2028. Available at: gm-icp-strategy-190423.pdf (gmintegratedcare.org.uk)
[150] Manchester Work & Skills Strategy | Manchester Work & Skills Strategy | Manchester City Council
[151] gmca_gm-strategy_our-plan_summary_11-01-22.pdf (aboutgreatermanchester.com)
[152] PowerPoint Presentation (manchester.gov.uk)
[153] Ancoats, Bradford and Clayton POAP (manchesterlco.org)
[154] Final MCC Climate Change Action Plan 2020-25.pdf (manchester.gov.uk)
[155] Children and young people's plan | Manchester City Council
[156] Manchester Population Health Plan (2018-2027) - Summary Version | Manchester City Council
[157] Manchester: A Great Place to Grow Older 2017-2020 | Manchester City Council

- Ancoats and New Islington Neighbourhood Development Framework 2016[158]

13.2. Summary of baseline conditions

13.2.1. This section provides a summary of the baseline conditions relevant to the human health topic. The human health study area encompasses the wards that contain elements of the Proposed Development. The baseline comprises specific land uses close to (within 250m) the Proposed Development that form determinants of human health and a health profile for the study area as a whole (defined by the boundaries of Ancoats and Beswick ward and Piccadilly ward).

13.2.2. The Proposed Development falls within the Manchester City Boundary and 'East Manchester Regeneration Area', separated from the Manchester regeneration area by the Inner Relief Road (Great Ancoats Street). The human health study area for the Proposed Development falls within both East Manchester and the north-eastern fringe of Manchester city centre.

Land uses that form determinants of human health

Private property and housing

13.2.3. The Proposed Development is situated in New Islington, on the north-eastern fringe of Manchester city centre, within a mixed-use area that is predominantly residential and commercial in nature. High-density residential accommodation dominates the surrounding area.

13.2.4. The dwellings within 250m of the Proposed Development are detailed in Table 13-1, which encompasses existing dwellings and planned development (i.e. proposals that have attained planning consent). There are no residential site allocations identified within this distance from the Proposed Development.

Community land and human health assets

13.2.5. There are several community and human health assets within 250m of the Proposed Development, all of which are described in Table 13-2. Amongst these are a selection of services that directly support human health, including New Islington Medical Practice and Urban Village Medical Practice. The Co-op Academy New Islington Primary School is adjacent to the Site; and the Site is close to Cotton Field Park and New Islington Marina; a mix of smaller greenspaces, open spaces (including those associated with the canal), and two private gyms.

13.2.6. There are no known places of worship within 250m of the Proposed Development. There are no educational facilities for children of secondary school age within 250m of the Proposed Development. Households of the wards that form the study area fall within the catchment area of several secondary schools located in the wider area (i.e. beyond 250m from the Site), with the closest being: East Manchester Academy, Dean Trust Ardwick, Eden Girls Leadership Academy and Eden Boys Leadership Academy.

13.2.7. There are also several charities, specialist support and outreach centres in the human health study area that provide valuable support to vulnerable groups.

Development land and businesses

13.2.8. There is a range of local businesses located near to the Proposed Development, encompassing retail, entertainment, hospitality, warehouse/wholesale, and office-based business, amongst others.

13.2.9. Table 13-3 provides an overview of the existing businesses and planned developments of this type within 250m of the Proposed Development.

Walking and cycling

13.2.10. There are no Public Rights of Way (PROW) crossing the Proposed Development boundary.

13.2.11. There are two promoted long-distance trails within 250m of the Proposed Development: Medlock Valley Way and Rochdale Canal Towpath, which follow the course of the River Medlock and the Rochdale Canal, respectively. The Rochdale Canal Towpath runs along the boundary of the

[158] Ancoats and New Islington | Manchester City Council

Proposed Development. A section of the National Cycle Network Route 66 runs along the Rochdale Towpath.

13.2.12. Reflective of the dense urban location, there are no known bridleways or horse-riding facilities within 250m of the Proposed Development.

13.2.13. Table 13-4 provides an overview of the existing walking and cycling routes within 250m of the Proposed Development.

Table 13-1 – Private property and housing land use baseline

Receptor	Distance from the Site	Description
Residential units on Great Ancoats Street	100m northwest	Residential developments with commercial developments on lower floors, which are adjacent to Great Ancoats Street.
Residential units between Redhill Street and Jersey Street. **Residential units include approximately 124 apartments (Murray Hill complex), 136 apartments (66 Jersey Street), New Little Mill (68 apartments), 283 units (between Jersey Street and Henry Street) and MM2 apartments (approx. 100 units). Residential apartment blocks fronting New Islington Marina Promenade includes approximately 302 apartments (Union Street), 40 apartments (Mansion House), 43 terraces (behind Mansion House), 201 apartments (Weavers Quay), 14 terraces on Coppersmith Road (excluding developed terraces under application ref. 122598/FO/2019).**	23m north-west (closest apartment block)	There are over 700 residential dwellings located between Redhill Street and Jersey Street. These residential dwellings are located within new build apartment blocks and renovated mill buildings (Royal Mills).
Residential units between New Union Street, New Islington, Weybridge Road and New Islington Marina Promenade apartment blocks fronting New Islington Marina Promenade. **These residential units include approximately 302 apartments (Union Street), 40 apartments (Mansion House), 43 terraces (behind Mansion House), 201 apartments (Weavers Quay), 14 terraces on Coppersmith Road (excluding developed terraces under application ref. 122598/FO/2019). Residential apartments between Redhill Street and Jersey Street includes approximately 124 apartments (Murray Hill complex), 136 apartments (66 Jersey Street), New Little Mill (68 apartments), 283 units (between Jersey Street and Henry Street) and MM2 apartments (approx. 100 units).**	104m north (closest apartment block)	There are over 600 residential dwellings located between New Islington Marina, Union Street, New Islington and Weybridge Roads (excluding residential dwellings in construction under application 122598/FO/2019 which is considered as a separate receptor within this Table). These residential dwellings are predominately newly developed apartment blocks and terrace housing built within the last 10 years, with the exception of 14 terraces on Coppersmith Road. These residential dwellings are included within the baseline as these dwellings have introduced new demographics into the community.
Residential and visitor moorings at Islington Marina	78m northeast	Islington Marina provides 33 residential and 7 visitor moorings. These moorings are included within the baseline due to the inclusion of residential development on New Islington Marina Promenade.

Receptor	Distance from the Site	Description
Residential units south of Old Mill Street, between Old Mill Street and the Ashton Canal. **These residential units include 104 apartments (Islington Wharf Phase 4), 101 apartments (Islington Wharf Phase 3 – Wharf Locks), 46 apartments (Islington Wharf Phase 2 – Wharf Mews), 200 flats (Islington Wharf Phase 1), 340 residential dwellings (Former Ancoats Hospital Site, includes Lampwick Quay and Ancoats Dispensary) and 46 residential dwellings (between Vesta Street and the Islington Branch canal).**	98m southeast (Old Mill Street)	There are over 840 residential dwellings along Old Mill Street, between the Inner Relief Road (Great Ancoats Street) and Weybridge Road. These are predominately newly developed apartment blocks.
Residential Units north of Store Street, south of Port Street and west of Great Ancoats street. **Residential units include 41 residential apartments (Lomax Apartments -120149/FO/2018), 165 apartments (Dale Street and Industry House -Langley Buildings), 267 residential units between Port Street and Tariff Street, 58 residential units (Jackson's Warehouse) and 117 apartments (Piccadilly Basin, Brewer Street).**	25m west	There are over 640 residential dwellings between the north of Store Street, south of Port Street and west of Great Ancoats street. . These are predominately newly developed apartment blocks.
Residential units south of Store Street, between Store Street and the Ashton Canal. **Residential units include Great Ancoats Street apartment complex and 12 townhouses and 345 apartments (Oxygen Manchester and Alliance City Living) and 28 residential units.**	86m south	There are approximately 370 residential dwellings between Store Street, Great Ancoats Street and the Ashton Canal. These consists of high rise and 3 to 4 storey apartment blocks.
Planned Developments		
135675/FO/2022: Erection of two residential apartment buildings (Use Class C3) comprising Block 1 -part 9, part 10 (plus roof level amenity block) and Block 2- 12 storey building (comprising of 261 dwellings in total) above basement levels with ground floor commercial units (Use Class E (excluding E (b))	120m west	Approved in June 2023 and construction recently commenced, this application is on an unallocated site on a car park at Tariff Street, approximately 165m west of the Site. Development of this site will represent a change of use and deliver 261 new dwellings.

Receptor	Distance from the Site	Description
122598/FO/2019: Full application for the erection of a residential development comprising 34 no. 3 storey dwellinghouses, 2 no. 6 storey apartment blocks comprising 60 no. apartments with commercial space at the ground floor.	125m east	Approved in March 2020 and with construction advanced and the first phase completed. This application is on an unallocated site between Lockyard Lane, Coppersmith Road and Islington Marina. Development of this site represents a change of use and delivers 94 new dwellings (34 houses and 60 apartments).
132574/FO/2021 Erection of 4 no. part 4, part 5 storey, three-bedroom townhouses	215m southwest	Approved in July 2022 and is yet to be implemented. This application is on an unallocated site on Ducie Street. Development of the site would represent a change of use and deliver 4 new dwellings (townhouses).
126608/FO/2020 Erection of part 4, part 11 storey residential (Class C3) development (with roof top plant room) comprising 66 (Class C3) residential units (3 x 2 bed town houses, 46 x two bed apartments and 17 x one bed apartments) together with associated car parking	200m south	Approved in November 2020 and with construction recently commenced. This application is on an unallocated site located between Millbank Street, Store Street and the Ashton Canal Tow Path. Development of the site will represent a change of use and deliver 66 new dwellings (3 townhouses and 63 apartments).
128911/FO/2020 **Erection of 9 storey residential building (Use Class C3) comprising 89 residential units (28 x 1 bed and 61 x 2 bed) and conversion of and 3 storey extension to 32-34 Laystall Street for use as offices (Class E) with associated external works following demolition of outrigger and associated structures along with other associated works including access, servicing, landscaping and secure cycle parking**	106m west	Approved in February 2022 with construction yet to be implemented. This application is on an unallocated site between Ducie Street, Brock Street, Pigeon Street and Laystall Street.
137346/FO/2023 **Erection of a part 5, part 10 storey building comprising residential apartments and townhouses, residents' amenity space (Use Class C3a) (265 new dwellings), ground floor commercial (Use Class E), cycle and car parking, landscaping, access and servicing, and other associated works following demolition of existing structures**	210m north east	Approved in December 2023 and is yet to be implemented, this application is on an unallocated site between Naval Street, Poland Street, Jersey Street and Radium Street. Development of the site will represent a change in use and deliver 265 new dwellings.

Table 13-2 – Community land and assets land use baseline

Receptor	Distance from the Site	Description
Gooseside – Community DIY Adult Skate Park	On Site	A DIY skatepark for adults has been constructed by an active local skateboarding community on the Site. The skate park has been constructed as other skate facilities in the area are believed to not be designed with the users in mind, are too small or are not accessible to users[159]. Bike users have also been seen using the space. It is also felt by this group that there is a general displacement of skateboarders in public spaces across the city. The materials to construct the skateboarding ramps have been funded from crowdfunding (2022) and from the proceeds of skating community from selling merchandise at local skate shops (2024)[160]. The site is used regularly by local skaters and the 'Gooseside' group host skating events/competitions with the last organised and documented competition in August 2023. There are reports that in 2022 there could be 20-50 skateboarders on Site most evenings[161].
Co-op Academy New Islington Primary School	Adjacent	Co-op Academy New Islington Primary School (previously known as New Islington Free School) is a primary school which caters for pupils aged 4 to 11, located on the northern boundary of the Site, and separated by a private road which provides vehicular access to the school. Information taken from the school's website indicates there are 353 pupils at the school, which has capacity for 420. Over three-quarters of the pupils in the last Ofsted Report (2015) were from ethnic minority backgrounds[162]. The school's indicator of deprivation places it within the 20% of areas of highest deprivation in the country. The receptor is used frequently (daily during term-time) and by less than 50% of the community. Co-op Academy New Islington Primary School has previously expressed concerns through the consultation on the former central retail park regeneration framework about potential overlooking and overshadowing by future buildings on the Site, together with concerns about the access roads to and through the Site, and the need for the school to remain secure.
New Islington Medical Practice (Ancoats Primary Care Centre), Urban Village Medical Practice and Pharmacy	115m east	The New Islington Medical Practice and Urban Village Medical Practice are NHS General Practice (GP) surgeries, located to the north east of the Site on the corner of Old Mill Street. The surgeries form part of the city centre & Ancoats Primary Care Network (PNC) alongside the City Health Medical Practice, collectively caring for a total population of around 35,000 people. PNC services include extended access GP services (evenings and weekends), a care home

[159] Ethan Davies. June 2022. Manchester Evening News. Skateborders create their own slice of paradise on wasteland because 'there's no other place to go'. Available at: Skateboarders create their own slice of paradise on wasteland because 'there's no other place to go' - Manchester Evening News [Accessed: 07.08.2024]
[160] Gooseside.diy. 2024. Available at: Goose-Side u heard ! (@gooseside.diy) • Instagram photos and videos [Accessed: 07.08.2024]
[161] Reddit. 2022. Places to Skate – Manchester. Available at: Places to skate? (Adult beginner) : r/manchester (reddit.com) [Accessed: 07.08.2024]
[162] Ofsted.2015. New Islington Free School Report. Available at: Co-Op Academy New Islington - Open - Find an Inspection Report - Ofsted

Receptor	Distance from the Site	Description
		team, extended hours Primary Care, pharmacy team, and a first contact physio for musculoskeletal complaints without going to the GP. The New Islington Medical Practice has eight doctors, two nurses, three mental health nurses, two clinical pharmacists and a remote physiotherapist. It also includes the only Infant Feedings and Tongue-Tie Specialists (INFANTTS) Clinic in Manchester. This receptor is likely to be used reasonably frequently (weekly/ monthly) by some users and by less than 50% of the community. There are a small number of alternative GP surgeries available within Manchester city centre and no known alternatives to the INFANTTS clinic.
This Ancoats Dental Practice (Revive Dental Care)	115m east	Ancoats Dental Practice is located on the first floor of the Ancoats Primary Care Centre. It offers private and NHS dental care. This receptor is accessible, likely to be used infrequently and used by 50% of the community, with alternatives located within the city centre.
Hallé St Peter's	170m northeast	Hallé St Peter's provides a home for the Hallé's (Manchester's symphony orchestra) rehearsals and recording, choirs and Youth Orchestra as well educational workshops and small performances. The Hallé offers a range of opportunities for children and young people to engage with music-making on a weekly basis, creative projects for schools with school children from early years to secondary school, including Special Educational Needs and Disability (SEND), as well as opportunities for adults. Hallé St Peter's is also available for hire for events such as weddings, parties, conferences, and receptions. This receptor is generally likely to be used weekly by users who perform, rehearse, and participate in workshops, and by less than 50% of the local community. The receptor is accessible by study area, however the Inner Relief Road (Great Ancoats Street) and the canal may create some level of severance between the site and the catchment. The Hallé at St Michael's offers a second space in Ancoats for rehearsals and workshops, approximately 80m northwest of the Hallé at St. Peters.
PureGym Manchester	90m southwest	This is a private gym facility at the Urban Exchange retail park. The Inner Relief Road (Great Ancoats Street) is likely to create severance between the site and potential catchment area (Ancoats) albeit there are some crossing provisions. It is anticipated this receptor is likely to be used frequently (daily and weekly) by most users and used by less than 50% of the community. There are alternative gyms within the local community.

Receptor	Distance from the Site	Description
Lifestyle Fitness Ancoats	250m northwest	This is a private gym facility located on the A665 approximately 250m northwest of the Site. The gym is accessible, anticipated to be used frequently (daily and weekly) by most users and by less than 50% of the community. There are alternative gyms within the local community.
Cotton Field Park	Adjacent	Cotton Field Park is a green space and eco -park at the heart of New Islington, located immediately to the north of the Site, consisting of a series of urban green spaces sitting within the New Islington Marina. The park consists of a body of water, a 3-metre-wide boardwalk that forms the main pedestrian route and several distinctive islands. The Inner Relief Road (Great Ancoats Street) and Old Mills Road may create some level of severance albeit there are several crossing points. The receptor is likely to be used frequently (daily) and used by at least 50% of the community, given the locality and density of development surrounding the park. There are alternative greenspaces and parks east of the Site.
New Islington Marina	95m north	New Islington Marina is located adjacent to the Cotton Field Park. The receptor is accessible, is likely to be used frequently (daily) and used by at least 50% of the community, given its nature and locality, density of development surrounding the Marina and residential moorings. There are no alternatives to the Marina.
Cutting Room Square	168m northeast	Cutting Room Square is a public square in the heart of Ancoats which features art installations and outdoor seating. The receptor is accessible, likely to be used frequently (daily) and by less than 50% of the community. There are no similar alternatives to this square for outdoor seating within Ancoats and Islington.
New Islington Green	250m southeast	New Islington Green is approximately 250m southeast of the Site. The receptor is likely to be used frequently (daily) by less than 50% of the community. There are alternative green spaces and parks east of New Islington Green. There is a proposed development with planning permission (128191/FO/2020) for the erection of five office buildings and new public realm on this site.
135662/FO/2022 Erection of a 20 storey building to create a 154 bedroom hotel (Class C1) above 2 basement levels with ancillary café / bar / restaurant and gym	26m south	Approved in June 2023 and is yet to be constructed. this proposed development includes a private gym facility which will likely be mainly used by hotel staff and guests only and by less than 50% of the community. There will be no severance of access for users and there are alternative gyms in the local area.

Table 13-3 – Receptors – Development land and businesses land use baseline

Receptor	Distance from the Proposed Development	Description
Urban Exchange	21m southwest	A number of businesses are located at the Urban Exchange, a retail outlet located opposite the Site on Great Ancoats Street, with 189 car parking spaces and within an approximate 5-minute walk from Piccadilly Railway Station. Current retail occupiers include Aldi, GO Outdoors, M&S Outlet and PureGym.
Residence Inn Manchester	157m south	The Residence Inn Manchester is located opposite the Site, off Great Ancoats Street, on Lomax Street.
Great Ancoats Street	Adjacent to the southern boundary of the Site	There are clusters of other businesses located along Great Ancoats Street. Businesses adjacent to Great Ancoats Street, between Ducie Street and Laystall Street and opposite the Site include independent furniture stores (Timothy Oulton and Stocktons), John K Dale locksmiths and outdoor car parks.
Ancoats Food and Drink hotspot	168m northeast (Cutting Room Square)	There is a cluster of independent businesses approximately 135m west of the Site, predominately restaurants along streets in proximity to Cutting Room Square, such as Henry Street, Murray Street and Jersey Street.
New Islington Marina	95m north	There are at least four businesses (small restaurants/bars) adjacent to New Islington Marina.
Poland Street	250m north	There are a number of businesses located within 250m to the north, in warehouses surrounding Poland Street, such as City Court Trading Estate, D.M. Miller Ltd, Powells Tea and Coffee Merchants, Wholesale Budget Flooring, Clarke Gough contractor, Ancoats Food Factory, House of Ethnic Foods Ltd and a Recycling Centre.
Diecast	105m south	Diecast is a temporary multi-purpose event space located between Store Street and Ducie Street. The venue includes a night market, brewery, restaurants, and festival stage for music focused events, with 5,000 capacity. It also hosts a beer garden, creative hub, recording studio and dance studio.
Planned Development		
135675/FO/2022: Erection of two residential apartment buildings (comprising of 261 dwellings in total)	120m west	Approved in June 2023 and is currently in construction. This application is on an unallocated site on a car park at Traffic Street. The proposed development includes 185 sqm of Class E commercial units (exact use unknown).

Receptor	Distance from the Proposed Development	Description
above basement levels with ground floor commercial units (Use Class E (excluding E (b)).		
122598/FO/2019: Erection of a residential development comprising 34 no. 3 storey dwellinghouses, 2 no. 6 storey apartment blocks comprising 60 no. apartments with commercial space (Use Classes A1, A2, A3, A4, B1 and D1) at the ground floor.	145m east	Approved in March 2020, the majority of the site has been constructed with the final phase currently under construction and currently in construction. This application is on an unallocated site between Lockyard Lane, Coppersmith Road and Islington Marina. The proposed development includes 504 sqm for new commercial uses (Use Classes A1, A2, A3, A4, B1 and D1), (exact use unknown).
128191/FO/2020 Erection of five office buildings and new public realm comprising: 3 no. 8 storey mixed use buildings (Buildings A, D and E) comprising workspaces (Use Class E) together with flexible uses at ground floor (Use Class E) and/or theatre/bar (Sui Generis) together with a multi use rooftop amenity area to Building A; and 2 no. 5 storey mixed use buildings (Buildings B and C) comprising workspaces (Use Class E) together with flexible uses at ground floor (Use Class E) and/or theatre/bar (Sui Generis);	250m southeast	Approved in December 2022 and is under construction. This application is located on New Islington Green (Park and Garden). The proposed development includes 47,078 sqm (4.7ha) of Class E (over 39,208 sqm of office space (all upper floors) and up to 7,770 sqm (ground floors only) of flexible commercial – restaurant/café/gym/maker's spaces/creche or health services) and up to 1,770 sqm for a theatre or bar.
135662/FO/2022 Erection of a 20-storey building to create a 154 bedroom hotel (Class C1) above 2 basement levels with ancillary café / bar / restaurant and gym	26m south	Approved June 2023 and is yet to be constructed. This application relates to a car park on Laystall Street, adjacent to the Residence Inn Manchester Piccadilly. The proposed development includes 5214 sqm for hotel use (total of 154 rooms), 27 sqm for a conference room and 130 sqm for a bar/coffee or restaurant.

Receptor	Distance from the Proposed Development	Description
128911/FO/2020 **Erection of 9 storey residential building (Use Class C3) comprising 89 residential units (28 x 1 bed and 61 x 2 bed) and conversion of and 3 storey extension to 32-34 Laystall Street for use as offices (Class E) with associated external works following demolition of outrigger and associated structures along with other associated works including access, servicing, landscaping and secure cycle parking**	106m west	Approved in February 2022 with construction yet to be implemented. This application is on an unallocated site between Ducie Street, Brock Street, Pigeon Street and Laystall Street. The proposed development includes 560sqm of commercial space (Class E).
137346/FO/2023 Erection of a part 5, part 10 storey building comprising residential apartments and townhouses, residents' amenity space (Use Class C3a) (265 new dwellings), ground floor commercial (Use Class E), cycle and car parking, landscaping, access and servicing, and other associated works following demolition of existing structures	210m north east	Approved in December 2023 and is yet to be implemented, this application is on an unallocated site between Naval Street, Poland Street, Jersey Street and Radium Street. The proposed development includes 1250sqm of commercial space (Use Class E).

Table 13-4 – Receptors – Walking and Cycling Routes land use baseline.

Receptor	Distance to the Site	Description
Medlock Valley Way	250m south-east of the Site	Medlock Valley Way is defined as a Major Recreational Route on the Manchester Interactive Proposals Map. Medlock Valley Way is a promoted long-distance pathway follows the course of the River Medlock throughout the whole of East Manchester, running from Ducie Street and finishing at

Receptor	Distance to the Site	Description
		Bishop Park north east of Oldham[163]. The route is predominately used for recreation (frequently) and may also be used for commuting. There are no similar alternatives to this route.
Rochdale Canal towpath	Adjacent to the Site	Rochdale Canal towpath is defined as a Major Recreational Route on the Manchester Interactive Proposals Map, connecting the city centre of Manchester to the Pennine Hills[164]. The Rochdale Canal also forms part of the circular South Pennine Water Trail and the National Cycle Network (NCN) Route 66 runs along the towpath for most of the way. The route is a promoted long-distance trail along the Rochdale Canal. It is likely to be used frequently (daily) for recreation and commuting (for residents in East Manchester). There are few alternative pedestrian routes alongside the Canal.
NCN Route 66	180m east of the Site	Route 66 is a cycle route which connects Manchester Piccadilly Railway Station to east Manchester. The route runs along Old Mill Street, Weybridge Road and the Rochdale Canal towpath. The route is likely to be used frequently (daily) for both commuting and recreation, in particular commuters living in east Manchester to reach the railway station and employment. Alternatives to this route would involve on-road cycling only.
Non-designated footpath at Great Ancoats Street	Adjacent to the southern boundary	This is an important footpath which runs west to east along the southern boundary of the Proposed Development, running parallel to the Inner Relief Road (Great Ancoats Street). The route is used regularly (daily), by commuters and others, including those attending nearby community facilities, including vulnerable travellers such as the elderly, school children, people with disabilities, and particular sensitivities. Footfall increases significantly on match days at the Etihad Stadium with the footpath acting as a busy through route between Manchester city centre and the stadium.
Non-designated footpath at Old Mill Street	160m east	This is an important footpath which runs northwards just to the east of the Proposed Development, forming the eastern boundary of the former Central Retail Park. The route is used regularly (daily), by commuters and others, including those attending nearby community facilities, including vulnerable travellers such as the elderly, school children, people with disabilities, and particular sensitivities. The New Islington tram stop is towards the east of the Site and can be accessed through Old Mill Street. Footfall increases significantly on match days at the Etihad Stadium with the footpath acting as a busy through route between Manchester city centre and the stadium. There are few suitable alternatives to this route.
Hugh Oldham Way	Adjacent	Hugh Oldham Way is a private road which runs along the northern boundary of the Proposed Development (separated by a wire fence) and is accessed from Old Mill Street, which provides the

[163] The Long Distance Walkers Association. Medlock Valley Way. Available at: Medlock Valley Way - LDWA Long Distance Paths
[164] Canal and Rivers Trust. Rochdale Canal. Available at: Rochdale Canal | Canal Route Planner | Canal & River Trust (canalrivertrust.org.uk)

Receptor	Distance to the Site	Description
		only vehicular access to the Co-op Academy New Islington Primary School. Whilst this is predominantly a vehicular route, it is also likely to be used by pedestrians either to gain access to the school or by people lingering outside New Islington Medical Practice (usage unknown but likely to be fairly low). This route has been included as a precautionary measure to be considered at the next stage of the EIA process. There are no alternatives to this route.
Pedestrian access to Co-op Academy New Islington Primary School, off the Rochdale Canal	Adjacent to the northern corner of the Site (closest access point)	Pedestrian access to Co-op Academy New Islington Primary School is only available from two points. The first access being from a small informal pedestrian route off the Rochdale Canal, just to the north of the Proposed Development. The route is used frequently (daily during school term time) by children travelling to Co-op Academy New Islington Primary School from the south and areas of the west. There is one alternative route to access the school, further to the north, from Cotton Field Park; however, this is likely to be mostly used by users of Old Mill Street and those travelling to the school from the east and north.
Non-designated footpath at Redhill Street	50m west	This is an important footpath which runs northwards, less than 50m west of the Proposed Development, connecting to the Rochdale Canal in this location by a small pedestrian overbridge. The route is used regularly (daily), by commuters and others, such as those attending nearby community facilities. Footfall increases significantly on match days at the Etihad Stadium with the footpath acting as a through route between Manchester city centre and the stadium. There are very few alternatives which follow the Canal.

Human Health study area profile

13.2.14. The baseline literature and data for the human health assessment is used for two key purposes – firstly, to identify relevant wider determinants of health and receptors within the human health study area, including the presence of any protected characteristics groups[165] that would be more vulnerable or susceptible to impacts arising from the Proposed Development; and secondly, to inform the assignment of sensitivity category for each receptor, using the indicative criteria within the IEMA guidance published in November 2022[166].

13.2.15. The human health baseline requires data to underpin judgements of the sensitivity of receptors, which encompasses the following (para. 7.9)[167]:

- Deprivation.
- Resource sharing (e.g. assets supporting human health).
- Existing inequalities (e.g. comparing local and national life expectancy).
- Outlook (e.g. considering responses received through consultation and engagement – this will be added at the next stage of the EIA process).
- Life stage, health status and daily activities (based on published data).
- Capacity of populations to adapt (a professional judgement based on an evaluation of the above, which will be added at the next stage of the EIA process).

13.2.16. The general health profile is informed by demographic profile, demographic trends, socio-economics, deprivation, health and wellbeing characteristics, and general characteristics of the natural and built environment.

13.2.17. There is only one Local Authority of relevance to the Proposed Development – MCC. The wards that form the human health study area comprise Ancoats and Beswick ward, within which the Proposed Development is located, and Piccadilly ward, whose boundary commences immediately to the south of the Proposed Development, on the opposite side of the Inner Relief Road (Great Ancoats Street).

13.2.18. The ES will include further details on the key health information for the two wards in particular, supported by a general review of the headline statistics and trends drawn from published sources, including public health data and Joint Strategic Needs Assessments.

Ancoats and Beswick ward

13.2.19. Ancoats and Beswick ward (white outline in Figure 13-1 below) covers an area extending from the eastern fringe of Manchester city centre westwards towards Ancoats, eastwards through Beswick towards Openshaw, and north eastwards towards Miles Platting. At the Census 2021, the population was 14,822.

13.2.20. The ward is densely populated and includes a mix of uses, including traditional older housing estates and new, mainly high-rise developments, commercial uses, greenspaces, and canals, and further afield, the large Etihad Campus - a key focus for football and other sports and regeneration in this eastern part of the city.

13.2.21. Ancoats and Beswick ward has higher than average score relating to barriers to housing and services domain within the index of multiple deprivation (IMD) data[168], when compared to other wards within Manchester.

[165] Protected Characteristics Groups are defined in the Equality Act 2010
[166] Pyper, R., Waples, H., Beard, C., Barratt, T., Hardy, K., Turton, P., Netherton, A., McDonald, J., Buroni, A., Bhatt, A., Phelan, E., Scott, I., Fisher, T., Christian, G., Ekermawi, R., Devine, K., McClenaghan, R., Fenech, B., Dunne, A., Hodgson, G., Purdy, J., Cave, B. (2022) IEMA Guide: Determining Significance for Human Health in Environmental Impact Assessment
[167] Pyper, R., Waples, H., Beard, C., Barratt, T., Hardy, K., Turton, P., Netherton, A., McDonald, J., Buroni, A., Bhatt, A., Phelan, E., Scott, I., Fisher, T., Christian, G., Ekermawi, R., Devine, K., McClenaghan, R., Fenech, B., Dunne, A., Hodgson, G., Purdy, J., Cave, B. (2022) IEMA Guide: Determining Significance for Human Health in Environmental Impact Assessment
[168] The Index of Multiple Deprivation uses road distance to the nearest post office; primary school; general store or supermarket; GP surgery in considering barriers to essential services. Barriers to housing is considered in the context of household overcrowding, homelessness and housing affordability.



Figure 13-1 – Ancoats and Beswick Ward

Source: Ordnance Survey © Crown copyright All rights reserved. Manchester City Council 100019568 (2018)

Piccadilly ward

13.2.22. Piccadilly ward (white outline in Source: Ordnance Survey © Crown copyright All rights reserved. Manchester City Council 100019568 (2018)

13.2.23. **Figure** 13-2 below) comprises the eastern half of Manchester city centre, which principally includes NOMA[169], the Northern Quarter, and Piccadilly. At the Census 2021, the population was 11,663. Notably, the majority of the ward's population is aged between 16 and 65, with an extremely low percentage of population in younger and older age groups.

13.2.24. As a city centre ward, it is densely populated, and this population is increasing, and comprises a mix of uses, including commercial, hospitality, student accommodation, education, residential, and industrial. It also contains important hubs within the multi-modal transport network, including Metrolink, which provides services to the study area, and Manchester Piccadilly railway station.

13.2.25. Piccadilly ward has highest (worst) score relating to barriers to housing and services domain within the index of multiple deprivation (IMD) data[170], when compared to other wards within Manchester.

[169] NOMA is a 20-acre mixed-use location in the centre of Manchester with community at its heart. It is the largest development project in Northwest England.
[170] The Index of Multiple Deprivation uses road distance to the nearest post office; primary school; general store or supermarket; GP surgery in considering barriers to essential services. Barriers to housing is considered in the context of household overcrowding, homelessness and housing affordability.



Source: Ordnance Survey © Crown copyright All rights reserved. Manchester City Council 100019568 (2018)

Figure 13-2 – Piccadilly Ward

Health characteristics and key issues

13.2.26. The latest Census was carried out in 2021 and this data will be used in the ES to develop the baseline profiles for the wards, supplemented with information and data from recently published health and wellbeing plans and strategies, where applicable.

13.2.27. A high-level review undertaken for Scoping identifies the following key health characteristics for the study area.

Ancoats and Beswick ward

- Higher than average income deprivation, including poverty affecting children and older people (ranked 7th out of the 32 Manchester wards[171]).
- Higher than average risk of premature death and impairment of quality of life through poor physical or mental health (ranked 7th out of the 32 Manchester wards[172]).
- High incidences of poor general health (4.4% of residents report bad or very bad health[173]) or disabilities (6% of residents state that their day to day activities are limited a lot[174]), although rates are slightly better than for Manchester and England.
- Life expectancy for both males (77.2 years) and females (80.2 years) is below the national average (79.5 years and 83.2 years, respectively[175]).

[171] Ministry of Housing, Communities & Local Government (2019) - Index of Multiple Deprivation (accessed: https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019)
[172] Ministry of Housing, Communities & Local Government (2019) - Index of Multiple Deprivation (accessed: https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019)
[173] ONS 2021 Census. Available at: www.nomisweb.co.uk
[174] ONS 2021 Census. Available at: www.nomisweb.co.uk
[175] ONS 2021 Census. Available at: www.nomisweb.co.uk

- Particular health issues such as respiratory disease, circulatory disease, and coronary heart disease, with significantly higher death rates than the national average (standard mortality rates of 172.8, 156.9 and 193.9 respectively, compared to 100 for each for England[176]).
- Emergency hospital admissions for chronic obstructive pulmonary disease (COPD) (397.7) are nearly four times higher than the national average (100) and higher than average emergency hospital admissions for hip fractures (132.4 compared to 100[177]).

Ancoats, Clayton and Bradford neighbourhood area

- Fewer adults and older people in the 'Good Health' cohorts (30% and 3% respectively, compared to 37% and 10%) and more in the 'Adults with Wider Determinants of Need' (57% compared to 50%) cohort than the Manchester average[178].
- The highest percentage (3%) of people in the 'Complex Lifestyles'[179] cohort of all neighbourhoods in Manchester[180][181].
- The main Long-Term Conditions registered are for smoking (20.2%), followed by hypertension (9%) and obesity (8%)[182].
- Respiratory (£1.3m) is the third highest area of spend, 84% higher than the average per person in Manchester[183].

Piccadilly ward

- Performs much better than Ancoats and Beswick ward, Manchester, and England across most health indicators, although emergency hospital admissions for COPD are higher than the national average.

Protected characteristics groups

13.2.28. A key consideration in human health assessment is the distribution of effects (demographic, socio-economic, geographic) within the affected population. Therefore, the assessment presented within the ES will consider the potential effects of the Proposed Development on two types of population. The first is the general population of the study area. The second is the vulnerable groups or individuals identified as sub-sets within the general population belonging to Protected Characteristics groups (PCG), as defined in the Equality Act 2010, where evidence suggests members of these PCG could be more susceptible to changes to the baseline conditions and impacts/effects arising from the Proposed Development.

13.2.29. In broad terms, members of the study area resident population close to the Proposed Development will be more vulnerable or susceptible to changes occurring due to proximity to the activities associated with the Proposed Development. Although some of this population may not be 'vulnerable' in human health, social or other terms (i.e. do not belong to a Protected Characteristics group as defined in the Equalities Act 2019), they are likely to be more sensitive to any impacts / changes at the Site (which may be beneficial or adverse). This will also be considered within the assessment.

[176] Office for Health Improvement and Disparities – Fingertips Local Health Data. Available at Local Health - Small Area Public Health Data - OHID (phe.org.uk)
[177] Office for Health Improvement and Disparities – Fingertips Local Health Data. Available at Local Health - Small Area Public Health Data - OHID (phe.org.uk)
[178] Manchester City Council: Ancoats, Clayton & Bradford - Health & Social Care Cohort Profile (December 2019). Available at Ancoats Beswick and Bradford Health and Social Care Area
[179] People are defined as belonging to the Complex Lifestyles cohort if they have one or more physical condition and one or more mental condition and one or more of homelessness, substance abuse, alcohol abuse, history of offending, high intensity use of A&E, history of being looked after, domestic abuse, or regardless of physical or mental condition, three or more of the other characteristics listed.
[180] Manchester City Council: Ancoats, Clayton & Bradford - Health & Social Care Cohort Profile (December 2019). Available at Ancoats Beswick and Bradford Health and Social Care Area
[181] A number of the homeless population in Manchester have a resident postcode recorded which relates to a GP practice offering outreach services from their surgery in the neighbourhood.
[182] Manchester City Council: Ancoats, Clayton & Bradford - Health & Social Care Cohort Profile (December 2019). Available at Ancoats Beswick and Bradford Health and Social Care Area
[183] Manchester City Council: Ancoats, Clayton & Bradford - Health & Social Care Cohort Profile (December 2019). Available at Ancoats Beswick and Bradford Health and Social Care Area

13.2.30. This Scoping Report has identified the following vulnerable groups based on PCG that will be considered in the ES. These vulnerable groups are not mutually exclusive, meaning that an individual may fit into one or more of these vulnerable group categories.

- Families with children and adolescents (e.g. pregnant women, babies, children, and adolescents);
- People who are physically or mentally disadvantaged (e.g. elderly people, people with physical and/or disabilities, people with other health problems or impairments);
- People of certain ethnicity and/or gender; and
- People who are materially disadvantaged (e.g. people on low income, people without access to a car, unemployed people).

Wider determinants of health

13.2.31. Using the high-level baseline information, details of the Proposed Development, and knowledge from other similar schemes, the following wider determinants of health will be used in the assessment, with more detailed information to be provided within the ES.

- Ambient air quality.
- Ambient noise.
- Sources of pollution and environmental exposures.
- Townscape amenity.
- Risk of injuries and death.
- Characteristics of the transport network.
- Access to private property and housing.
- Access to work and training (also drawing on the relevant land use baseline).
- Community assets supporting health (also drawing on the relevant land use baseline).
- Green space, open space, recreation, and leisure-time activities (also drawing on the relevant land use baseline).
- Walking and cycling routes supporting human health (also drawing on the relevant land use baseline).

13.3. Key issues and potential likely impacts

Construction phase

13.3.1. During construction, the majority of impacts on human health tend to be temporary and associated with the construction activities themselves. These impact characteristics tend to limit the magnitude of effects that arise as a consequence of changes in the construction phase. Exceptions can be change in use of land, means of movement and/or visibility into and through a site and overall changes in the characteristics of an area. Set against this context, there is potential for the following to be affected by the Proposed Development, which would have various impacts for human health.

Affected communities (wards)

13.3.2. Residents, community groups and neighbourhood associations, schools (particularly Co-op Academy New Islington Primary School), medical centres (principally New Islington Medical Centre), community facilities such as at Hallé St Peters, Cotton Field Park, New Islington Marina and Green, could be affected by the temporary closure of, or disruption to, some access routes that pass close to the Site where they are affected by construction activities (e.g. the need to store materials, or close routes in the interests of public safety to enable works) , changes to environmental conditions (e.g. visible and audible construction activities), or impacts on safety (e.g. modal conflict, temporary changes to preferred pedestrian and cyclist routes and the presence of construction activities).

Affected protected characteristics groups

13.3.3. Vulnerable groups identified in the baseline would be more susceptible to changes to the baseline conditions as a result of the Proposed Development. For example, a change in air pollutants can cause a change in respiratory health or noise or vibration can cause a change in social or mental wellbeing, and this can have particular impacts for the many vulnerable groups in the study area. This will be addressed within the ES.

Ambient air quality

13.3.4. Changes in emissions from dust and vehicles on the highways network, including construction vehicles and queuing traffic, will potentially affect exposure to pollutants that could impact human health and the AQMA. The key pollutants are NO_2 and particulate matter (PM). Poor environmental quality and increased exposure to traffic derived pollutants could increase the risk to physical health, including respiratory and gastrointestinal problems, and lower mental health outcomes. Those with existing issues would be more susceptible, noting the high incidence of existing conditions such as respiratory diseases within the study area.

13.3.5. The potential impacts on human health will be informed by the findings of the Air quality chapter (Chapter 6 of the ES).

Ambient noise

13.3.6. The construction phase for the Proposed Development has the potential to result in health impacts from changes in exposures to noise and vibration. Noise (temporary sources of unwanted sound) from construction vehicles, construction plant, machinery and construction processes is a pathway for health effects relating to annoyance, sleep disturbance, cardiovascular and physiological effects, mental health effects and behavioural effects, including poor school performance by school children. This is particularly relevant to the study area given the close proximity of the Proposed Development to the Co-op Academy New Islington Primary School and New Islington Medical Practice and a large resident population, which includes vulnerable groups and young professionals working from home leading to an elevated risk of impacts arising from the Proposed Development. Vibration impacts have the potential to give rise to increased stress and anxiety and sleep disturbance also.

13.3.7. Noise and vibration effects will be assessed in the Noise and vibration chapter (Chapter 15 of the ES), with effects that influence health reported in the human health chapter.

Sources of pollution and environmental exposures

13.3.8. The construction activities of the Proposed Development will give rise to other temporary changes in environmental exposures including potential sources of pollution from construction traffic and activities, lighting, and changes to views.

13.3.9. Whilst some of these impacts will be reported in the other technical chapters (for example, Chapter 10: Daylight, Sunlight, Overshadowing and Solar Glare; Chapter 11: Ground Conditions and Contamination; Chapter 20: Wind and Microclimate), the human health chapter will focus on a qualitative discussion of the health consequences of the combined construction experience (excluding Air quality and Noise and vibration which will be considered separately) for residents, communities, and other persons near the Proposed Development, relating to these additional environmental related exposures and visual disturbance.

Townscape amenity

13.3.10. The introduction of the temporary site compound and temporary storage areas, general construction activities, introduction of construction vehicles, machinery, plant and lighting, traffic management measures, and new building activities all have the potential to adversely affect visual amenity and townscape quality. This is particularly important because there is an increasing recognition in public policy that townscape and associated features, views, and outlook contribute towards better public health. The human health assessment will be informed by the findings of the Townscape and Visual Chapter (Chapter 17).

Risk of injuries and death

13.3.11. The Proposed Development would introduce a new risk of injury and death associated with the interaction of members of the public with construction sites (particularly at access points) and construction activities. Risks to people include the introduction of construction compounds and/or construction activities which can be positioned both within and beyond the perimeter of active construction sites and can lead to trespass (e.g. unauthorised access to construction areas) and conflict (e.g. modal conflict, particularly at access points). The introduction of construction traffic, changes to traffic levels, increased conflict between different modes, and an unawareness of altered traffic movements could increase the risk of injury and death from road traffic accidents, particularly given the presence of particularly vulnerable groups. In addition, unfamiliar layouts, and changes to surfacing, and impacts on water flow paths etc. could increase the risk of injury from slips and trips. Measures to reduce risk of injury and death during construction will be identified within the Outline CEMP.

Characteristics of the transport network

13.3.12. The Proposed Development will result in the introduction of construction traffic and traffic management measures that have the potential to cause temporary disruptions, changes to access (around the Site for the public and the formalisation of access points into the Site for construction activities and traffic), changes to the way people can move around the Site (e.g. temporary restrictions/ placement of barriers within the public realm affecting journeys typically made around the Site, which could be via a range of modes), journey quality and reliability, and/or inconvenience. Such impacts may be noticeable given this busy location, situated adjacent to the Inner Relief Road (Great Ancoats Street) and important roads such as Old Mill Street and Redhill Street which provide through routes and access to homes, businesses and community assets. This could have particular impacts on school children and parents, the elderly and mobility impaired residents, and the other vulnerable groups identified in the baseline, who require safe and easy access for regular and frequent journeys.

Access to private property and housing

13.3.13. Access to private dwellings such as nearby properties on Old Mill Street, Redhill Street, New Union Street, New Islington Road, and Coppersmith Road, could be affected by the temporary closure of, or disruption to, some access routes that pass close to the Site where they are affected by construction activities (e.g. the need to store materials, or close routes in the interests of public safety to enable works) and more widely due to the presence of construction works and traffic management on and in the vicinity of the Site – depending on available access and alternative access routes for these receptors.

Access to work and training

13.3.14. The land requirements of the Proposed Development do not require demolition or relocation of any existing businesses.

13.3.15. The local procurement of goods and services during the construction phase (including to meet the on-site needs of the construction workforce) could affect the health of local people who may directly or indirectly benefit through employment or expenditure in the local economy.

13.3.16. The Proposed Development, including construction activities, will require a construction workforce. This could provide financial security and contribute to self-esteem, particularly for low-income groups. Whilst the construction period would be temporary, access to skills and training for new workers would have long-term benefits.

13.3.17. Conversely, there could be some adverse economic and employment impacts within the study area caused by temporary changes or disruptions to business activity and accessibility and disruptions to or increases in commuter times during the construction period.

13.3.18. There will be wider induced economic benefits expected from the Proposed Development which will be reported in Chapter 16 ‘Socio-economics’. Any socio-economic impacts from the Proposed Development are especially important in the aftermath of Covid-19 and during economic downturn and its negative effects on mental health and wellbeing. The human health assessment focuses on a qualitative discussion of the potential consequences of the economic benefits for human health during construction.

Community assets supporting human health

13.3.19. The construction activities and traffic management associated with the Proposed Development is likely to result in temporary disruptions to nearby community facilities and how these can be accessed, particularly by vulnerable groups.

13.3.20. The introduction of a non-home-based construction workforce into an area can increase demand for public services and the ability of service providers to respond. Any effects tend to be greatest at the peak of the construction workforce. However, the non-home-based workforce for the Proposed Development is expected to be relatively small overall in the context of the wider permanent and temporary workforces in the area and the majority of these are expected to reside outside the local area.

Green space, open space, recreation, and leisure-time activities

13.3.21. The Proposed Development will not result in the direct loss of green space, open space, recreation or leisure-time activities. There are a number of assets falling into these categories in the area immediately surrounding the Site (e.g. Cotton Field Park, New Islington Marina, the Rochdale Canal and a number of gyms).

13.3.22. During the construction phase, the localised management of construction activities (for example, establishment of construction compounds, storage of plant or materials, temporary obstructions or closures of routes) is expected to lead to some instances of temporary disruption to established routes used by residents and visitors to access and/or move between these green space, open space, recreational and leisure assets and around the perimeter of the Site. This may affect users across a range of transport modes. The introduction of construction activities will also alter the character of the area, for example, in terms of visual appearance and noise, which may be perceived as intrusive by some receptors. The combination of disruptions of these types has the potential to alter participation in physical activity and social interaction. Depending on the capacity of individuals to adapt to change and the length and nature of such temporary changes, health outcomes can include reduced physical and mental health and increased stress, anxiety or isolation.

Walking and cycling routes supporting human health

13.3.23. The busy location and land requirements of the Proposed Development and construction activities will lead to temporary disruptions to roads and routes and changes to traffic conditions, including the introduction of construction traffic. This may affect the health of residents and others through temporary disruptions to, and/or the quality and safety of, active travel routes and wider network of footpath and cycleways in the area. This could reduce the prevalence of physical activity, which is linked to reductions in obesity and improved aerobic and bone health, contribute to changes to journey distance and time, and severance between communities located around the Proposed Development.

Operation phase

13.3.24. Once operational, the Proposed Development will provide a number of assets that are intended to complement and enhance the range of leisure opportunities and connectivity into and through the Site, as well as introducing a broader mix of commercial and retail uses to the wider area. This includes the introduction of new public realm, tree planting and improvements to the quality of recreational routes, incorporating the connections to Rochdale Canal and Cotton Field Park. Operational effects tend to be considered permanent and it is within this phase of a development that the greatest benefits for human health are typically identified.

13.3.25. At this scoping stage, there is potential for the following to be affected by the Proposed Development, which would have various impacts (tending towards a greater balance of beneficial effects overall) for human health:

- Affected communities (wards).
- Affected protected characteristics groups.
- Ambient air quality.
- Ambient noise.

- Sources of pollution and environmental exposures.
- Townscape amenity.
- Risk of injuries and death.
- Characteristics of the transport network.
- Access to work and training (including consideration of the relevant land use baseline).
- Community assets supporting human health (including consideration of the relevant land use baseline).
- Green space, open space, recreation, and leisure-time activities (including consideration of the relevant land use baseline).
- Walking and cycling routes supporting human health.

13.4. Proposed scope of assessment

13.4.1. The proposed scope of the assessment, by topic and development phase, is set out in this sub-section.

Construction

- Affected communities (wards).
- Affected protected characteristics groups.
- Determinants of human health:
  - Ambient air quality.
  - Ambient noise.
  - Sources of pollution and environmental exposures.
- Townscape amenity.
- Risk of injuries and death.
- Characteristics of the transport network.
- Access to private property and housing.
- Access to work and training.
- Community assets supporting human health.
- Green space, open space, recreation, and leisure-time activities.
- Walking and cycling routes supporting human health.

Operation

- Affected communities (wards).
- Affected protected characteristics groups.
- Determinants of human health:
  - Ambient air quality.
  - Ambient noise.
  - Sources of pollution and environmental exposures.
- Townscape amenity.
- Risk of injuries and death.
- Characteristics of the transport network.
- Access to work and training.
- Community assets supporting human health.
- Green space, open space, recreation, and leisure-time activities.
- Walking and cycling routes supporting human health.

13.5. Assessment methodology

13.5.1. The assessment methodology proposed has been selected to satisfy the requirements of the EIA Regulations 2017. It follows the guidance published in November 2022 by IEMA[184] [185]. The assessment methodology requires the baseline human health conditions within the areas likely to the affected by the Proposed Development to be identified. This Scoping Report provides initial information regarding the characteristics of the baseline, covering land uses that form determinants of human health and a health profile of the study area. The IEMA guidance includes indicative criteria for assigning health sensitivity at Table 7.1. These criteria will be used for the assessment.

13.5.2. The IEMA guidance on scoping human health sets out indicative wider determinants of health that should be considered/ scoped into human health assessment (Table 5.1 of the guidance). The guidance also advocates providing an explanation of the relevant source (of a change to a health determinant), pathway (the way in which the change can affect health) and receptor (the way in which the change to the health determinant manifests, and to who), in order to provide details of the relationship between wider determinants of health and health outcomes. This approach will be adopted for the assessment, with further information provided about connections between receptors.

13.5.3. For the Proposed Development, using professional judgement, best practice, and knowledge from the assessment of similar schemes, the gather ingo land use data is based on the Proposed Development boundary plus a 250m buffer extending outwards. This reflects the nature of the Proposed Development, which is focused on a single site and the type of built development proposed, and the high-density character of this part of Manchester. Therefore, the identification of relevant receptors forming determinants of human health has focused on the Proposed Development boundary and 250m threshold.

13.5.4. The sensitivity of an individual or population sub-group is defined as their ability to withstand exposures and the range of associated impacts or effects, and the physiological (e.g., co-morbidities or disabilities) and socio-economic factors that increase their susceptibility to the exposure.

13.5.5. The assessment of significance of effects on human health receptors will be based on a narrative approach, providing an explanation of the factors that have been considered. The narrative will encompass the following elements, where relevant, to provide consistency in forming a judgement on significance by the assessor, which is an approach advocated in the IEMA guidance:

- Whether there would be a high level of exposure or widespread impact.
- Whether the population exposed to an impact is particularly sensitive due to pre-existing vulnerabilities or inequalities.
- The duration of effects and whether they would be reversible.
- The level of acceptability, including whether statutory thresholds for pollutants would be exceeded and/or whether the issue is a public health priority.
- The severity of the related health outcomes (i.e., whether it is related to a change in mortality or morbidity).
- The strength of evidence for an association between a change in a determinant and health outcomes.
- Whether a large proportion of the population would likely be affected.
- Whether the impact is likely to increase or tackle health inequalities at a population level.

13.5.6. The narrative will be set out in a series of assessment tables (see the reporting format sub-section). These will clearly set out the conclusions from the first step of assessment; indicate any additional mitigation measures proposed as a result of this; and then conclude on the residual effects of the Proposed Development on human health receptors.

[184] Pyper, R., Lamming, M., Beard, C., Waples, H., Birley, M., Buroni, A., Douglas, M., Turton, P., Hardy, K., Netherton, A., McClenaghan, R., Barratt, T., Bhatt, A., Fenech, B., Dunne, A., Hodgson, G., Gibson, G., Purdy, J., Cave, B. (2022) IEMA Guide: Effective Scoping of Human Health in Environmental Impact Assessment.
[185] Pyper, R., Waples, H., Beard, C., Barratt, T., Hardy, K., Turton, P., Netherton, A., McDonald, J., Buroni, A., Bhatt, A., Phelan, E., Scott, I., Fisher, T., Christian, G., Ekermawi, R., Devine, K., McClenaghan, R., Fenech, B., Dunne, A., Hodgson, G., Purdy, J., Cave, B. (2022) IEMA Guide: Determining Significance for Human Health in Environmental Impact Assessment

13.5.7. The human health effects will be assessed during construction, at opening year and at a future baseline year (reflecting the time required for landscaping to reach semi-maturity). The human health assessment takes account of known proposals for housing and employment growth as an inherent element of the operation phase assessment, to provide a more realistic future baseline against with to consider the impacts and effects of the Proposed Development.

Cumulative effects

13.5.8. The human health assessment will consider two types of cumulative effects – intra-Scheme effects; and inter-project effects.

13.5.9. Intra-Scheme cumulative effects are an inherent part of the human health assessment. They relate to receptors that are likely to experience two or more significant effects from impacts within the scope of the human health topic. The cumulative effects section of the assessment will provide a summary of the relevant receptors affected by intra-Scheme cumulative effects, signposting the relevant parts of the main assessment.

13.5.10. Inter-project cumulative effects will also be assessed – this will consider the impacts of the Proposed Development acting in combination or addition to impacts arising from projects included on the short list of other developments that may interact with the Proposed Scheme. Within the topic chapter, the inter-project assessment will focus on human health impacts only – cross-topic inter-project cumulative effects will be reported separately (see the Cumulative Effects Assessment methodology).

13.5.11. If appropriate, the assessment will report on mitigation measures that could lessen cumulative effects and subsequently comment on the residual cumulative effects.

Reporting format

13.5.12. The human health assessment is qualitative. It is intended to provide tabulated assessment sheets within the reporting, to enable the reader to easily identify all relevant assessment narrative per receptor. An example assessment table is included below (Table 13-5).

Table 13-5 – Example human health assessment table

Receptors	Impacts	Sensitivity of Receptor	Change to health determinant and impact magnitude	Effect (Proposed Development + embedded mitigation)	Health outcome category
Receptor group	*Example – Change in access*	*Assign a sensitivity*	*How the Proposed Development will cause a change in the health determinant and in turn the impact magnitude*		
	Summary of health outcome assessment and effects assessments	*Short description of how the Proposed Development design and embedded mitigation will affect the health determinant and the effect on the receptor (determined by the IEMA significance matrix).*			
		Embedded mitigation: *Embedded mitigation to be listed here as the design progresses.* **Essential mitigation:** *Identified essential mitigation required.*			
	Outcome and residual effects assessment (effect +	*The residual human health effects will be reported here.*			

Receptors	Impacts	Sensitivity of Receptor	Change to health determinant and impact magnitude	Effect (Proposed Development + embedded mitigation)	Health outcome category
	essential mitigation)				

13.5.13. The assessment for human health is to be reported in two steps, within the series of assessment tables, as described below.

- Step 1: an assessment of effects is provided for the receptors and/or communities identified as potentially experiencing changes due to the Proposed Development. This notes the source of these impacts. The resultant effect is categorised by applying the receptor sensitivity against the magnitude of the impact (as per IEMA guidance for human health) after considering the Proposed Development description and any relevant embedded mitigation and enhancement measures. Essential mitigation will be noted. This represents any additional matters that have been agreed to target specific assessment findings related to negative effects on human health.
- Step 2: a residual assessment of significance is provided. In addition to the items that inform the assessment at Step 1, this residual assessment takes account of the essential mitigation and how this may change the Step 1 assessment findings, leading to an assignment of the significance of the residual effects being reported.

13.6. Proposed mitigation

13.6.1. The human health assessment will explore the scope for mitigation and enhancement measures which could add value (such as opportunities for recruitment) to human health during both construction and operational phases.

13.6.2. All the environmental design mitigation from the other topics, notably Townscape, Air Quality and Noise and Vibration, which are linked to this topic, would be implemented to protect the characteristic features of the study area and control impacts on environmental determinants of health.

13.6.3. New open space provision would be provided as part of the Proposed Development, with an increase to the total area of useable open space therefore delivering improvements over the existing situation.

13.6.4. The Proposed Development would minimise the ratio of car parking spaces available to limit private car ownership and implement a car parking management strategy to manage car parking on site. A Green Travel Plan or similar would be produced to encourage the use of public transport, cycling, walking, and car sharing for employees.

14. Materials and Waste

14.1. Planning policy and legislation

14.1.1. The following planning policy and legislation has been considered in this scoping exercise:

- National Planning Policy Framework[186]
- Manchester's Core Strategy 2012 – 2027[3] in particular:
  - Places for Everyone Policy JP S6 Resource Efficiency
- A Green Future: Our 25 Year Plan to Improve the Environment[187]
- Resources and Waste Strategy for England 2018[188]
- Waste Management Plan for England 2021[189]
- The Environmental Protection Act 1990 (Section 34)[190]
- Clean Neighbourhoods and Environment Act 2005 (Chapter 16)[191]
- Environment Act 2021[192]
- The Hazardous Waste (England and Wales) Regulations 2005[193]
- The Waste (England and Wales) Regulations 2011[194]
- Waste Electrical and Electronic Equipment (WEEE) Regulations 2013[195]
- The Waste Batteries and Accumulators Regulations 2015[196]
- The Environmental Permitting (England and Wales) Regulations 2016[197]
- Greater Manchester Joint Waste Development Plan, 2012 – Planning Policy Statement 10 (PPS10)[198]
- Greater Manchester Minerals Development Plan 2013[199]

14.2. Summary of baseline conditions

Study area

14.2.1. The study areas that are applicable to the Proposed Development (as defined in IEMA's Guide to Materials and Waste in Environmental Impact Assessment (April 2020)[200], herein referred to as the 'IEMA Guidance') are:

- The development study area – this comprises the Proposed Development's footprint and any areas required for temporary access, site compounds, working platforms and other enabling activities; and
- The expansive study area – this extends to the availability of construction materials and remaining landfill void.

14.2.2. Based on professional judgement and the availability of data, the expansive study area has been chosen as:

[186] Ministry of Housing, Communities & Local Government, National Planning Policy Framework, 2021
[187] Department for Environment, Food & Rural Affairs, A Green Future: Our 25 Year Plan to Improve the Environment, 2018
[188] Department for Environment, Food & Rural Affairs, Resources and waste strategy for England, 2018
[189] Department for Environment, Food & Rural Affairs, Waste Management Plan for England, 2021
[190] UK Legislation, The Environment Protection Act, 1990
[191] UK Legislation, Clean Neighbourhoods and Environment Act, 2005
[192] UK Legislation, Environment Act, 2021
[193] UK Legislation, The Hazardous Waste (England and Wales) Regulations, 2005
[194] UK Legislation, The Waste (England and Wales) Regulations, 2011
[195] Office for Product Safety and Standards and Department for Environment, Food & Rural Affairs, Regulations: Waste Electrical and Electronic Equipment (WEEE), 2018
[196] UK Legislation, The Waste Batteries and Accumulators (Amendment) Regulations, 2015
[197] UK Legislation, The Environmental Permitting (England and Wales) Regulations, 2016
[198] Planning Policy Statement 10: Planning for Sustainable Waste Management, 2011
[199] Greater Manchester County Council, The Greater Manchester Joint Minerals Plan, 2013
[200] IEMA Guide to: Materials and Waste in Environmental Impact Assessment - Guidance for a Proportionate Approach. March 2020

- The Northwest of England region and – where necessary or especially where regional data are unavailable – the UK for materials;
- The Northwest of England region for hazardous waste; and
- Greater Manchester for non-hazardous and inert waste.

14.2.3. Receptors, with regards to materials and waste, are defined as:

- The regional (Northwest) and national sales of materials, which are to be used as part of the Proposed Development;
- Regional landfill void capacity; and
- Local allocated Mineral Safeguarding Area (MSA) and peat resources.

14.2.4. The baseline has been established through a desk-based review of regional and national data, based on the IEMA Guidance, from the following publicly available sources (most up to date at the time of writing):

- EA, Remaining Landfill Capacity, 2019-2021[201];
- Greater Manchester County Council (GMCC), Greater Manchester Joint Waste Development Plan, 2012[202];
- GMCC, Greater Manchester Joint Minerals Development Plan, 2013[203];
- GMCC, Policies Map, 2023;
- Mineral Products Association (MPA), Profile of the UK Mineral Products Industry, 2020[204];
- MPA, Regional Overview and Forecasts of Construction and Mineral Products Markets in Great Britain, 2023[205];
- North West Aggregate Working Party, Annual Monitoring Report, 2021[206];
- UK Steel, Key Stats Guide, 2022[207].

Materials

14.2.5. As set out in the IEMA guidance, materials are defined as '*substances used in each lifecycle stage of a development, with a particular focus on the construction, operation and maintenance, and decommissioning or 'end of first life' (deconstruction, demounting, demolition and disposal) phases*'.

14.2.6. The regional and national breakdown of annual sales for materials are summarised in Table 14-1. Regional data is not reported for steel, which is why the data is split.

14.2.7. Materials identified in the table are based on the main construction materials it is estimated will be required for the Proposed Development's construction, based on experience.

14.2.8. Given that the number, type, and size of construction developments varies from year to year, the demand for materials also fluctuates. As such, this data should be considered representative.

Table 14-1 – Materials Baseline

Materials	Regional sales baseline (tonnes per annum)	National sales baseline (tonnes per annum)
Crushed rock	5,000,000[205]	117,300,000[204]
Sand and gravel	1,000,000[205]	62,600,000[204]
Recycled and secondary	996,103[206]	71,000,000[204]
Asphalt	2,100,000[205]	25,400,000[204]

[201] Environment Agency, Remaining Landfill Capacity, 2019-2021
[202] Greater Manchester County Council, Joint Waste Development Plan, 2012
[203] Greater Manchester County Council, Joint Minerals Development Plan, 2013
[204] Mineral Products Association, 2021. Profile of the UK Mineral Products Industry 2020
[205] Mineral Products Association, 2023. Regional Overview and Forecasts of Construction and Mineral Products Markets in Great Britain Spring 2023
[206] North West Aggregates Working Party, 2021. Annual Monitoring Report 2021 [Including data from 2019 and 2020]
[207] UK Steel, 2022. Key Statistics Guide April 2022

Materials	Regional sales baseline (tonnes per annum)	National sales baseline (tonnes per annum)
Ready-mixed concrete	3,094,000[205]	54,200,000[204]
Steel	Not Available	7,200,000[207]

Waste

14.2.9. In line with the Waste Framework Directive and as set out in the IEMA guidance, waste is defined as *"any substance or object which the holder discards or intends or is required to discard".*

14.2.10. The EA Waste Data Interrogator is analysed by the EA to provide estimated landfill void capacity.

14.2.11. Table 14-2 below summarises this information in the Northwest region and Greater Manchester for 2019, 2020 and 2021, which are the most recent years for which data is available.

Table 14-2 – Landfill void capacity (000s of m3)

Landfill type	2019	2020	2021
Hazardous landfill void capacity (North West)	6,150[208]	6,273[209]	4,761[210]
Inert and non-hazardous landfill void capacity (Greater Manchester)	7,171[208]	9,040[209]	8,518[210]

Mineral Safeguarding Areas (MSA) and peat resources

14.2.12. The key safeguarded mineral resources in Greater Manchester are glaciofluvial sand and gravel, carboniferous millstone grit, brick clay with surface mined coal (shallow coal), and peat.

14.2.13. Greater Manchester Policies Map and GeoIndex show that the footprint of the Proposed Development does not overlap with an MSA.

14.2.14. There are no Blanket Bogs, Lowland Fens, or Lowland Raised Bog areas within the footprint of the Proposed Development. Therefore, there are no areas that are / could give rise to peat reserves.

14.3. Key issues and potential likely impacts

Construction phase

14.3.1. The Proposed Development may have the following impacts from construction:

- The high volume, permanent (over the 60 year building dura) use of materials. This is likely to consist of aggregate, asphalt, concrete and steel. Smaller quantities of materials may include plastic, wood, and glass, amongst others. The potential effect of materials use is the permanent (60 years) removal of these materials from the market, however it is not felt this would be signficant based on the scale of the Proposed Development and general availability of the materials in the market;
- The high volume, short-term (during the construction phase), permanent use of landfill void capacity. Key waste streams are likely to be soil, aggregate, asphalt, and concrete. Smaller quantities of waste that would be generated include metal, wood, and vegetation, as well as municipal waste and septic tank waste from the workforce, however it is not felt this would be signficant based on the scale of the Proposed Development and availability of landfill capacity in the region; and
- The long-term sterilisation of mineral resources within an MSA. There is no impact envisaged as there are no MSA's or peat resource directly underneath the Proposed Development.

[208] Environment Agency, Remaining Landfill Capacity, 2019
[209] Environment Agency, Remaining Landfill Capacity, 2020
[210] Environment Agency, Remaining Landfill Capacity, 2021

Operation phase

14.3.2. The Proposed Development may have the following impacts during operation:

- The low volume, long-term, permanent use of materials.
- The low volume, long-term, permanent use of landfill void capacity.

14.3.3. The materials that could be used in operation are the same as those in construction, although they would be under planned and un-planned maintenance activities and at much smaller volumes.

14.3.4. The wastes that could be generated in operation are the same as those in construction although they would be under planned and un-planned maintenance activities and at much smaller volumes, as well as waste generated day-to-day by staff, such as office and canteen type waste. Most of this waste could either be reused, recycled, or processed via Energy from Waste facilities with energy recovery, with very little requiring disposal to landfill.

14.4. Proposed scope of assessment

14.4.1. The proposed scope of the assessment will cover the construction and operation phases for waste and construction only for materials (this is due to the minimal level of material use that is likely in the operation phase).

14.4.2. The receptors for waste are the county level landfills and the receptors for materials are the regional material markets, as well as the local allocated Mineral Safeguarding Area (MSA) and peat resources.

14.5. Assessment methodology

14.5.1. The following tasks will be carried out to assess the impact of materials and waste and from the Proposed Development:

- Review of relevant legislation, national, regional and local planning policies and guidance to identify material and waste objectives and targets;
- Establish the baseline for materials and waste;
- Review estimated quantities and types of materials needed for construction and wastes to be generated during construction, demolition and excavation;
- Review the proposed occupancy to estimate the quantities and types of wastes to be generated during operation;
- Identify mitigation measures to prevent, reduce, re-use, recycle and/ or recover materials and wastes from the Proposed Development; and
- Identify and assess the impacts of the Proposed Development by comparing the information in the review stages against the baseline data.

14.5.2. An assessment of the level of environmental effect from the use of material and generation of waste will be made using the criteria in Table 14-3 and Table 14-4 below, which are set out in the IEMA Guidance.

Table 14-3 – Sensitivity Criteria

Sensitivity of receptor	Criteria (highest category applies where one or more criteria are met)
Very High	Materials are known to be insufficient in terms of production, supply and/or stock; and/or comprise no sustainable features and benefits compared to industry-standard materials. Inert and non-hazardous waste baseline landfill void capacity is expected to reduce very considerably (by >10%)/end during construction or operation; is

Sensitivity of receptor	Criteria (highest category applies where one or more criteria are met)
	already known to be unavailable; or would require new capacity or infrastructure to be put in place to meet forecast demand. Hazardous waste baseline landfill void capacity is expected to reduce very considerably (by >1%)/end during construction or operation; is already known to be unavailable; or would require new capacity or infrastructure to be put in place to meet forecast demand.
High	Materials are forecast (through trend analysis and other information) to suffer from known issues regarding supply and stock; and/or comprise little or no sustainable features and benefits compared to industry-standard materials. Inert and non-hazardous waste baseline landfill void capacity is expected to reduce considerably by 6-10% as a result of wastes forecast. Hazardous waste baseline landfill void capacity is expected to reduce considerably by 0.5-1% as a result of wastes forecast.
Medium	Materials are forecast (through trend analysis and other information) to suffer from some potential issues regarding supply and stock; and/or are available comprising some sustainable features and benefits compared to industry-standard materials. Inert and non-hazardous waste baseline landfill void capacity is expected to reduce by 1-5% as a result of wastes forecast. Hazardous waste baseline landfill void capacity is expected to reduce by 0.1-0.5% as a result of wastes forecast
Low	Materials are forecast (through trend analysis and other information) to be generally free from known issues regarding supply and stock; and/or are available comprising a high proportion of sustainable features and benefits compared to industry-standard materials. Inert and non-hazardous waste baseline landfill void capacity is expected to reduce by <1% as a result of wastes forecast Hazardous waste baseline landfill void capacity is expected to reduce by <0.1% as a result of wastes forecast
Negligible	Materials are forecast (through trend analysis and other information) to be free from known issues regarding supply and stock; and/or Are available comprising a very high proportion of sustainable features and benefits compared to industry-standard materials.* Inert and non-hazardous waste baseline landfill void capacity is expected to remain unchanged or is expected to increase through a committed change in capacity. Hazardous waste baseline landfill void capacity is expected to remain unchanged or is expected to increase through a committed change in capacity.

* Subject to supporting evidence, sustainable features and benefits could include, for example, materials or products that: comprise reused, secondary or recycled content (including excavated

Sensitivity of receptor	Criteria (highest category applies where one or more criteria are met)

and other arisings); support the drive to a circular economy; or in some other way reduce lifetime environmental impacts.

Table 14-4 – Magnitude Criteria

Impact severity	Criteria (highest category applies where one or more criteria are met)
Major	The consumption of one or more materials is >10% by volume of the regional baseline availability; and/or more than one allocated mineral site is substantially sterilised by the development rendering it inaccessible for future use. Inert and non-hazardous waste generated by the development will reduce regional landfill void capacity baseline by >10%. Hazardous waste generated by the development will reduce national landfill void capacity baseline by >1%
Moderate	The consumption of one or more materials is between 6-10% by volume of the regional baseline availability; and/or one allocated mineral site is substantially sterilised by the development rendering it inaccessible for future use. Inert and non-hazardous waste generated by the development will reduce regional landfill void capacity baseline by 6-10%. Hazardous waste generated by the development will reduce national landfill void capacity baseline by <0.5-1%
Minor	The consumption of one or more materials is between 1-5% by volume of the regional baseline availability; and/or the development has the potential to adversely and substantially impact access to one or more allocated mineral site (in their entirety), placing their future use at risk. Inert and non-hazardous waste generated by the development will reduce regional landfill void capacity baseline by 1-5%. Hazardous waste generated by the development will reduce national landfill void capacity baseline by <0.1-0.5%
Negligible	The consumption of no individual material type is equal to or greater than 1% by volume of the regional baseline availability Inert and non-hazardous waste generated by the development will reduce regional landfill void capacity baseline by <1% Hazardous waste generated by the development will reduce national landfill void capacity baseline by <0.1%
No change	The consumption of no materials is required. Inert and non-hazardous zero waste generation and disposal from the development

Impact severity	Criteria (highest category applies where one or more criteria are met)
	Hazardous zero waste generation and disposal from development

14.5.3. Table 14-5 provides definitions of effect thresholds which are set out in the IEMA Guidance.

Table 14-5 – Effect Thresholds

		Impact magnitude				
		Major	Moderate	Minor	Negligible	No change
Receptor value	Very High	Very large	Very large or Large	Large or Moderate	Slight	Neutral
	High	Very large or Large	Large or Moderate	Moderate or Slight	Slight	Neutral
	Medium	Large or Moderate	Moderate	Slight	Slight or Neutral	Neutral
	Low	Moderate or Slight	Slight	Slight or Neutral	Slight or Neutral	Neutral
	Negligible	Slight	Slight or Neutral	Slight or Neutral	Neutral	Neutral

14.5.4. Environmental effects for both materials and waste are combined to determine the Proposed Developments significance level as shown in Table 14-6 below. The Proposed Developments can then be defined as significant or not significant.

Table 14-6 – Significance criteria for waste and materials

Effect	Waste	Materials
Neutral	Not significant	Not significant
Slight		
Moderate	Significant	Significant
Large		
Very large		

14.5.5. The assumptions applicable to the assessment methodology are outlined, as follows:

- All material and waste quantities will be converted into tonnes or cubic metres, from the design information provided, using conversion rates from AtkinsRéalis Carbon Knowledgebase (for materials) or WRAP (for waste);
- All materials and wastes will be grouped according to main material types; and
- No hazardous waste is on site

14.5.6. The following limitations maybe applicable to the assessment:

- The materials used, and waste generated through construction of the Proposed Development will be estimated from the available design information. These quantities will be updated at the detailed design stage as the design and construction programme becomes more advanced. As such, a worst-case scenario will be used for the ES.

- The materials and waste baselines presented in this chapter use publicly available data
- The materials and waste baselines use the most recently published data; however, this is sometimes two to three years old, so doesn't reflect the exact current quantities.
- Indirect impacts, such as those from the offsite manufacture of products or extraction of minerals, are outside the scope of the assessment, as it is not possible at this stage to determine where products will be manufactured, or minerals extracted.
- Impacts associated with the transport of materials and waste will be considered in their respective chapters, including Air Quality, Noise and Vibration, Population and Human Health and Climate.

14.5.7. It is not considered that these limitations and/or assumptions will affect the ability to undertake the assessment, nor the conclusions drawn from it.

14.6. Proposed mitigation

Construction

14.6.1. Although the impact of construction on materials and waste is unlikely to be significant at a County or Regional level, mitigation to minimise material use and waste generation will still be adopted. The proposed approach to mitigation is set out below.

14.6.2. There are several different measures that will be implemented, as follows:

- Designing out material use and waste generation;
- Specifying that materials are sourced locally, where possible
- On-site management of materials and waste; and
- Treatment and disposal.

14.6.3. Decisions taken during the design phase to reduce material use and waste generation are an example of primary (embedded) mitigation. Excessive material use and waste generation can be designed out early in the development process to ensure materials used are:

- Reused/reclaimed (potentially from excavation and/ or demolition), where practicable; and/or
- Recycled or reclaimed, where practicable.

14.6.4. Project-specific measures to reduce material use and waste generation will be recorded as the design develops.

14.6.5. At design and procurement stage specification can be made that materials are sourced locally, where possible.

14.6.6. The Proposed Development will be committed to achieving high recycling and recovery rates (following actions to design out and reduce waste), as part of further embedded mitigation measures, such as a minimum of 70% of non-hazardous waste leaving site to be recycled or recovered through disposal via Energy from Waste facilities. This will be achieved by arranging for the source segregation of recyclable waste and the provision of appropriate recycling facilities. Achieving a high recycling rate can minimise the environmental burden in terms of pollution, energy consumption, the carbon impact and the emission of large quantities of carbon dioxide equivalent associated with the production of products from virgin material.

14.6.7. The mitigation above will be supported through the preparation and maintenance of a robust framework to manage, avoid, minimise or mitigate impacts. Measures will include producing a Circular Economy Statement and Site Waste Management Plan (SWMP), so that waste reduction, generation and management can be recorded.

Operation

14.6.8. The mitigation measures that will be considered for operation are detailed below:

- Provision of adequate segregated food waste storage to be provided;
- Residual and recyclable wastes to be stored and collected separately. This will be achieved through provision of clearly marked and/or colour coded bins to enable easy identification of the correct bin;

- Waste storage areas must be accessible. Therefore, storage areas will be sufficiently designed in locations where building occupants and waste management contractors have easy access to deposit and remove waste; and
- Hazardous wastes, such as WEEE, to be stored and collected separately. As these wastes will not be suitable for storage in standard waste receptacles, an area will be set aside for hazardous waste storage which will include appropriate storage containers such as a WEEE cage(s).

14.6.9. Additionally, an Operational Waste Management Strategy will be submitted with the Planning Application.

15. Noise and Vibration

15.1. Planning policy and legislation

15.1.1. The following planning policy and legislation has been considered within this scoping exercise and will be taken forward within the noise and vibration assessment in the ES:

- National Planning Policy Framework (NPPF)[211]
- Planning Practice Guidance (PPG)[212]
- Noise Policy Statement for England (NPSE)[213]
- The Control of Pollution Act 1974[214] (CoPA)
- The Noise Insulation Regulations 1975[215] as amended 1988 (NIR)
- Manchester Planning and Noise technical guidance (2022)
- Manchester City Council Core Strategy - Development management Policy (2012)
- Manchester UDP Citywide Development Control (1995)

15.2. Summary of baseline conditions

Noise Sensitive Receptors

15.2.1. A review of the local area surrounding the Site has been undertaken to understand the existing usages and where there are Noise Sensitive Receptors (NSR) in proximity to the Site. Figure 15-1 shows the existing building usages in the vicinity of the Site. At present the Site is vacant, with structures already having been removed.

[211] Ministry of Housing Communities & Local Government, (2021), *National Planning Policy Framework*
[212] Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government, (2019), *Planning Practice Guidance – Noise*
[213] Department for Environment, Food & Rural Affairs, (2010), *Noise Policy Statement for England* (NPSE)
[214] Great Britain. Department of the Environment, (1974), *Control of Pollution Act 1974*
[215] Great Britain. Department of the Environment, (1975), *The Noise Insulation Regulations 1975*

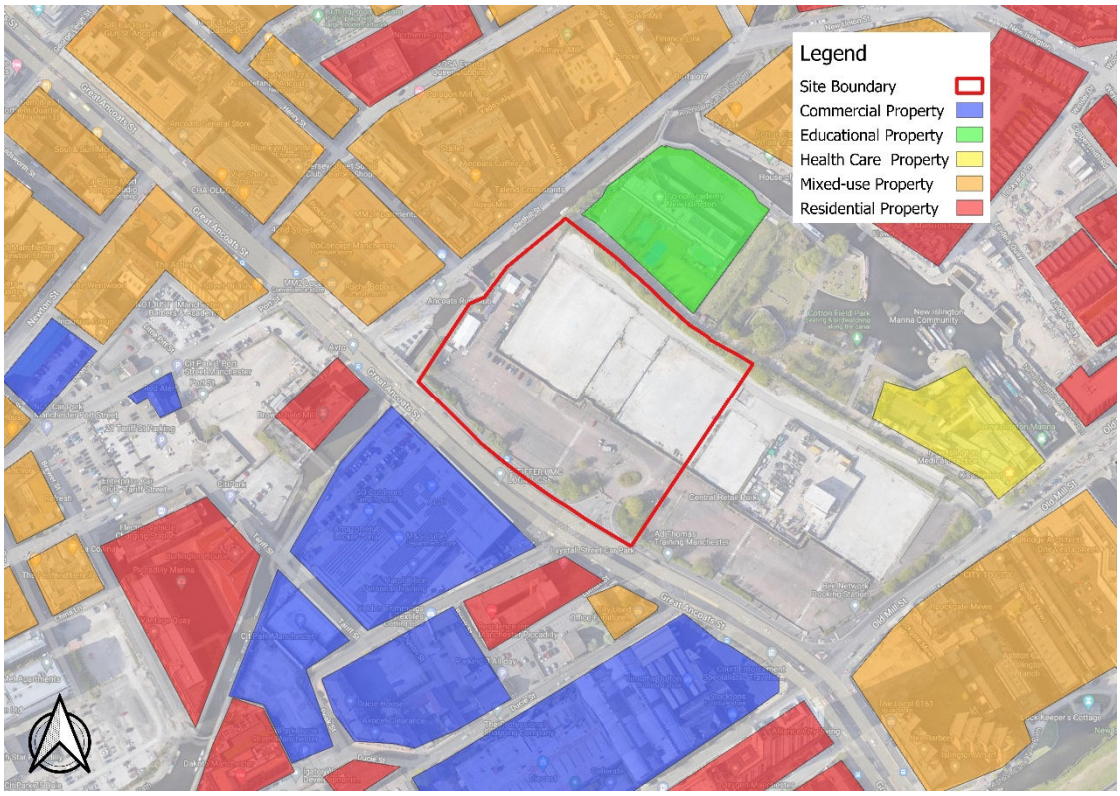


Figure 15-1 – Receptor categories

15.2.2. Figure 15-1 shows the area is typically urban in its usage, with a mix of commercial and residential properties surrounding the Site. To the north of the Site lies Co-op Academy New Islington Primary School, and to the east is Ancoats Primary Care Centre.

15.2.3. Key NSRs identified around the Site are identified in Table 15-1.

Table 15-1 – Key Noise Sensitive Receptors

Location	Distance from Site (m)	Type of receptor
Co-op Academy New Islington Primary School, 10 Hugh Oldham Wy, Manchester M4 6EY	10	School
Royal Mills, Redhill St, Ancoats, Manchester M4 6JG	25	Mixed/Residential
MM2 Apartments, Pickford St, Ancoats, Manchester M4 5BS	30	Mixed/Residential
Brownsfield Mill, Binns Pl, Manchester M4 5AG	30	Residential
Residence Inn, 40 Laystall St, Manchester M1 2JZ	25	Residential
83 Ducie St, Manchester M1 2JQ	25	Mixed/Residential
1 Lockgate Mews, Manchester M4 6GE	150	Residential
Ancoats Primary Care Centre, Old Mill Street, Manchester M4 6EE	80	Health Care

15.2.4. It should be noted that New Islington Marina is also located to the northeast of the Site approximately 40m from the Site boundary. Although the marina has fixed moorings, these are

classed as temporary residential properties. These will be considered as special residential receptors during the EIA.

15.2.5. Consideration will also be given to amenity spaces including the adjacent Rochdale Canal and Cotton Field Park.

Defra review

15.2.6. The Site is located in a metropolitan area and as such external ambient noise levels are considered to be high. Defra strategic road noise mapping data[216,217], for the Site is shown in Figure 15-2.

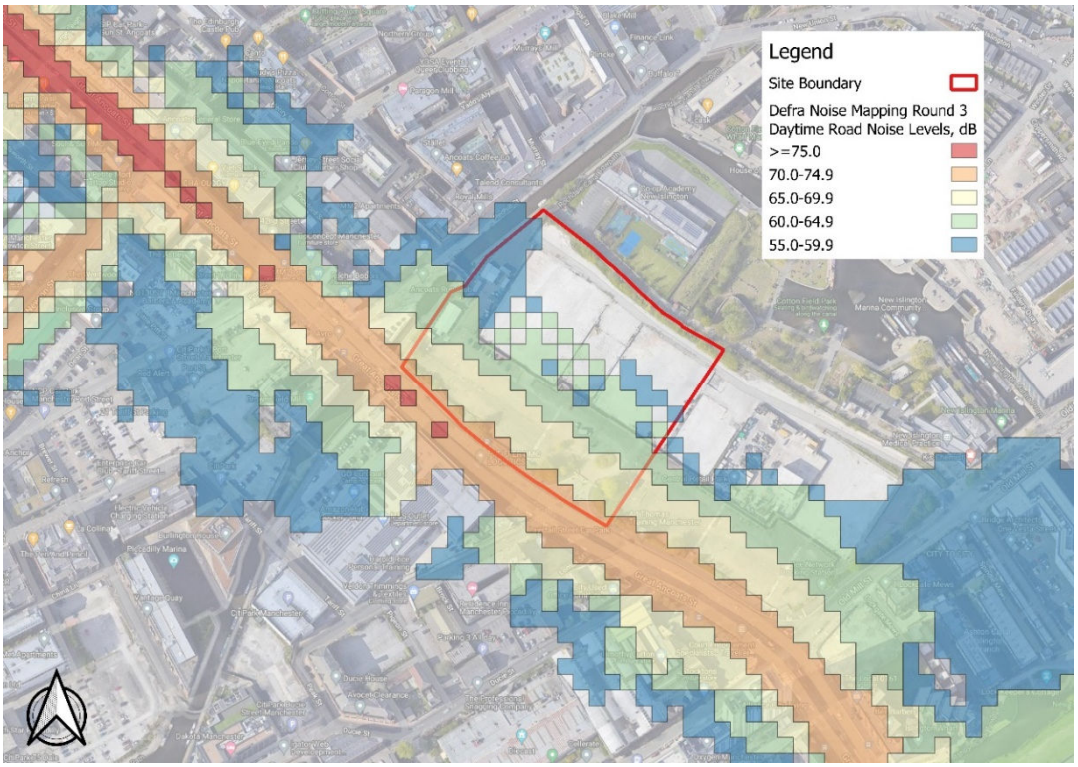


Figure 15-2 – Defra round 3 road noise mapping

15.2.7. NIAs are the areas where the top 1% of the population affected by the highest noise levels from major roads are located, according to the strategic noise mapping undertaken by Defra under the terms of the Environmental Noise (England) Regulations 2006, as amended. The Noise Important Areas are shown in Figure 15-3.

[216] https://www.gov.uk/government/publications/strategic-noise-mapping-2019
[217] http://www.extrium.co.uk/noiseviewer.html



Figure 15-3 – Defra round 3 Noise Important Areas (ID: 10962)

15.2.8. The Defra Strategic noise mapping indicates that ambient noise levels at the Site are likely to be 70 to 55 decibels (dB) $L_{Aeq,16h}$ during daytime periods on the roadside of the Site. The southern side of the Site, along Great Ancoats Street, falls within Defra Noise Important area 10962. No strategic rail sources have been identified in the vicinity of the Site.

Baseline noise survey

15.2.9. A baseline noise survey was undertaken on the 22nd and 23rd June 2023 to understand the existing noise climate during both the day and night time period. A summary of these results is provided below.

15.2.10. Attended measurements were undertaken at four different locations at the Site which can be seen in Figure 15-4. The manned 15min noise measurements were conducted using field calibrated Class 1 integrated sound level meters positioned at each location. The meters were placed at a height of approximately 1.5 m above the local ground level and positioned away from any obstructions that could affect the accuracy of the readings.



Figure 15-4 – Noise measurement locations

15.2.11. During the measurement periods, various sources of noise were identified and recorded, including vehicular traffic, construction activities, and commercial operations. Considering the context of the location, these would be considered as representative of the existing conditions in the vicinity of the Site. A summary of the results is shown in Table 15-2.

Table 15-2 – Noise survey results

Location	Period		L_{Aeq}, dB	L_{Amax}, dB	L_{A10}, dB	L_{A90}, dB
1	Day	07:00 – 23:00	61.4	88.9	64.0	53.3
	Night	23:00 – 07:00	59.5	76.0	62.8	46.0
2	Day	07:00 – 23:00	52.0	67.9	54.1	47.9
	Night	23:00 – 07:00	45.4	77.0	47.3	39.4
3	Day	07:00 – 23:00	54.8	76.9	56.4	49.4
	Night	23:00 – 07:00	44.6	66.7	46.8	39.4
4	Day	07:00 – 23:00	58.3	80.7	60.0	53.4
	Night	23:00 – 07:00	51.6	76.0	53.6	42.6

15.3. Key issues and potential likely impacts

Construction phase

15.3.1. Noise and vibration from construction works can cause disturbance in neighbouring buildings, and in certain extreme circumstances vibration can cause or contribute to building damage.

15.3.2. Construction activities will include the site enabling works, construction of the sub structure and associated ground works (including piling), construction of the superstructure, façade and roof constructions, Category A and B fit outs, and soft hand hard landscaping. These activities can be noisy in nature and have the potential to result in significant impacts.

15.3.3. Table 15-3 shows a range of noise calculations for various piling methods at various distances to understand possible impacts from piling noise, normally the most intrusive construction activity.

Table 15-3 – Example piling noise activities at distance.

	BS 5228 Sound Pressure Level, dB	BS 5228 Reference	Distance (m)					
			10	20	30	50	100	200
Impact Piler	97	C3.3	97	91	87	83	77	71
Vibratory Piler	88	C3.8	88	82	78	74	68	62
Auger Piler	84	C3.14	84	76	74	70	63	58

15.3.4. Considering the proximity of the Site to residential receptors (as shown in Table 15-1) it is therefore considered that an assessment of construction noise and vibration should be scoped into the EIA.

Construction traffic noise

15.3.5. Construction works can add additional traffic to the existing road network, especially in terms of Heavy Goods Vehicles (HGVs). The existing road network holds significant numbers of vehicles and generates high noise levels as seen in Figure 15-2 and Figure 15-3. An increase of approximately 20% road traffic is required to get a Minor increase of 1dB according to the Design Manual for Roads and Bridges (DMRB). It is unlikely that the Site will add a significantly large amount of traffic to trigger this threshold however, further assessment should be scoped into the EIA to ensure that no significant impacts occur due to the potentially large number of HGVs.

Operation phase

Fixed plant noise

15.3.6. The Proposed Development will introduce a number of new noise sources to the local environment in the form of external fixed plant, such as Air Handling Units and Air Source Heat Pumps, for the proposed buildings on Site. The introduction of external equipment has the potential to cause adverse effects at nearby NSRs. At this time, it is not known what equipment will be proposed for any onsite buildings, therefore an assessment of external plant will be scoped into the EIA. Considering the context of the Site and information that may be available at the time of the assessment, it may be appropriate to assign a Site boundary noise limit rather than an in-detail plant noise assessment.

Fixed plant vibration

15.3.7. During operation, fixed plant has the potential to cause low level vibration. At this stage it is unknown what equipment will be included on the Site, but as standard, antivibration mounts will be included on the equipment and it will be housed so as to cause Negligible impacts.

Operational traffic noise

15.3.8. During operation, it is anticipated that on Site vehicles will be limited to disabled parking and deliveries to the Site. These will be limited to the under-croft area. There is potential that some activities may be required outside of standard working hours, although these will likely be minimal. The existing road network holds significant numbers of vehicles and generates high noise levels as seen in Figure 15-2 and Figure 15-3. An increase of approximately 20% road traffic is required to get a Minor increase of 1dB according to DMRB. It is unlikely that the Site will add significantly large amount of traffic to trigger this threshold, but further assessment will be scoped into the EIA to ensure that no significant impacts occur due to the potentially large number of HGVs.

15.4. Proposed scope of assessment

15.4.1. During the EIA, the following scope of works is proposed:

- Review and reporting of the existing baseline data and existing noise monitoring information to aid in the identification of appropriate noise limits from the proposed Site.
- Review of construction phasing, proposed equipment, and working times to enable calculations of the potential noise impacts.
- Review of construction activities to identify vibration inducing activities and calculate vibration levels to understand where possible impacts may occur.
- Review any available construction traffic data to understand any potential impacts due to HGV site visits.
- An assessment of any known fixed plant that may be introduced to the Site during the operational phase to understand any potential impacts on local NSRs. If the details of fixed plant are not available, then noise limits will be advised for the Site boundary and at noise sensitive receptors to ensure that impacts are mitigated as far as practicable.
- Where appropriate, proposals for mitigation will be included for both construction and operational phases to reduce any predicted impacts as far as practicable.

15.5. Assessment methodology

15.5.1. The potential noise and vibration impacts associated with the Proposed Development will be assessed in accordance with the guidance given in:

- BS 5228 1+2:2009 +A1:2014 Code of practice for noise and vibration control on construction and open sites (BS 5228) [218]
- Design Manual for Road and Bridges (DMRB) LA 111 'Noise and Vibration'[219]
- BS 4142:2014 +A1:2019 Methods for rating and assessing industrial and commercial sound
- Manchester City Council Planning and Noise Technical Guidance
- ANC BS 4142 Technical Note
- ISO 9613: 1996 Acoustics — Attenuation of sound during propagation outdoors — Part 2: General method of calculation

Construction phase

15.5.2. The construction noise, construction vibration and construction traffic assessments will be undertaken using their relevant study areas. The study areas are defined in line with the standard provided in with BS 5228.

15.5.3. The guidance indicates that construction noise predictions tend to be accurate to a distance of 300m, at which point atmospheric conditions can play a significant effect. In terms of vibration DMRB LA 111 states that *"a study area of 100m from the closest construction activity with the potential to generate vibration is normally sufficient to encompass vibration sensitive receptors"*.

Construction noise

15.5.4. The details of the proposed construction methods and programme are not available at this stage. It is understood that heavy construction works such as excavations and piling works will be undertaken. The assessment will include construction activity calculations in accordance with guidance in BS 5228 'Code of practice for noise and vibration control on construction and open sites, Part 1: Noise. The assessment methodology will comprise predicting the sound pressure level at different distances from the Site boundary based available construction information.

15.5.5. For the identification of potential impacts, the predicted construction noise levels in dB $L_{Aeq,T}$ are proposed to be compared with the relevant lowest-observed-adverse-effect level (LOAEL) and significant observed adverse effect level (SOAEL) from the Table 15-4 below.

Table 15-4 – Construction noise LOAEL and SOAEL values

[218] British Standards Institution (2014). BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Parts 1 + 2

[219] Highways England, (2020), Design Manual for Roads and Bridges – LA 111 – Noise and Vibration, Standards for Highways.

Time period	LOAEL	SOAEL
Day 0700-1900 weekdays & 0700-1300 Saturdays	Baseline noise levels $L_{Aeq,T}$	Threshold level determined as per BS 5228-1 Section E3.2 and Table E.1 BS 5228-1. These have been reproduced in Table 15-5
Night 23:00-07:00	Baseline noise levels $L_{Aeq,T}$	Threshold level determined as per BS 5228-1 Section E3.2 and Table E.1 BS 5228-1 These have been reproduced in Table 15-5
Evening and Weekends All time periods not covered above	Baseline noise levels $L_{Aeq,T}$	Threshold level determined as per BS 5228-1 Section E3.2 and Table E.1 BS 5228-1 These have been reproduced in Table 15-5

15.5.6. The LOAEL will be determined using baseline noise levels. The baseline noise level will be identified based on the existing noise survey data. The LOAEL represents the lowest noise level at which the detectable onset of an adverse effect can occur. The SOAEL represents the noise level that, if exceeded, has the potential to result in a significant effect, depending on duration and context.

15.5.7. SOAEL values are proposed to be identified using the ABC methodology outlined in BS 5228-1 (Section E3.2). Using the ABC method (see Table 15-5 below), SOAEL values will be generated using the baseline noise levels, characterised for daytime, evening, and night-time periods. A potential significant effect is indicated if the noise level in $L_{Aeq,T}$ arising from the works exceeds the threshold level for the Category appropriate to the ambient noise level.

Table 15-5 – The ABC method – BS 5228-1

Assessment category and threshold value period	Threshold value, in decibels (dB) ($L_{Aeq,T}$)		
	Category A	Category B	Category C
Night-time (23:00-07:00)	45	50	55
Evening and weekends	55	60	65
Daytime (07:00 – 19:00) and Saturdays (07:00-13:00)	65	70	75

Note 1 A potential significant effect is indicated if the $L_{Aeq,T}$ noise level arising from the site exceeds the threshold level for the Category appropriate to the ambient noise level.

Note 2 If the ambient noise level exceeds the Category C threshold values given in the table (i.e. the ambient noise level is higher than the above values), then a potential significant effect is indicated if the total $L_{Aeq,T}$ noise level for the period increases by more than 3 dB due to site noise.

Note 3 Applied to residential receptors only.

A) Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values.

B) Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as Category A values.

C) Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than Category A values.

D) 1900-2300 weekdays, 1300-2300 Saturdays and 0700-2300 Sundays. Source: Table E.1, BS 5228-1

15.5.8. A significant effect is determined for construction noise where "a major or moderate magnitude of impact will occur for a duration exceeding:

1) *either 10 or more days or nights in any 15 consecutive days or nights; or*
2) *a total number of days exceeding 40 in any 6 consecutive months*".

Construction vibration

15.5.9. Construction vibration calculations will be undertaken in accordance with guidance in BS 5228 'Code of practice for noise and vibration control on construction and open sites, Part 2. Based on the DMRB LA 111, the significance of effect considers the magnitude of the vibration and whether threshold levels for the LOAEL or SOAEL are exceeded. Table 15-6 below shows the vibration LOAEL and SOAEL values stated in the DMRB LA 111.

Table 15-6 – Construction vibration LOAELs and SOAELs for all receptors

Threshold level	Vibration level (PPV)	Effect
LOAEL	0.3 mm/s	Vibration might be just perceptible in residential environments
SOAEL	1.0 mm/s	It is likely that vibration of this level in residential environments will cause complaint, but can be tolerated

15.5.10. To assess the magnitude of impact of construction vibration, reference will be made to DMRB LA 111, Table 3.33. This is reproduced below in Table 15-7 below. 'Moderate' and Major' magnitudes of impact are considered to represent an exceedance of the threshold for a SOAEL. 'Minor' magnitudes of impact are considered to represent the threshold of a LOAEL however, construction vibration may still be perceptible when predicted to be below the LOAEL.

Table 15-7 – Magnitude of impact of vibration levels

Magnitude of Impact	Vibration level
Major	Above or equal to 10 mm/s PPV
Moderate	Above or equal to SOAEL and below 10 mm/s PPV
Minor	Above or equal to LOAEL and below SOAEL
Negligible	Below LOAEL

Source: Table 3.33, DMRB LA 111

15.5.11. A significant effect attributed to construction vibration is determined as described in paragraph 15.5.8.

15.5.12. Any major vibration levels are considered a significant effect irrespective of duration of activities and should be avoided.

Construction traffic noise

15.5.13. The construction traffic noise levels are proposed to be determined using methodology given in the 'Calculation of Road Traffic Noise', 1988 (CRTN).

15.5.14. For the construction traffic assessment, the approach proposed is to identify the maximum number of additional heavy vehicles which would result in noise increases of negligible impact, when compared with Do Minimum Opening Year (DMOY) noise levels. According to the DMRB LA 111, road traffic noise changes that are of negligible impact are unlikely to alter behaviour or responses to noise and as such, will not give rise to a likely significant effect.

15.5.15. Reference is made to DMRB LA 111 (Tables 3.16 and 3.17) to identify the magnitude of impact on receptors. This is reproduced in Table 15-8 below.

Table 15-8 – Magnitude of impact and construction noise descriptions

Magnitude of impact	Construction noise level ($L_{Aeq,T}$)	Change in construction traffic noise level ($L_{A10,18h}$)
Major	Greater than or equal to the SOAEL +5 dB	Greater than or equal to 5 dB

Moderate	Greater than or equal to the SOAEL and below the SOAEL +5 dB	Greater than or equal to 3 dB and less than 5 dB
Minor	Greater than or equal to the LOAEL and below the SOAEL dB	Greater than or equal to 1 dB and less than 3 dB
Negligible	Below the LOAEL	Less than 1 dB

Source: Tables 3.16 and 3.17, DMRB LA 111

15.5.16. A significant effect is determined for construction traffic noise is determined as described in paragraph 15.5.8.

Operational phase

15.5.17. The operational noise and operational traffic assessments will be undertaken using a 1km study area based on ISO 9613 with primary focus on the nearest NSR's.

Fixed plant noise

15.5.18. This assessment will be undertaken with reference to BS 4142:2014+A1:2019 "Methods for rating and assessing industrial and commercial sound" (BS 4142:2014 +A1:2019) and the ANC BS 4142 Technical Note.

15.5.19. This standard describes methods for rating and assessing sound of an industrial and/or commercial nature and uses outdoor sound levels to assess the likely effects of sound on people who might be inside or outside a dwelling or premises used for residential purposes upon which sound is incident.

15.5.20. The procedure assesses the significance of sound which depends upon the margin by which the rating level of the specific sound sources exceeds the background sound level and the context in which the sound occurs / will occur.

15.5.21. The assessment method will consider the characteristics of the sound, such as tonality, impulsivity, intermittency and other sound characteristics. Corrections are applied at the receptor location to account for these characteristics in order to obtain the rating noise level; the corrections account for acoustic features which have the potential to increase disturbances and can be derived using the subjective, objective or reference methods as appropriate.

15.5.22. Following the subjective method for tonal sources, a character correction of up to 6dB may be applied. For impulsive sources, a character correction of up to 9dB may be applied. For intermittent sources, a character correction of up to 3dB may be applied, and for other sound characteristics where the specific sound source is neither tonal or impulsive, though otherwise readily distinctive against the residual acoustic environment, a character correction of up to 3dB may be applied. Should a source require multiple character corrections these are arithmetically summed together.

15.5.23. An initial estimate of the impact of the sound source is obtained by subtracting the measured background sound level from the rating level and considering the following:

- "Typically, the greater this difference, the greater the magnitude of the impact.
- A difference of around +10dB or more is likely to be an indication of a significant adverse impact, depending on the context.
- A difference of around +5dB is likely to be an indication of an adverse impact, depending on the context.
- The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context".

15.5.24. Once an initial estimate of impact has been calculated, context must be considered where appropriate. The context should include the absolute level of sound, the character and level of the residual sound and the sensitivity of the receptor.

15.5.25. These levels shall be used to define the LOAEL and SOAEL during the EIA, as shown in Table 15-9.

Table 15-9 – Operational noise LOAEL and SOAEL criteria

Category	Criteria
LOAEL	+5dB above typical Background Noise Level (L_{A90})
SOAEL	+10dB above typical Background Noise Level (L_{A90})

15.5.26. To assess the magnitude of impact of operational noise, reference will be made to BS 4142 and Manchester City Council Planning and Noise Technical Guidance, which states that *'[t]he development should be 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.'* The criteria levels to used are given in Table 15-10.

Table 15-10 – Magnitude of impact

Magnitude of impact	Criteria level
Major	Above SOAEL
Moderate	Above or equal LOAEL and below SOAEL
Minor	5dB below typical Background Noise Level (L_{A90}) to LOAEL
Negligible	5dB below typical Background Noise Level (L_{A90})

Operational road traffic noise

15.5.27. The operational traffic noise levels are proposed to be determined using methodology given in the CRTN.
For the operational traffic assessment, the approach proposed is to identify the maximum number of additional heavy vehicles which would result in noise increases of negligible impact, when compared with DMOY noise levels. According to the DMRB LA 111, road traffic noise changes that are of negligible impact are unlikely to alter behaviour or responses to noise and as such, will not give rise to a likely significant effect.

15.5.28. Reference is made to DMRB LA 111 (Tables 3.16 and 3.17) to identify the magnitude of impact on receptors. This is reproduced in Table 15-8 above.

15.6. Proposed mitigation

15.6.1. At this time detailed mitigation options cannot be assessed and will be investigated further during the EIA. However, the industry best practice measures described in BS 5228 1+2:2009 +A1:2014 will be undertaken as standard, and included in the Outline CEMP.

15.6.2. Operational plant should be chosen to minimise noise impacts where practicable. Where possible external plant should be acoustically screened to minimise noise impacts, especially during the night-time period. This should be further investigated as the design progresses.

16. Socio-economics

16.1. Planning policy and legislation

16.1.1. The following planning policy and legislation has been considered within this scoping exercise and will be taken forward for the Socio-economic assessment within the ES:

- National Planning Policy Framework (2021)[220]
- Levelling Up White Paper (2022)[221]
- Levelling Up and Regeneration Bill (2023)[222]
- The Town and Country Planning (Brownfield Land Register) Regulations (2017)[223]
- The Northern Powerhouse (2016)[224]
- Greater Manchester Local Enterprise Partnership (LEP) Local Industrial Strategy (2019)[225]
- Greater Manchester Strategy (2021)[226]
- Places for Everyone (March 2024)[5]
- Manchester's Core Strategy 2012 – 2027[3]
- Ancoats and New Islington Neighbourhood Development Framework (2016)[227]

16.2. Summary of baseline conditions

16.2.1. Prior to considering the socio-economic effects, it is necessary to establish a clear understanding of baseline socio-economic conditions within the geographical areas relevant to the Site. It's worth noting that the baseline Site is vacant and therefore does not contribute to socio-economic indicators. Trends in key socio-economic indicators will be analysed and compared to national conditions.

16.2.2. The socio-economic assessment will detail existing local socio-economic conditions, including a full analysis of the following issues:

- Population
- Employment/Unemployment
- Labour Market
- Deprivation
- Business numbers and startups

16.2.3. As part of the baseline analysis consideration will be given to how the baseline would evolve in absence of the Proposed Development, albeit recognising the impact of wider macro-economic factors.

16.2.4. Baseline data will be collected from the following key indicator groups based on area of impact and comparators. This data will be used to enable a comparison of baseline socio-economic conditions for the local area with the region and national benchmarks. An initial snapshot is presented in Table 16-1 below.

[220] National Planning Policy Framework (publishing.service.gov.uk)
[221] Levelling Up White Paper (high-res edition)
[222] Levelling-up and Regeneration Bill (parliament.uk)
[223] The Town and Country Planning (Brownfield Land Register) Regulations 2017 (legislation.gov.uk)
[224] The Northern Powerhouse (parliament.uk)
[225] gm-local-industrial-strategy-web.pdf (greatermanchester-ca.gov.uk)
[226] GMCA Greater Manchester Strategy 2021–2031 (aboutgreatermanchester.com)
[227] Ancoats and New Islington | Manchester City Council

Table 16-1 – Baseline data

Socio-Economic Indicator	Combined Wards (Piccadilly and Ancoats and Beswick)	Manchester City	Manchester Travel to Work Area	England
Demographics				
Resident population (2021)	26,476	443,500	2,192,600	56,490,045
Working age population (16-64) (2021)	23,230	391,200	1,757,500	35,605,651
Economic activity				
Economically active (2022)	53%	66%	63%	63%
In employment (2022)	51%	62%	60%	61%
Unemployed (2022)	5.2%	4%	3%	2%
Employment by occupation				
SOC 1-3	67%	61%	52%	52%
SOC 4-6	17%	16%	25%	27%
SOC 7-9	16%	23%	23%	21%
Qualifications				
NVQ 4	62%	38%	34%	34%
NVQ 3	15%	18%	18%	17%
NVQ 2	6%	10%	17%	13%
NVQ 1	3%	8%	6%	10%
Other qualifications	2%	3%	3%	3%
No qualifications	10%	20%	10%	18%
Earnings				
Annual Earnings By place of residence	-	29,080	28,596	33,208
Annual Earnings By place of work	-	34,057	28,797	33,197

16.3. Key issues and potential likely impacts

16.3.1. It is anticipated that the Proposed Development will result in a range of potentially significant socio-economic impacts during both the construction and operational phases. These impacts may occur as a direct result of the Proposed Development or indirectly, for example through supply chain and employee expenditure within the local economy.

16.3.2. There will also be consideration of the impact on the local community and labour force through both the construction and operational phase.

Construction phase

16.3.3. The socio-economic assessment will consider the following potential impacts during the construction phase:

- Temporary employment generated through construction of the Proposed Development. This will include direct employment associated with the Site, as well as indirect and induced employment (multiplier effects) from supply chain expenditure and the expenditure in the local economy of workers employed during the construction phase.

- Short-term increase in local and regional economic output (gross value added, GVA) in line with the temporary employment impact. This will again take account of the direct, indirect, and induced economic output impact during the construction phase.
- Creation of training and apprenticeship opportunities for the local community during the construction phase.
- Wider socio-economic impacts. This will include those impacts, which although difficult to quantify, are important in understanding the overall socio-economic effect of the Proposed Development. For example, consideration will be given to wider impacts such as image and perceptions of the local area and crime/security.
- Social value. This will include those impacts related to the positive value to society generated through the construction phase that goes beyond business as usual. These will consider social, economic and environmental benefits.

Operation phase

16.3.4. The socio-economic assessment will consider the following potential impacts during the operational phase:

- Creation of direct, indirect, and induced long-term employment opportunities from the proposed uses on the Site.
- Creation of additional spend, supporting wider off-site employment within the Manchester economy.
- Long-term increase in economic output (GVA) resulting from the direct, indirect, and induced impacts of the Proposed Development during the operational phase.
- Increase in business rate revenue generated due to the provision of new employment floorspace on the Site.
- Creation of training and apprenticeship opportunities for the local community during the operational phase.
- Effect on local labour market, specifically in terms of employment opportunities generated by the Proposed Development for residents of Manchester.
- Wider socio-economic impacts. Consideration will be given to wider positive impacts of the Proposed Development such as: image, and perceptions of the local area; and catalytic regeneration effects that will underpin the long-term regeneration plans for Manchester.
- Social value. This will include those impacts related to the positive value to society generated through the operational phase that goes beyond business as usual. These will consider social, economic and environmental benefits.

16.4. Proposed scope of assessment

16.4.1. The assessment of socio-economic impacts will include:

- A review of the strategic policy context to provide an outline of the relevant national and subnational / local social and economic objectives of the area.
- Identification of the impact area, in relation to each potential socio-economic impact, for the assessment of the Proposed Development.
- A desktop review of all publicly available information on current socio-economic and labour market conditions in the study area to establish the baseline using accepted Government sources, such as the Census and Office for National Statistics (ONS) data, including the baseline indicator groups and assembled data outlined above.
- Assessment of likely significant socio-economic effects of the Proposed Development during the construction and operational phases based on sensitivity value of receptor and magnitude of effect.
- A review of possible social value interventions, during both the construction and operational phase, which will consider strategic priorities and socio-economic context for the study area. This is likely to include local labour agreements, utilising the local supply chain and supporting local communities with employment and skills opportunities.

- Recommendation of mitigation measures where necessary.
- Assessment of significance of residual effects assuming that the mitigation measures are implemented.
- Identification of likely significant additive / cumulative effects regarding other consented schemes in the local area.
- Consideration of synergistic effects including the intra-project interaction of socio-economic effects with other ES topic areas.

16.5. Assessment methodology

Study area

16.5.1. Socio-economic impacts can be assessed with reference to a spectrum of spatial scales, ranging from the immediate local catchment through to the wider, sub-regional scale. The study area is also influenced by the availability of baseline data which may not always be available down to a local catchment area level.

16.5.2. In the case of the Proposed Development, the study area would reflect the Site's anticipated immediate local catchment ((Piccadilly and Ancoats and Beswick wards). The wider study area will cover the administrative area of Manchester City as well as Manchester Travel to Work area to recognise the real-life employment linkages between the city centre and its surroundings.

Assessment of impacts

16.5.3. Qualitative and quantitative assessments will be undertaken in line with assessment methodologies from published guidance, including:

- Homes and Communities Agency's (HCA's) Additionality Guide and Employment Densities Guide
- HCA's Calculating Cost Per Job Best Practice Note
- The Department of Communities and Local Government (DCLG) Appraisal Guide
- Department for Business, Innovation and Skills (BIS)
- Professional judgement when required for assumptions used in approach.

16.5.4. The key to determining the socio-economic effects of the Proposed Development will be establishing its net additional impact or 'additionality' compared to the Reference Case. This is the extent to which activity takes place at all, on a larger scale, earlier or within a specific designated area or target group as a result of the intervention.

16.5.5. In order to assess the additionality of the Proposed Development, the following steps outlined in Figure 16.1 below will be followed.

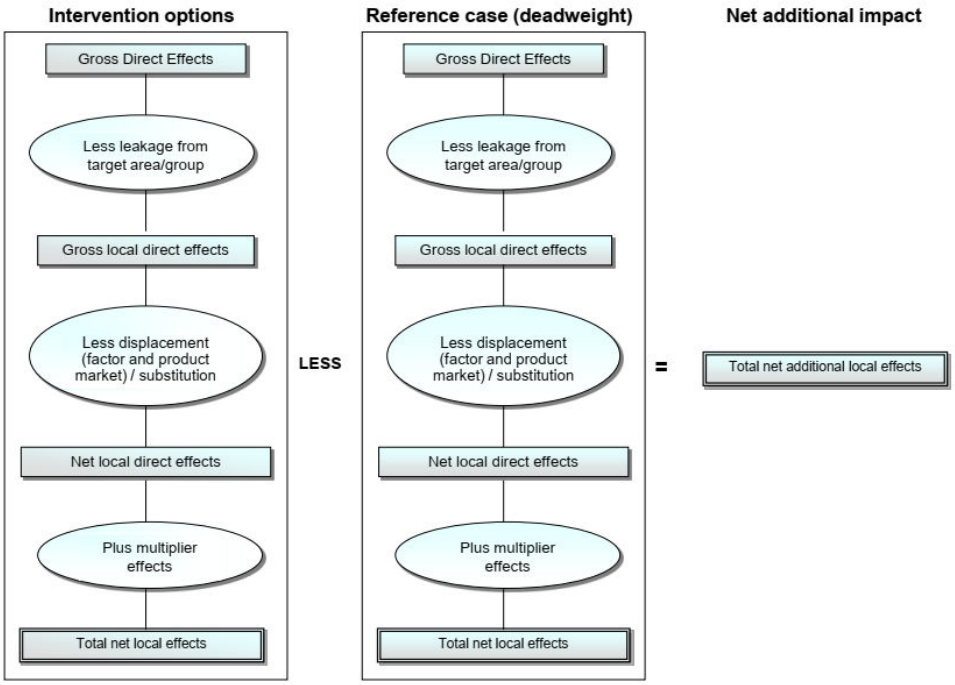


Figure 16-1 – Net additionality impact steps[228]

16.5.6. The key concepts included in the approach above are:

- Gross Direct employment effects – these will be estimated based on the cost of the project (for construction-phase employment) and commercial floorspace delivered (for operation-phase employment).
- Leakage – the proportion of outputs that benefit those outside of the area of impact.
- Displacement – the proportion of outputs accounted for by reduced outputs elsewhere in the area of impact. Displacement may occur in both the factor and product markets.
- Multiplier effects – further economic activity associated with additional local income and local supplier purchases.
- Deadweight – outputs which would have occurred without the Proposed Development. This is referred to as the reference case.

16.5.7. The above approach to assessing the additional impact of a project is consistent with central Government guidance for physical development projects, including the recently published Appraisal Guide (2016) by the DCLG.

16.5.8. In the absence of specific technical criteria to determine the significance of socio-economic impacts, the assessment will take into account the profile of the area established through the baseline and apply professional judgement informed by experience. In addition to the magnitude, the duration of impact will also be taken into account with the impacts ranging from those that are likely to be temporary or permanent.

16.6. Proposed mitigation

16.6.1. The socio-economic assessment will also explore the scope for mitigation and enhancement measures which could add value to the local economy and community, these may include training and employment support measures e.g., ensuring local people are aware in advance of job opportunities through targeted advertisement at education institutions.

16.6.2. Local labour agreements will be used to prioritise the local supply chain and support local communities with employment and skills opportunities.

[228] The Department of Communities and Local Government (DCLG) Appraisal Guide

17. Townscape and Visual

17.1. Planning policy and legislation

17.1.1. The following planning policy and legislation has been considered within this scoping exercise and will be taken forward for the Townscape and Visual Impact Assessment within the EIA:

- Planning (Listed Buildings and Conservation Areas) Act 1990
- National Planning Policy Framework ('NPPF'), September 2023
- Planning Practice Guidance ('PPG'), live on-line resource
- Manchester's Core Strategy 2012 – 2027[3]
- Places for Everyone (March 2024)[5]
- Saved Policies of Manchester Extant Unitary Development Plan ('UDP'), July 1995

17.2. Summary of baseline conditions

17.2.1. The Site lies to the east of Manchester city centre, within the area known as New Islington. The Site's boundaries are formed by Great Ancoats Street to the southwest, the Rochdale Canal towpath and waterbody to the northwest, the Co-op Academy New Islington Primary School and grounds and Cotton Field Park to the northeast, the eastern half of the former Central Retail Park to the southeast.

17.2.2. The Site currently comprises of a large, vacant area of hardstanding resulting from the demolition and clearing of the previous Central Retail Park buildings in 2018. The outline of the former building footprints is still legible, as is the former car parking area to the southern and western edges of the Site. Poor quality vegetation and a boundary fence edge the Site's interface to the north, south and west, where views into the Site from the public realm are obtained.

17.2.3. The townscape context in which the Site exists is highly varied. To the northwest lies the historic industrial area of Ancoats comprising well-preserved warehouse buildings fronting the canal and knitting together in a tight urban grain with a consistent scale and material palette. To the north of the Site lies New Islington Marina which utilises the former industrial waterbody to provide an area of landscaped public realm which gives way to contemporary residential development to the north and east and which takes different forms including large apartment blocks and fine grain terraces reminiscent of Victorian workers' housing. This area is subject to continual change as further redevelopment and regeneration ensues. The townscape to the south is less consistent, comprising remnants of the former industrial townscape alongside modern commercial and residential buildings, as well as late 20th century industrial warehouses with open yards of hardstanding or car parking. The scale here is varied too, with medium and tall developments sitting alongside single and two storey buildings.

17.2.4. The character and experience of the townscape local to the Site is largely informed by Great Ancoats Street which comprises of six carriageways and is heavily trafficked; the road has a negative severing effect between the Site and the townscape to the south and creates a hostile pedestrian environment along the Site's southwestern boundary.

17.2.5. The Site does not contain any designated heritage assets, nor does it fall within the boundary of a Conservation Area. At the time of writing, MCC have not prepared and published a list of local heritage assets (buildings or structures considered to be of local heritage importance), and as such there are no such non-designated heritage assets within the Site boundary. There are, however, a number of sensitive heritage assets within the immediacies of the Site, including the Ancoats Conservation Area which meets the Site's north-western frontage to the Rochdale Canal, as well as a number of Grade II* and II listed buildings which face the Site from Redhill Street and group of historic listed mills located along the Rochdale Canal. The local and wider setting of the Site includes further designated heritage assets.

17.2.6. The Heritage Assessment is provided in Chapter 7 and is independent from the TVIA, however, given the sensitivity of the heritage context and its contribution to the quality, character, and corresponding sensitivity of the townscape and visual context, it is an important consideration in the TVIA.

17.2.7. A detailed assessment of the townscape character of the Site and its surroundings will form part of the baseline assessment within the TVIA.

17.3. Key issues and potential likely impacts

Construction phase

17.3.1. The construction phase of the Proposed Development has the potential to change the existing townscape character of the area and views to and from the Site. The physical effects related to this phase of works would include dust, noise, vibrations, hoardings, the presence of construction traffic, and a general increase in the level of activity on the Site related to the construction of new buildings.

17.3.2. Whilst the activity associated with the construction of the Proposed Development has the potential to result in some significant effects upon receptors, these effects will be temporary and be ongoing for the duration of this phase only.

Operation phase

17.3.3. The Site and its townscape character will be affected by the Proposed Development through the provision of new buildings of considerable scale and mass, the introduction of public realm and landscaping, and the injection of a new use as commercial office space with elements of retail. Given the Site's currently vacant and dilapidated condition, it is highly likely that the Proposed Development will give rise to significant effects upon its townscape character. The current openness of the Site means that there are views across the Site from Great Ancoats Street and Old Mill Street towards the historic mill buildings (all listed at Grade II* or II) which front Redhill Street to the west. The injection of new built form of considerable scale and mass into the Site will inevitably impact upon the nature of these views, the character of the local townscape, and an appreciation of the heritage assets including and group of historic listed assets located along the Rochdale Canal. The nature of these impacts will be addressed in the subsequent Townscape and Visual ES Chapter.

17.3.4. Likewise, local, and wider townscape views into and across the Site will inevitably be materially affected by the introduction of new buildings into the Site. Initial massing testing presented in the form of a Zone of Theoretical Visibility (ZTV) has suggested that visibility of the Proposed Development (at heights broadly in line with what is presented in the Chapter 2 of this Scoping Report) will largely be localised and experienced along the linear alignment of Great Ancoats Street, with more fleeting and glimpsed views of the new built form experienced from other discrete locations in the wider townscape. It is likely that the experience of the Proposed Development in the wider townscape will be informed by the level of separating distance and the effect of screening interposing buildings and foliage.

17.3.5. The nature and extent of the effects of the Proposed Development on townscape and visual receptors surrounding the Site will be determined through the TVIA.

17.4. Proposed scope of assessment

17.4.1. The TVIA will address the potential impact of the Proposed Development on townscape and visual receptors, the details of the scope of assessment are set out in Section 17.5.

17.4.2. Due to the scale of the proposed massing and the nature of Manchester's townscape in the locality of the Site, is it considered that the Proposed Development is unlikely to result in any significant effects on townscape receptors outside an area of 500m from the Site boundary.

17.4.3. Given the current undeveloped nature of the Site, existing views that take in the Site are largely restricted to its locality. The uplift in scale on the Site means that it is highly likely the Site will be visible to a greater extent from within the local and wider townscape.

17.4.4. The proposed viewpoints for inclusion in the TVIA have been chosen following review of the ZTV and the identified sensitive receptors within the locations of visibility. The viewpoints are plotted on the map in Figure 17-1 below and detailed in Table 17-1 below.



Figure 17-1 – Proposed viewpoint locations plan

Table 17-1 – Proposed viewpoint locations

Viewpoint number	Viewpoint location
1	Looking south-east towards the Site from the junction of Jersey Street and Murray Street.
2	Looking south-west along Redhill Street at its junction with Bengal Street, taking in the historic street elevations.
3	Looking south-east directly into the Site from the junction of Henry Street and Redhill Street.
4	Looking north-east toward the Site from the Rochdale Canal towpath, taking in the side elevation of Brownsfield Mill.

5	Looking south-west towards the Site from open area of public realm in Cotton Field Park.
6	Looking south-west towards the Site from public realm at New Islington Marina Prom.
7	Looking north-west along Great Ancoats Street from point at which road bridges Ashton Canal.
8	Looking north-east towards the Site at the junction of Tariff Street and Brewer Street.
9	Looking south-east towards the Site from the south pavement of Great Ancoats Street near junction with Higher Oswald Street.
10	Looking south-west towards the Site from junction of Lower Vickers Street and Butler Street.
11	Looking south-west towards the Site from junction of Ridgeway Street and Layton Street.
12	Looking east into the Site from the south pavement of Great Ancoats Street, adjacent to entry to Binns Place.
13	Looking north-west across the Site from the junction of Oldmill Street and Great Ancoats Street.

17.5. Assessment methodology

17.5.1. The townscape baseline assessment will inform the identification of a series of townscape character areas i.e., geographical areas which have readily identifiable characteristics in common (townscape receptors). The baseline conditions of each townscape character area will be described in terms of their: quality (in relation to their built form, materials, and maintenance); value (in terms of statutory and non-statutory designations); and sensitivity (reflected in the degree or capacity to which a particular character area is able to accommodate change without adverse effects on its character). The identification of townscape character areas will be informed by Site survey work and any relevant supplementary planning documents such as local character appraisals.

17.5.2. The baseline visual effects assessment will establish locations from which the Site is visible and from which views have the potential to be affected by the Proposed Development (views presented above and to be agreed in discussion with MCC). Within the baseline stage, the groups of people (visual receptors) who are likely to experience views to the Site will be identified, such as residents, users of public open spaces, transport routes, whose visual amenity might be affected by the Proposed Development. Representative viewpoint locations from publicly accessible areas will be identified from a proportion of the visual receptors that are likely to be affected by the Proposed Development.

17.5.3. A series of proposed representative viewpoint locations have been identified to inform the assessment of townscape and visual effects. The proposed representative viewpoint locations are provided above in Figure 17-1 and Table 17-1 for comment and agreement from MCC.

17.5.4. The baseline assessment will determine the sensitivity of the identified townscape and visual receptors to changes of the type proposed.

17.5.5. An assessment of the effects of the Proposed Development on townscape and visual receptors are closely related but separately assessed, the former relating specifically to the townscape as a resource and its overall character and the latter relating to views and the visual amenity of people.

17.5.6. The assessment of townscape and visual effects will be informed by the principles set out in the third (2013) edition of the Guidelines for Landscape and Visual Impact Assessment (GLVIA3),

produced by the Landscape Institute and Institute of Environmental Management and Assessment. The GLVIA3 states that assessment work needs to respond to the particular context in which it takes place and defines townscape as being "areas where the built environment is dominant" (Para. 2.7). The principles in GLVIA3 are best suited to assessing landscape rather than townscape and so they only form a general guide to the method of assessment. As such, the assessment will also consider the relevant design guidance in the PPG and guidance included within Historic England's guidance on setting and tall buildings[229].

17.5.7. For each of the final agreed representative viewpoints, the assessment will include images of the view as existing, as proposed and the Proposed Development in combination with surrounding cumulative schemes as wirelines. The images will take the form of Accurate Visual Representations (AVRs), also known as Verified Views, produced by accurately combining a three-dimensional model of the Proposed Development with a baseline photograph of the view. The AVRs will be prepared by a specialist visualisation company and a detailed methodology of their production will be included as an appendix to the Townscape and Visual Impact Assessment (TVIA).

17.5.8. Informed by a thorough understanding of the Proposed Development, the assessment will determine the magnitude of change that would be experienced by each receptor for both the construction and operation phases. The sensitivity and magnitude of change for each receptor will be combined to give a level of effect and a conclusion will be drawn as to whether the effects are significant or not for both the construction and operation phases. The assessment will be based on professional judgement, however, tabulated criteria for identifying sensitivity, magnitude of change and the significance and type of effect will inform the assessment where relevant.

Cumulative effects

17.5.9. An overall assessment of cumulative effects i.e., of the effect of the Proposed Development taking into account other proposed and consented schemes, will also be provided in relation to townscape and views. The approach to cumulative assessment will be to focus on the additional effects of the Proposed Development on top of the cumulative baseline. This assessment will be based on consideration of relevant surrounding cumulative developments in the selected Verified Views, represented in wireline (AVR Level 1) form where visible.

17.5.10. For the purpose of the scoping exercise, we invite MCC to advise on which cumulative developments they consider necessary for inclusion within the Verified Views.

17.6. Proposed mitigation

17.6.1. The mitigation of any potential impacts should be considered through the design of the Proposed Development and will therefore be 'embedded'.

17.6.2. Townscape considerations have been and will continue to be integral to the design of the proposals. Enlisting appropriate specialists and consultation with the relevant stakeholders has and will inform the design development and assessment process to ensure potential adverse impacts are minimised.

17.6.3. The identification of key viewpoints, through Zone of Visual studies, provide an objective evidence base on which informed conclusions can be made. This has been one of the principal factors in identifying where impact may occur, and therefore allowing for an understanding of how best to minimise and mitigate harm.

17.6.4. Consideration will also be given to the Public Benefits that will be delivered by the Proposed Development.

[229] Historic England, *The Setting of Heritage Assets* (December 2017), and Historic England *Advice Note 4: Tall Buildings* (December 2022).

18. Transport

18.1. Planning policy and legislation

18.1.1. The following planning policy and legislation has been considered within this scoping exercise:

- National Planning Policy Framework, July 2021[230]
- Greater Manchester Transport Strategy 2040[231]
- Manchester City Council Local Plan[232]
- Places for Everyone (March 2024)[5]
- City Centre Transport Strategy to 2040: Getting from A to Bee[233]
- Greater Manchester: Electric Vehicle Charging Infrastructure Strategy[234]

18.2. Summary of baseline conditions

Vehicular access

18.2.1. The Site is bounded to the southwest by A665 Great Ancoats Street which is a main arterial route to the north of Manchester city centre. It takes a southeast/ northwest trajectory. It is largely two lanes in each direction with a 30mph speed limit and provides access further to the east, to the A57(M) to the south and the A62 Oldham Road and other roads to the north and further west. It is part of a ring road around the city centre. Old Mill Street runs along the southeastern boundary of the Site. Old Mill Street is subject to 20mph restrictions and allows access from A665 Great Ancoats Street to A6010 Alan Turing Way to the east.

18.2.2. The existing vehicle access points to the Site are shown in Figure 18-1. The main access point to the former use on A665 Great Ancoats Street remains, still receiving a traffic signal, although physically blocked off. Similarly, the access point off Old Mill Street next to the pharmacy and Co-op Academy New Islington Primary School access also remains in place and blocked-off.

[230] National Planning Policy Framework - GOV.UK (www.gov.uk)
[231] Greater Manchester Transport Strategy 2040 | Transport for Greater Manchester (tfgm.com)
[232] Local Plan | Local Plan | Manchester City Council
[233] City Centre Transport Strategy | Transport for Greater Manchester (tfgm.com)
[234] Greater Manchester's EV charging strategy | TfGM Electric Travel

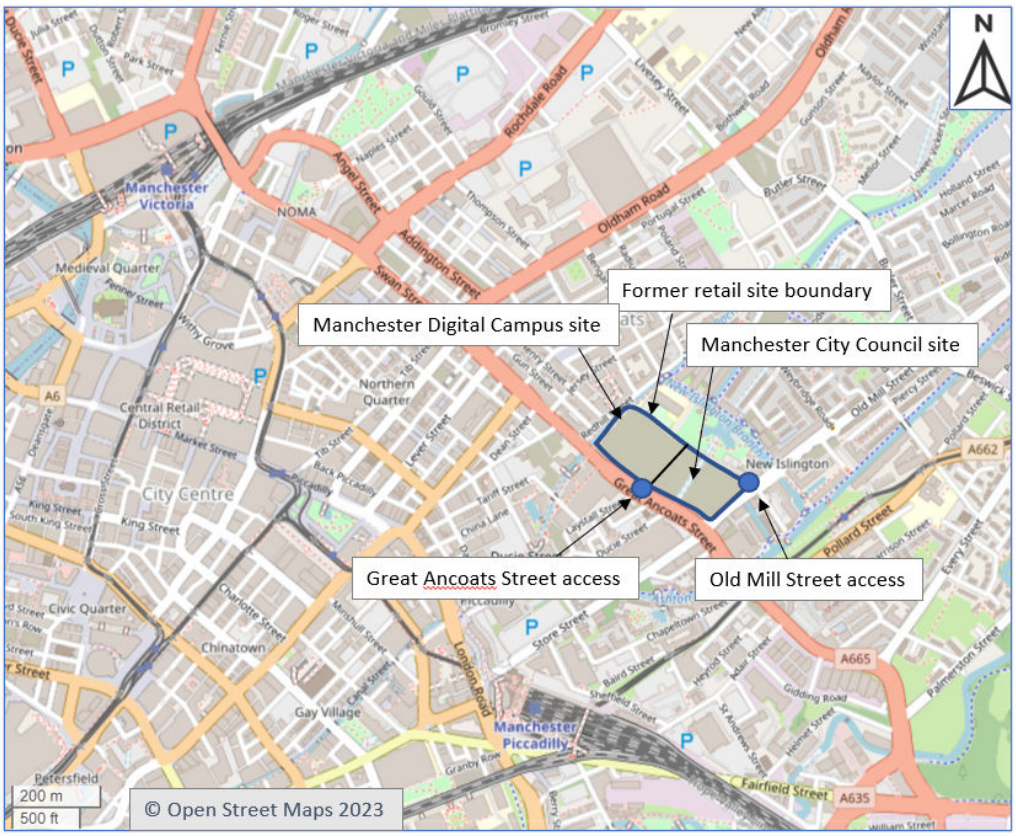


Figure 18-1 – Vehicle access points

Public transport opportunities - general

18.2.3. There are ample public transport opportunities in the vicinity of the Site. The nearest bus and metro/tram stop, and train stations are shown in Figure 18-2. The metro is a tram service marketed as Metrolink.

18.2.4. Shudehill Interchange and Piccadilly Gardens are also major bus hubs.

18.2.5. The closest tram stop is New Islington on the Ashton-under-Lyne line; however the other tram stops are also within reasonable walking distance considered in more detail below.

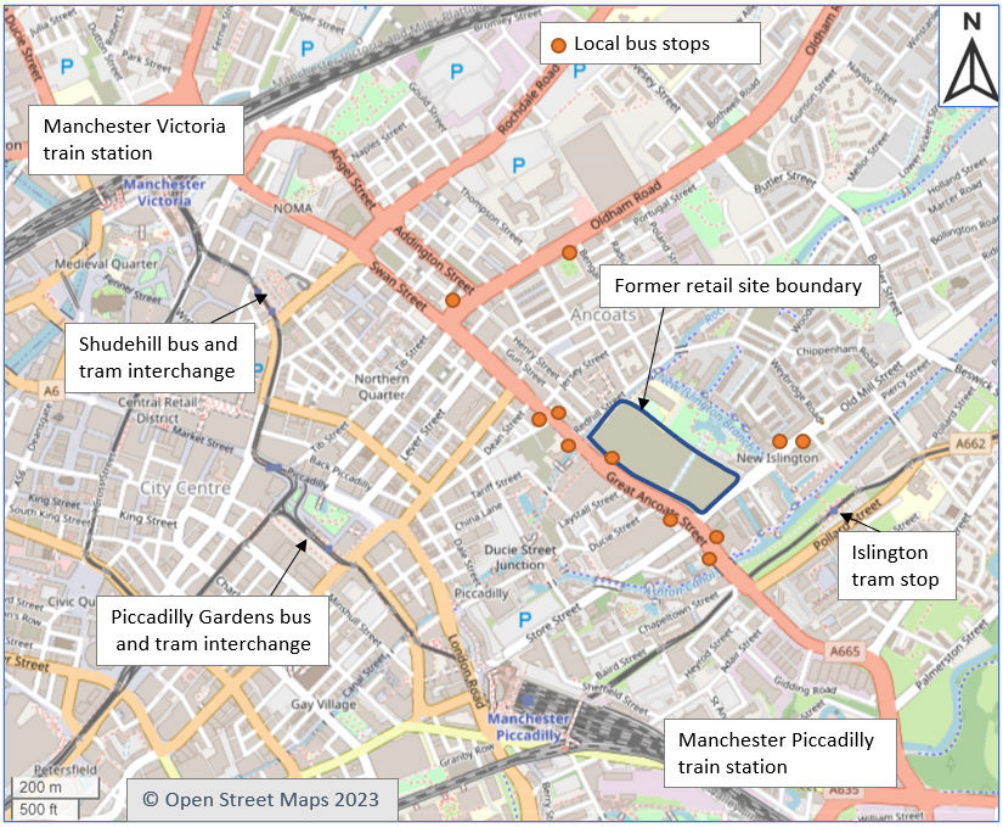


Figure 18-2 – Public transport stop and stations

Public transport opportunities - bus

18.2.6. Within a 400m walking distance of the Site, there are 11 peak hour buses coming into Manchester and departing in the evening, passing the Site and using the bus stops on Great Ancoats Street.

18.2.7. Further afield, Piccadilly Gardens Bus Station at a walking distance of around 900m (12 minutes) provides around 100 buses in each peak hour. Similarly, the Shudehill Interchange at a walking distance of around 1.1km (15 minutes) provides approximately 60 buses per peak hour.

18.2.8. The area is well served by the local bus network covering a wider range of destinations within Greater Manchester. Whilst there is moderate coverage on Great Ancoats Street passing the Site, the services provided within walking distance at the Shudehill Interchange and at Piccadilly Gardens demonstrate that the Site is very well served by bus services.

Public transport opportunities - train

18.2.9. The nearest train station to the Site is Manchester Piccadilly, which is located to the east of Manchester city centre and a 12-minute walk from the Site. Managed by Network Rail, Piccadilly is the busiest train station in Manchester with over 30 million passenger entries and exits between April 2019 and March 2020. As of March 2020, it is the third busiest station in the United Kingdom outside of London.

18.2.10. There are six train operating companies across the 14 platforms at Piccadilly operating regular services: Cross-country, East Midlands Railway, Northern, TransPennine Express, Transport for Wales, and Avanti West Coast. These allow for long distance and cross-country services including to London, Birmingham, Nottingham, Edinburgh, Bristol, Cardiff, Plymouth and Southampton. Regional services provide access to cities such as Liverpool, Leeds, Sheffield, Newcastle and York. There are also local commuter services available from the station to destinations around Greater Manchester.

18.2.11. The train station is accessible for disabled users. Wheelchairs are available at the station and ramp access can be provided to the trains. There is step-free coverage across the station and staff are available to provide assistance.

18.2.12. Car parking facilities are also available at Piccadilly. Long stay parking with 856 spaces is available 24 hours a day, 7 days a week and is chargeable. In addition, there is a short stay car park, drop-off area, and a taxi rank which is located at the Fairfield Street exit of the station.

18.2.13. Manchester Victoria is also a busy train station located 1.5km/20 minutes walking distance from the Site, and also forms a major interchange for the Metrolink system. It offers regional and local services to a range of destinations across northern England.

18.2.14. Other train stations in Manchester city centre include Oxford Road and Deansgate, however these are located over a 20 minute walk away.

Public transport opportunities – tram/metro

18.2.15. New Islington is the closest tram stop to the Site, located just a 7 minute walk away on Pollard Street. Other tram stops within walking distance include the Metrolink at Piccadilly station and the hub at Piccadilly Garden, both located a 12 minute walk away.

18.2.16. The typical frequency of the trams on all lines is every 12 minutes. Stops serviced by more than one line, most of these being in the city centre, will have trams arriving more frequently. For New Islington, Piccadilly, Piccadilly Gardens and Shudehill tram stops, the direct connections to line ends are listed in Table 18-1. It is worth noting that as well as these end points, these four tram stops also afford access via connecting trams in the city centre to all the places listed in the table as well as East Didsbury, Trafford Centre and Rochdale (via Oldham).

Table 18-1 – Direct Metro links

	Local Metro station			
	New Islington	Piccadilly	Piccadilly Gardens	Shudehill
Direct line ends	Ashton-under-Lyne (incl. Etihad Campus)	Ashton-under-Lyne (incl. Etihad Campus)	Ashton-under-Lyne (incl. Etihad Campus)	Manchester Airport (incl. Wythenshawe)
	Eccles (incl. Salford Quays)	Eccles (incl. Salford Quays)	Eccles (incl. Salford Quays)	Altrincham (incl.Sale)
	MediaCityUK	MediaCityUK	MediaCityUK	Bury
		Altrincham (incl.Sale)	Altrincham (incl.Sale)	
		Bury	Bury	

18.2.17. Not all trams travel the full distance to the line ends as listed.

18.2.18. Last tram times are around midnight, depending on destination.

Access for pedestrians and cyclists

18.2.19. Pedestrians can access the Site along the A665 Great Ancoats Street Old Mill Street frontage or via the bridge over Rochdale Canal from Redhill Street. However, access on the northeast side to and from Cotton Field Park is restricted by a retaining wall. Ultimately pedestrian access will be determined by building locations and any security features or fencing that the GPA may employ.

18.2.20. In the immediate vicinity of the Site there is access provision for both pedestrians and cyclists. There are wide footpaths on both sides of the carriageway along A665 Great Ancoats Street and Old Mill Street. At the signalised junction on Great Ancoats Street previously used as the main access to the retail park, dropped kerbs are provided on all arms of the junction and central island reserves are provided due to the width of the main carriageway, Great Ancoats Street having a kerbed central reservation here. On the Laystall Street arm of the junction, tactile paving is also provided to allow safe crossing for pedestrians.

18.2.21. At the A665 Great Ancoats Street / Old Mill Street signalised junction, dropped kerbs and tactile paving are also provided to assist pedestrian access to the Site. Additionally, a controlled pedestrian

crossing is located to the north of the former main access junction on A665 Great Ancoats Street. This junction also has advanced stop lines on the eastern, southern, and western arms of the junction to aid cyclists. Furthermore, the National Cycle Network (NCN) on-road Route 66 runs east-west at this junction along Old Mill Street towards Failsworth and along Store Street to Piccadilly station. This can be seen in Figure 18-3 below. It crosses NCN route 60 which affords cycle access across west Manchester.

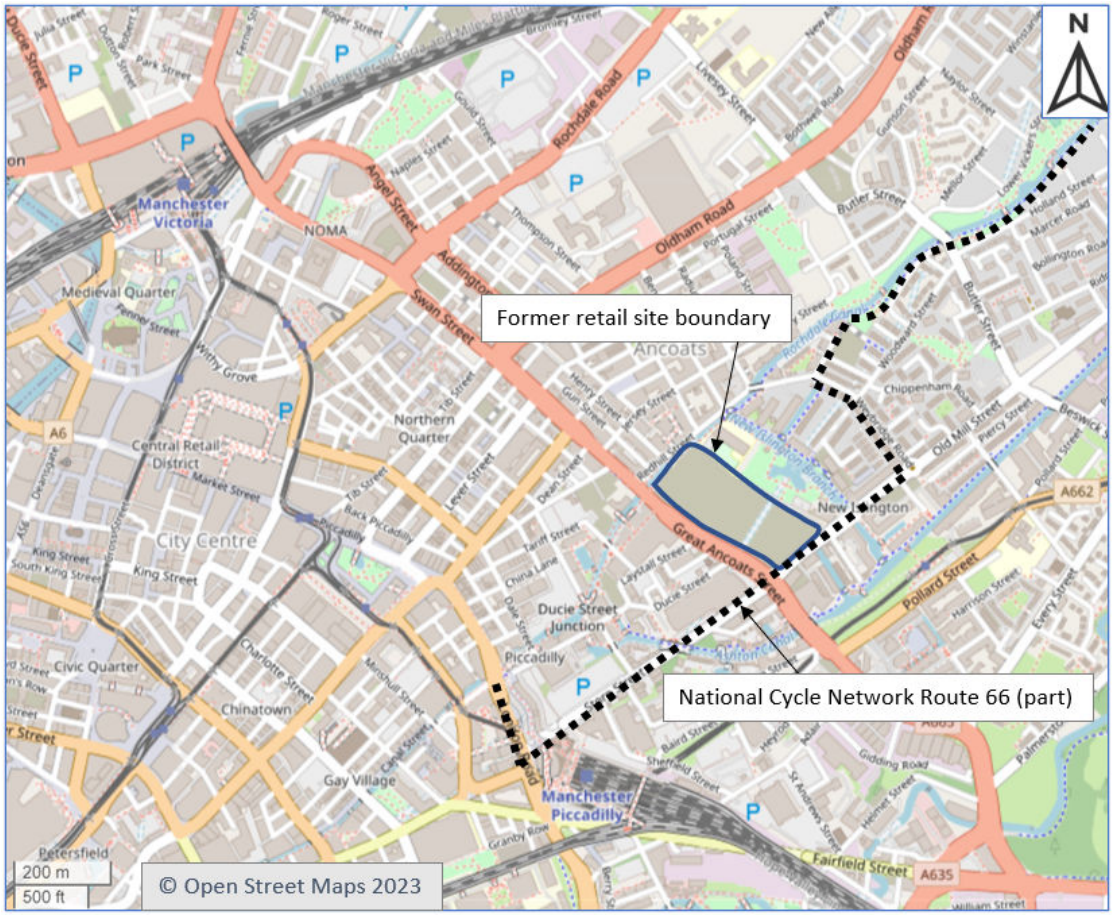


Figure 18-3 – National Cycle Network

18.2.22. It is likely that most of the pedestrian trips to the Site will come from Piccadilly Station, Piccadilly Gardens and New Islington.

18.2.23. From Piccadilly Station, the most direct route to the Site is a 12-minute walk along Dulcie Street and Laystall Street. It is noted that in the vicinity of the Site, these streets attract few movements, either vehicular or pedestrian/cyclist, and therefore this route could be considered as an unsafe environment, particular at night or outside of daylight hours. There is however an alternative walking route from Piccadilly to the Site along Store Street. Store Street is wider and is surrounded by industrial and residential buildings as well as car parks and small green areas. This is therefore considered to present a safer environment for pedestrians routeing to the Site from Piccadilly. It is noted that the route involves passing through a tunnel under Piccadilly station. This can be rather damp and dark, particularly at night which can cause safety concerns for pedestrians.

18.2.24. From Shudehill Interchange, the walk to the Site is along busy, city centre streets, including Shudehill and the A665 Ring Road/Swan Street and Great Ancoats Street. Whilst dated in appearance, the route is considered relatively safe.

18.2.25. From Piccadilly Gardens, the most direct route to the Site is along Mangle Street, Tariff Street and Laystall Street. Alternative routes in the area are available, but similar to the route from Piccadilly, these streets are narrow and sparsely used which can cause concerns to personal security. A secondary route has been identified to the Site from Piccadilly Gardens. This route continues along

Newton Street and onto A665 Great Ancoats Street. These streets are wider and more pedestrian friendly as they are generally busier, well-lit and include residential and commercial buildings.

18.2.26. The pedestrian route from New Islington, which includes crossing the Ashton Canal does not raise concerns regarding pedestrian safety as the route along Old Mill Street is wide and open, faces residential buildings and provides street furniture and planting to create the feel of a safer environment. There are also a series of minor deviations over the Ashton Canal. There is a slightly longer alternative route using the pavement alongside the A665 carriageway, where pedestrians can walk through or alongside the open space of New Islington Green.

18.3. Key issues and potential likely impacts

Construction phase

18.3.1. During construction, traffic will likely access the Site from the existing Old Mill Street access. As the construction proceeds construction will increasingly use this scheme will Great Ancoats Street entrance, using a temporary site compound either utilising part of the proposed park or part of the Phase 2 land.

18.3.2. Key issues for construction traffic will be the routes taken for the traffic and the timing of traffic, particularly for construction routes that pass schools.

18.3.3. Details of how the construction phase will be trafficked are still to be determined including vehicle types, timings, routes and mitigation. These details will be included in a Construction Traffic Management Plan (CTMP).

Operation phase

18.3.4. A key aspect of the transport supply is that the Site is well located for public transport access.

18.3.5. The Proposed Development will only provide on-site vehicular parking for disabled users and to accommodate service vehicles. Cycle parking is a major component of the proposals and is to be provided on-Site. The Site will also be permeable for cycle and pedestrians moving across and between the Site and adjacent open space.

18.3.6. A Travel Plan will be developed to manage traffic demand, in terms of encouraging reduced use of single occupancy cars and the timing of deliveries, including the timing of deliveries to times outside the working day.

18.3.7. During operation, the Proposed Development will likely give rise to the following issues:

- The surrounding highway network currently operates close to capacity, putting a similar strain on any local parking. Any increase in traffic is likely to add pressure to the existing congestion and routes taken may vary from the most direct.
- The public transport network is also close to capacity and it is likely there will be increased pressures on bus, train and tram capacity due to the Proposed Development.
- Cycle access is shared with existing highway users. Increased cycle use may place additional pressures on the network which should be considered within the design.
- Pedestrian access is required to ensure that there is sufficient storage space at crossings for the increased volume of pedestrian activity.

18.4. Proposed scope of assessment

18.4.1. The Proposed Development will give rise to a range of issues during construction and operation, which may result in significant effects and therefore, transport will be scoped into the EIA.

18.4.2. As well as being included in the EIA, the potential impacts will be assessed in standalone documents including the Transport Assessment (TA) (or Transport Statement), Travel Plan and CTMP that will support the planning application.

18.5. Assessment methodology

Traffic and transport EIA chapter

18.5.1. The traffic and transport EIA chapter will be prepared on the basis of the TA, Travel Plan and CTMP documents as discussed below. However, the traffic and transport EIA chapter will provide information on the likely significant effects of the Proposed Development in relation to traffic and transport. The key traffic and transport-related environmental issues which will be considered within the EIA include:

- Local transport network conditions pre- and post-development
- Construction and operational vehicular trip generation
- Construction and operational vehicles access and routeings
- Safety

18.5.2. The traffic and transport EIA chapter will address the following issues as relevant and available for the construction and operational phases of the Proposed Development:

- Impact of proposed development on:
  - Fear and intimidation
  - Severance
  - Accidents and Safety
  - Dust and dirt
  - Pedestrian and cyclist facilities
- Disruption to pedestrians, cyclists and road users due to the proposals
- Generation of Heavy Goods Vehicle trips
- Impact on access

Transport Assessment (TA) / Transport Statement

18.5.3. A TA will accompany the planning application. Depending on the magnitude of traffic impact, the TA will be developed to show the degree of that impact on key parts of the highway network, however, if the impact is regarded as 'slight' then only a Transport Statement will be provided.

18.5.4. The TA will outline the following aspects:

- Existing transport characteristics such as traffic flows, collision data, bus service details
- Development proposal
- Policy background
- Trips generated by the development proposals, split by mode (including new trips by pedestrians, cyclists, goods vehicles, buses, train, taxis, and cars)
- Impact on the network of the increased trip activity
- Mitigation measures

18.5.5. It has been agreed that Transport for Greater Manchester's Highways Forecasting and Analytical Services (HFAS) section will run their transport model to assign the generated trips to the network, particularly to choose the best (off-site) parking locations. This model will also help define parts of the highway network that may need mitigation, either in physical terms or by helping to shape targets for the Travel Plan to reduce the traffic's impact.

18.5.6. The TA (or Transport Statement) will cover the operational phase.

Travel Plan

18.5.7. A Travel Plan will also accompany the planning application. This will define the measures taken to encourage non-car use by advertising and maybe incentivising other forms of travel.

18.5.8. Targets will be embodied in the plan to reduce single occupancy car-use.

18.5.9. The Travel Plan will also outline the steps to monitor trends in travel habits over the years following opening and progress of the plan towards targets, with the plan then amended if targets are not being met, these amendments being designed to push better reduced car use.

18.5.10. The Travel Plan will cover the operational phase.

CTMP

18.5.11. A CTMP will be developed which will itemise the construction and staff movements over the course of the construction-working day, and the days of the week when construction will take place and over which hours. It will also provide details on how construction staff will travel either to the Site or to an off-site location and the travel arrangements between the two.

18.5.12. This plan will determine the routes taken for construction and construction staff, their timings and any restrictions on movements at certain times of the day or days of the week.

18.5.13. It will also itemise any arrangements when certain expected movements are required to be 'dialled-in' to the Site once parked at an outside location, also specified by the plan, requesting access.

18.5.14. The plan will detail any mitigation required for abnormal loads, in particular the need to locate traffic cones, have temporary traffic signals and detail the requirement for banksmen to guide vehicles as required.

18.6. Proposed mitigation

18.6.1. Mitigation measures are likely to be required to reduce any potential impacts during construction and operation and may include junction and public transport improvements.

18.6.2. Junction improvements will help to mitigate against any additional traffic queues and delays at particular junctions. These improvements are likely to take the form of physical changes and or changes to timings if the junctions are signalised. Any changes would also include enhancements for cyclists and pedestrians. Any improvements will be subject to land constraints such as land ownership and may also be subject to agreement with the local highways authority.

18.6.3. Public transport improvements may also be required, however, enhancements to capacity are likely to be limited. Discussions with the local highways authority and bus companies to alter bus routes near the Proposed Development will be undertaken.

18.6.4. The Travel Plan will advocate strong targets aimed at reducing non-car use and reducing non-single occupancy use. Measures outlined in the Travel Plan may also include financial encouragement for public transport and cycle use, as well as promoting car-share and 'guaranteed lift home' measures.

19. Water Resources and Flood Risk

19.1. Planning policy and legislation

19.1.1. The following planning policy and legislation have been considered within this scoping exercise and will be taken forward for the Water Resources and Flood Risk assessment within the ES:

- Water Resources Act (1991) and land drainage bylaws
- Water Act (2003)
- Groundwater (England and Wales) Regulations (2009)
- Flood and Water Management Act (2010)
- Environmental Permitting (England and Wales) Regulations (2016)
- Water Environment (Water Framework Directive) (England and Wales) Regulations (2017)
- National Planning Policy Guidance (2018)
- National Planning Policy Framework (2019)
- Environment Act (2021)
- Manchester City Council Development Plan (Manchester Core Strategy 2012 – 2027) Policy EN 14
- Places for Everyone (March 2024)[5]
- The Strategic Regeneration Framework (2023)

19.2. Summary of baseline conditions

Study area

19.2.1. The study area used to inform this scoping chapter (and subsequently, the ES chapter) takes into consideration all features of the water environment within 1km of the Proposed Development. This is considered to be an appropriate radial distance for any potential impacts to be sufficiently dampened (for example, dilution of pollutants).

Data sources

19.2.2. The baseline conditions for the existing water environment have been based on open-source data, including the following data sources:

- Environment Agency Catchment Data Explorer[235]
- Defra MAGIC Map[236]
- Environment Agency Flood Map for Planning[237]
- British Geological Survey (BGS) Geology Viewer[238]
- Greater Manchester MappingGM platform[239]

19.2.3. A Groundsure report[240] was also commissioned for the Site and has been used to inform this scoping chapter.

19.2.4. The focus of the baseline condition assessment for the study area in this scoping chapter consists of identifying the following features which may be impacted:

- Surface watercourses designated under the WFD and other non-designated watercourses
- Public abstractions and discharges

[235] https://environment.data.gov.uk/catchment-planning
[236] https://magic.defra.gov.uk/
[237] https://www.flood-map-for-planning.service.gov.uk/
[238] https://geologyviewer.bgs.ac.uk/
[239] https://mappinggm.org.uk/gmodin/
[240] Groundsure (2023). Enviro+Geo Insight Report. Ref: GS-N5Y-Y5P-M5I-37U. Dated 20/07/2023.

- Existing fluvial flood risk and surface water flood risk
- Water-dependent designated sites
- Groundwater designations (for example, the presence of SPZs or aquifers)

Surface watercourses

19.2.5. The Proposed Development lies between two canals, the Rochdale Canal to the northwest and the Ashton Canal to the southeast. Both canals are designated as WFD Canal waterbodies:

- Rochdale Canal, western section (GB71210517)
- Ashton Canal and Peak Forest Canal, lower section (GB71210219)

19.2.6. To the northeast of the Site, the New Islington Marina connects the two canals. Although this is not designated under the WFD it can be considered in conjunction with the two canals.

19.2.7. The Proposed Development Site lies within the following WFD river waterbody catchment:

- Medlock (Lumb Brook to Irwell) (GB112069061152)

19.2.8. The River Medlock itself lies within the study area, and is designated as a Statutory Main River. There are no proposed works that would directly impact upon the River Medlock. Although the Medlock does have hydraulic connectivity with the canals listed above it is considered to be sufficiently far enough downstream of the Proposed Development to eliminate any potential indirect impacts.

19.2.9. Two additional WFD river waterbody catchments lie within the periphery of the study area:

- Irk (Wince to Irwell) (GB112069061131)
- Irwell / Manchester Ship Canal (Irk to confluence with Upper Mersey) (GB112069061452)

19.2.10. There are no works proposed that would directly impact upon either waterbody. Although the Irk and the Irwell do have hydraulic connectivity with the canals listed above, this is considered to be sufficiently far enough downstream of the Proposed Development to eliminate any potential indirect impacts.

19.2.11. Given the urban nature of the study area, no further surface watercourses identified as part of this scoping exercise.

19.2.12. Prior to the construction of the Rochdale and Ashton Canals, there was a tributary of the River Medlock, Shooters Brook which itself was fed by Newton Brook. Historical maps indicate that the route of the former Shooters Brook was culverted through the Proposed Development Site. It is considered that the brook is now largely a ‘lost watercourse’ with the upstream section of Newton Brook now having been diverted several kilometres upstream of the Site. Closed-Circuit Television (CCTV) survey of the culverted Shooters Brook indicates that there is no structure beneath the Site. A culvert thought to be the former Shooters Brook is present downstream from the Site underneath Store Street with CCTV providing evidence of stopping up of the culvert upstream at the junction of Store Street with Great Ancoats Street.

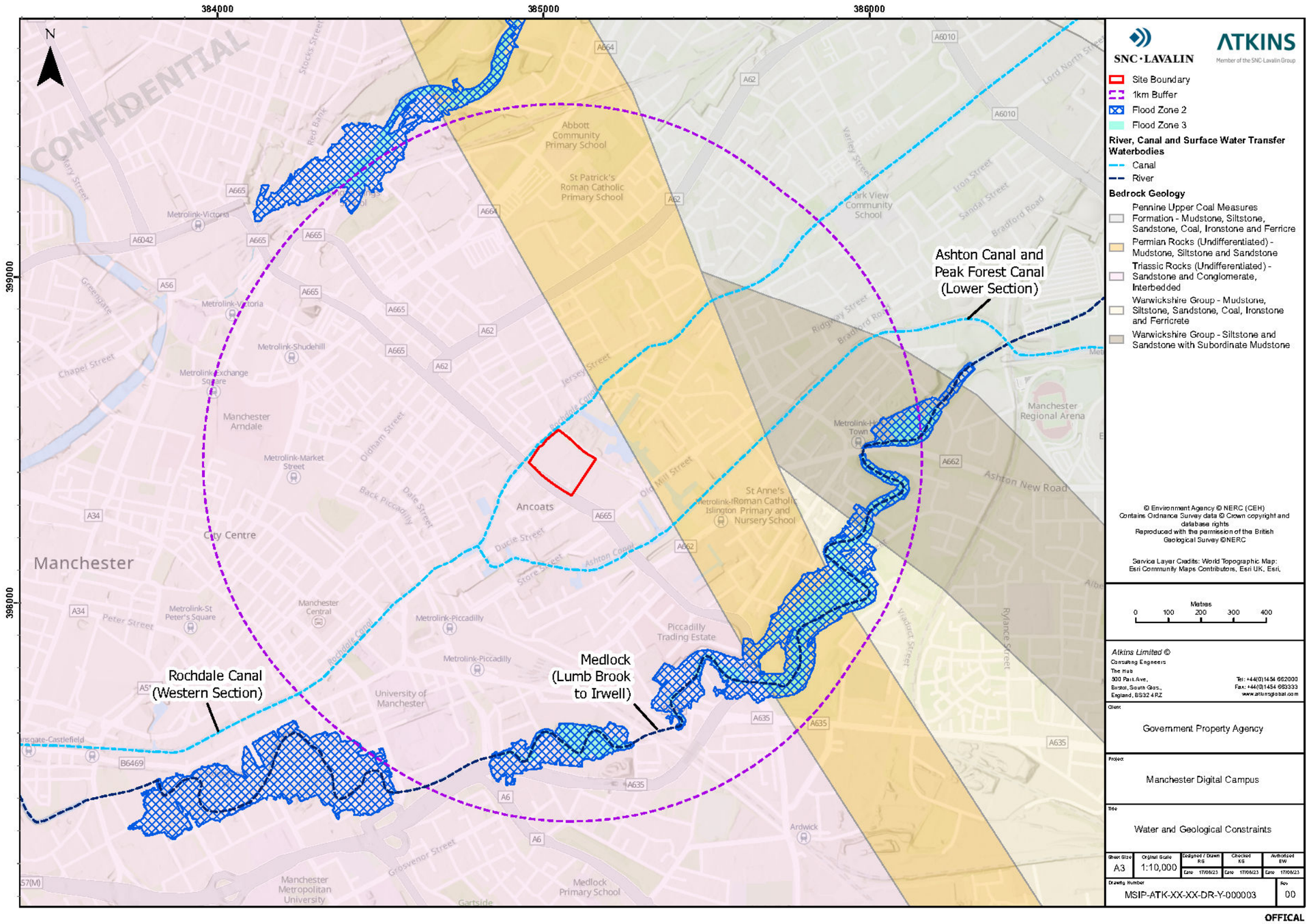


Figure 19-1 – Surface water constraints

Abstractions and discharges

19.2.13. No active groundwater, surface water or potable abstractions have been identified within the study area from the Groundsure report.

19.2.14. No active discharges have been identified within the study area from the Groundsure report.

Flood risk

19.2.15. The Environment Agency Flood Map for Planning indicates that the Proposed Development itself is located within Flood Zone 1, or the one with a low probability of flooding from rivers and/or the sea. In this case, an annual probability of flooding from rivers of less than 0.1%[241].

19.2.16. Within the wider study area, particularly in proximity to the River Medlock, there are some areas of Flood Zone 2 and Flood Zone 3. Respectively, these areas have a medium (1% - 0.1%) and high (1% or more) chance of flooding from rivers in any given year.

19.2.17. The Environment Agency flood maps[242] also indicate a risk of flooding from surface water, which occurs as a result of heavy rainfall where drainage systems become overwhelmed. The risk is relatively widespread across the study area, although it follows the grid-like pattern of the urban setting. Predominantly the risk of flooding from surface water is low within the study area, although there are some areas of medium and high risk.

19.2.18. A small area of the Proposed Development Site is classified to be at Moderate – High risk of groundwater flooding, with some areas of High risk of groundwater flooding within the study area.

19.2.19. The Proposed Development is partially located within Breach Zone A of Rochdale and Ashton Canals based on the modelling developed as part of the Manchester Strategic Flood Risk Assessment. There are also areas of Breach Zone B on both the Rochdale and Ashton Canals upstream and downstream of the Site and there are historical records of overtopping of Rochdale Canal around Holland Street.

Groundwater

19.2.20. The Proposed Development and the surrounding study area are underlain by the following WFD groundwater body:

- Manchester and East Cheshire Permo-Triassic Sandstone Aquifers (GB41201G101100)

19.2.21. The Environment Agency has designated the Chester Formation Triassic sandstones which underly the Site as a Principal Aquifer. Principal Aquifers provide significant quantities of drinking water, and water for business needs, and they may also support rivers, lakes and wetlands[243].

19.2.22. The remainder of the study area is underlain by interspersed Carboniferous and Permian sandstones and mudstones, which are designated as Secondary Aquifers (predominantly Secondary A). Secondary A Aquifers comprise permeable layers that can support local water supplies, and may form an important source of base flow to rivers.

19.2.23. The superficial deposits underlying the whole study area are designated as Secondary Undifferentiated Aquifer, which have minor value compared to Principal and Secondary Aquifers.

19.2.24. Aquifers underlying the study area are designated as having Medium – Low groundwater vulnerability.

19.2.25. There are no SPZs, Drinking Water Protected Areas (DWPAs) or Drinking Water Safeguard Zones (DWSZs) located within the study area. The nearest SPZ catchment (i.e., Zone III) is approximately 1.5km from the Proposed Development, with the source approximately 3km away.

19.2.26. There are no groundwater-dependent terrestrial ecosystems (GWDTEs) located within the study area.

[241] https://www.flood-map-for-planning.service.gov.uk/flood-zone-results-explained?zone=FZ1
[242] https://www.gov.uk/check-long-term-flood-risk
[243] https://www.gov.uk/government/publications/protect-groundwater-and-prevent-groundwater-pollution/protect-groundwater-and-prevent-groundwater-pollution

Water-dependent designated sites

19.2.27. There are no LNRs, NNRs, Ramsar sites, SSSIs, SACs, SPAs or SPZs located within the study area.

WFD

19.2.28. As identified above, the following WFD waterbodies are located within the study area:

- Two WFD canal waterbodies
- Three WFD river waterbodies
- One WFD groundwater body

19.2.29. The current (Cycle 3, 2019)[244] WFD status for these waterbodies is summarised below in Table 19-1, alongside the outcome of the scoping exercise (in/out) and its justification. A summary of the scoping exercise undertaken for WFD elements is shown in Table 19-2, identifying which WFD elements will and will not be taken forwards for further consideration in subsequent stages of assessment.

Table 19-1 – Summary of WFD status for identified waterbodies and scoping outcome

Waterbody Name / ID	Waterbody Type	Status[245]	Scoping (in/out)	Justification
Rochdale Canal, western section (GB71210517)	Canal	Moderate	IN	Waterbody directly adjacent to Proposed Development.
Ashton Canal and Peak Forest Canal, lower section (GB71210219)	Canal	Moderate	IN	Waterbody directly adjacent to Proposed Development.
Medlock (Lumb Brook to Irwell) (GB112069061152)	River	Moderate	OUT	No anticipated direct or indirect impacts to the waterbody as a result of the Proposed Development.
Irk (Wince to Irwell) (GB112069061131)	River	Moderate	OUT	No anticipated direct or indirect impacts to the waterbody as a result of the Proposed Development.
Irwell / Manchester Ship Canal (Irk to confluence with Upper Mersey) (GB112069061452)	River	Moderate	OUT	No anticipated direct or indirect impacts to the waterbody as a result of the Proposed Development.
Manchester and East Cheshire Permo-Triassic Sandstone Aquifers (GB41201G101100)	Groundwater	Poor	IN	Waterbody underlies Proposed Development and surrounding study area.

[244] https://environment.data.gov.uk/catchment-planning/
[245] Ecological status is provided for surface water bodies, and overall status for groundwater bodies.

Table 19-2 – Summary of WFD element scoping exercise

WFD Element		Scoping (in/out)	Justification
Surface water	Biological quality elements	OUT	Limited impact on biology anticipated – no assessment required[246].
	Physico-chemical quality elements	IN	Potential impact of Proposed Development on water quality – requires assessment.
	Hydromorphological supporting elements	OUT	Limited impact on hydromorphology anticipated – no assessment required.
	Supporting elements[247]	IN	Potential impact of Proposed Development on mitigation measures – requires assessment.
	Specific pollutants	IN	Potential impact of Proposed Development on water quality – requires assessment.
	Priority hazardous substances	IN	Potential impact of Proposed Development on water quality – requires assessment.
	Priority substances	IN	Potential impact of Proposed Development on water quality – requires assessment.
	Other pollutants	IN	Potential impact of Proposed Development on water quality – requires assessment.
Ground water	Quantitative status element	IN	Potential impact of Proposed Development on groundwater quantity – requires assessment.
	Chemical status element	IN	Potential impact of Proposed Development on groundwater quality – requires assessment.

19.2.30. Aquatic ecology is considered within Chapter 7 (Biodiversity) and Risk to groundwater from land contamination is considered within Chapter 11 (Ground Conditions and Contamination) of this Scoping Report.

19.3. Key issues and potential likely impacts

19.3.1. It is possible that the construction and operation of the Proposed Development may affect the water environment and flood risk.

Construction phase

19.3.2. Potential effects to water features during construction may arise from:

- Physical works directly adjacent to (or in close proximity to) water features.
- Polluted surface water run-off to surface water features consisting of high sediment load, chemicals, and hydrocarbons from construction vehicles, plant and high-risk activities which may cause contamination.
- Migration of mobile pollutants to groundwater features which may cause contamination. For example, high sediment load, chemicals and hydrocarbons from construction vehicles, plant and high-risk activities.
- Increased rates and volumes of surface water run-off, as a result of rainfall combined with compacted ground and reduced vegetation, which could lead to an increase in flood risk.

[246] See Chapter 7 (Biodiversity) of this scoping report for further details on aquatic ecological receptors.
[247] For designated artificial / heavily modified water bodies only.

- Modification of existing drainage system, and increased rates and volumes of discharge into surface water features which may cause contamination.
- New cuttings and deep foundations during construction could affect groundwater levels and block, re-direct or alter groundwater flow.

Operation phase

19.3.3. Potential likely effects to water features during operation may arise from:

- Changes to existing drainage regime may lead to a change in rates and volumes of surface water run-off, leading to a potential change in flood risk.
- Changes to existing drainage regime may lead to a change in rates and volumes of surface water run-off, and change in discharge locations and receptors, leading to potential contamination.
- Flood risk to the Proposed Development or increase in flood risk to other properties/areas as a result of the Proposed Development.
- Impact to the condition of water features adjacent (or in close proximity to) the Proposed Development.
- Impact on public drainage network (foul and surface water).
- Permanent presence of below-ground structures which may affect groundwater levels and block, re-direct or alter groundwater flow.

19.4. Proposed scope of assessment

19.4.1. Based on the available level of data (for both the baseline and the proposed works) at the time of reporting, Table 19-3 summarises the water receptors that will be scoped into the ES.

Table 19-3 – Scoping summary

Issue	Justification
Surface water (water quality)	Potential for water quality impacts to surrounding receptors. No Highways England Water Risk Assessment (HEWRAT) assessment required as discharge of surface water from the development is not intended (at this stage) to outfall into a WFD water body. Water quality will be considered as part of the supporting WFD compliance assessment.
Surface water (hydromorphology)	The only surface watercourses identified for further assessment are canals (i.e., artificial waterbodies). Limited impacts to hydromorphology. Risks can be managed and mitigated through the Outline CEMP.
Surface water (water resources)	No active abstractions or discharges identified within the study area.
Flood risk	Proposed development located in Flood Zone 1, but study area extends into Flood Zones 2 and 3. Risk of flooding from surface water and canal breach or overtopping within study area. Flood Risk Assessment (FRA) required.
Water-dependent designated sites	No water-dependent designated sites identified within the study area. .
Groundwater	Proposed Development underlain by Principal Aquifer and WFD groundwater body. Groundwater assessment required. Groundwater will be considered as part of the supporting WFD compliance assessment.

19.5. Assessment methodology

19.5.1. The subsequent stages of assessment for the Water Environment and Flood Risk will use the same study area as defined above.

19.5.2. The ES chapter will include a desk-study to further consider the baseline. This will be supplemented by a field survey to collect empirical data to support the baseline.

19.5.3. The DMRB provides a suitable framework to use for assessing the potential impacts of the Proposed Development on the water environment. Therefore, the ES chapter will follow a predominantly qualitative assessment based on DMRB LA 113[248] (Road Drainage and the Water Environment) and DMRB LA 104[249] (Environmental Assessment and Monitoring) guidance. The methodology outlines in the guidance uses the following three steps:

- Estimation of the importance of the receptor (Table 19-4)
- Estimation of the magnitude of impact (Table 19-5)
- Assessment of the significance of effect based on receptor importance and impact magnitude (Table 4.3, in Chapter 4).

19.5.4. No on-site monitoring of water quality or quantity is currently proposed.

19.5.5. Consultation will be undertaken to inform the ES chapter, WFD compliance assessment and the FRA. This may include, but is not limited to, the local authority, regulatory bodies (i.e., Environment Agency, Natural England), and other relevant authorities (e.g., Canal and Rivers Trust).

[248] https://standardsforhighways.co.uk/search/d6388f5f-2694-4986-ac46-b17b62c21727
[249] https://standardsforhighways.co.uk/search/0f6e0b6a-d08e-4673-8691-cab564d4a60a

Table 19-4 – Criteria for estimating the importance of a water environment receptor[250]

Importance	Typical criteria	Typical examples	
Very high	Nationally significant attribute of high importance	Surface water:	Watercourse having a WFD classification shown in a River Basin Management Plan (RBMP) and $Q_{95} \geq 1.0$ m^3/s. Site protected/ designated under European Commission (EC) or UK legislation (SAC, SPA, SSSI, Ramsar site, salmonid water)/Species protected by EC legislation LA 108.
		Groundwater:	Principal aquifer providing a regionally important resource and/ or supporting a site protected under EC and UK legislation LA 108. Groundwater locally supports Groundwater Dependent Terrestrial Ecosystem (GWDTE). Source Protection Zone (SPZ) 1.
		Flood risk:	Essential infrastructure or highly vulnerable development.
High	Locally significant attribute of high importance	Surface water:	Watercourse having a WFD classification shown in a RBMP and $Q_{95} < 1.0$ m3/s. Species protected under EC or UK legislation LA 108.
		Groundwater:	Principal aquifer providing locally important resource or supporting a river ecosystem. Groundwater supports a GWDTE. SPZ 2.
		Flood risk:	More vulnerable development.
Medium	Of moderate quality and rarity	Surface water:	Watercourses not having a WFD classification shown in a RBMP and $Q_{95} > 0.001$ m^3/s.
		Groundwater:	Aquifer providing water for agricultural or industrial use with limited connection to surface water. SPZ 3.
		Flood risk:	Less vulnerable development.
Low	Lower quality	Surface water:	Watercourses not having a WFD classification shown in a RBMP and $Q_{95} \leq 0.001$ m^3/s.
		Groundwater:	Unproductive strata.
		Flood risk:	Water compatible development.

[250] Table source: Extracted directly from DMRB LA 113 Table 3.70: Estimating the importance of water environment attributes.

Table 19-5 – Criteria for assessing the potential magnitude of impact[251]

Importance	Typical criteria	Typical examples	
Major adverse	Results in loss of attribute and/or quality and integrity of the attribute	Surface water:	Failure of both acute-soluble and chronic-sediment related pollutants in HEWRAT and compliance failure with Environmental Quality Standard (EQS) values. Calculated risk of pollution from a spillage ≥2% annually (spillage assessment). Loss or extensive change to a fishery. Loss of regionally important public water supply. Loss or extensive change to a designated nature conservation site. Reduction in water body WFD classification.
		Groundwater:	Loss of, or extensive change to, an aquifer. Loss of regionally important water supply. Potential high risk of pollution to groundwater from routine runoff – risk score >250 (Groundwater quality and runoff assessment). Calculated risk of pollution from spillages ≥2% annually (Spillage assessment). Loss of, or extensive change to GWDTE or baseflow contribution to protected surface water bodies. Reduction in water body WFD classification Loss or significant damage to major structures through subsidence or similar effects.
		Flood risk:	Increase in peak flood level (> 100mm).
Moderate adverse	Results in effect on integrity of attribute, or loss of part of attribute	Surface water:	Failure of both acute-soluble and chronic-sediment related pollutants in HEWRAT but compliance with EQS values. Calculated risk of pollution from spillages ≥1% annually and <2% annually. Partial loss in productivity of a fishery. Degradation of regionally important public water supply or loss of major commercial/industrial/agricultural supplies.

[251] Table source: Extracted directly from DMRB LA 113 Table 3.71: Estimating the magnitude of impact on an attribute.

Importance	Typical criteria	Typical examples	
			Contribution to reduction in water body WFD classification.
		Groundwater:	Partial loss or change to an aquifer. Degradation of regionally important public water supply or loss of significant commercial/ industrial/ agricultural supplies. Potential medium risk of pollution to groundwater from routine runoff – risk score 150-250. Calculated risk of pollution from spillages ≥1% annually and <2% annually. Partial loss of the integrity of GWDTE. Contribution to reduction in water body WFD classification. Damage to major structures through subsidence or similar effects or loss of minor structures
		Flood risk:	Increase in peak flood level (> 50 mm).
Minor adverse	Results in some measurable change in attributes, quality, or vulnerability	Surface water:	Failure of either acute soluble or chronic sediment related pollutants in HEWRAT. Calculated risk of pollution from spillages ≥0.5% annually and <1% annually. Minor effects on water supplies.
		Groundwater:	Potential low risk of pollution to groundwater from routine runoff – risk score <150. Calculated risk of pollution from spillages ≥0.5% annually and <1% annually. Minor effects on an aquifer, GWDTEs, abstractions and structures.
		Flood risk:	Increase in peak flood level (> 10 mm)
Negligible	Results in effect on attribute, but of insufficient magnitude to affect the use or integrity	The Proposed Development is unlikely to affect the integrity of the water environment.	
		Surface water:	No risk identified by HEWRAT (pass both acute-soluble and chronic-sediment related pollutants). Risk of pollution from spillages <0.5%
		Groundwater:	No measurable impact upon an aquifer and/or ground water receptors and risk of pollution from spillages <0.5%.
		Flood risk:	Negligible change to peak flood level (≤ +/- 10 mm).
Minor beneficial	Results in some beneficial effect on	Surface water:	HEWRAT assessment of either acute soluble or chronic-sediment related pollutants becomes pass from an existing site where the baseline was a fail condition. Calculated reduction in existing spillage risk by 50% or more (when existing spillage risk is <1% annually).

Importance	Typical criteria	Typical examples	
	attribute or a reduced risk of negative effect occurring	Groundwater:	Calculated reduction in existing spillage risk by 50% or more to an aquifer (when existing spillage risk <1% annually). Reduction of groundwater hazards to existing structures. Reductions in waterlogging and groundwater flooding
		Flood risk:	Creation of flood storage and decrease in peak flood level (> 10 mm).
Moderate beneficial	Results in moderate improvement of attribute quality	Surface water:	HEWRAT assessment of both acute-soluble and chronic-sediment related pollutants becomes pass from an existing site where the baseline was a fail condition. Calculated reduction in existing spillage by 50% or more (when existing spillage risk >1% annually). Contribution to improvement in water body WFD classification.
		Groundwater:	Calculated reduction in existing spillage risk by 50% or more (when existing spillage risk is >1% annually). Contribution to improvement in water body WFD classification. Improvement in water body Catchment Abstraction Management Strategy (CAMS) (or equivalent) classification. Support to significant improvements in damaged GWDTE.
		Flood risk:	Creation of flood storage and decrease in peak flood level (> 50 mm)
Major beneficial	Results in major improvement of attribute quality	Surface water:	Removal of existing polluting discharge or removing the likelihood of polluting discharges occurring to a watercourse. Improvement in water body WFD classification.
		Groundwater:	Removal of existing polluting discharge to an aquifer or removing the likelihood of polluting discharges occurring. Recharge of an aquifer. Improvement in water body WFD classification.
		Flood risk:	Creation of flood storage and decrease in peak flood level (> 100 mm).
No change		No loss or alteration of characteristics, features or elements. No observable impact in either direction.	

19.6. Proposed mitigation

19.6.1. Appropriate mitigation measures to avoid and reduce potential adverse effects will be explored and discussed within the ES chapter.

19.6.2. Appropriate consideration will be given to the water environment in developing and implementing the drainage strategy for the Proposed Development.

19.6.3. During construction, many of these mitigation measures are likely to be associated with good site practice and preparation of (and adherence to) robust method statements. Such measures will be incorporated into an Outline CEMP.

19.6.4. Mitigation measures to limit potential adverse operational impacts are likely to be incorporated into the design of the Proposed Development (for example, through the Drainage Strategy). These will look to avoid and reduce potential significant effects and provide betterment, where possible.

19.6.5. Any residual effects of the Proposed Development on the water environment and flood risks following the inclusion of mitigation measures will be identified.

20. Wind Microclimate

20.1. Planning policy and legislation

20.1.1. The assessment of wind microclimate will be conducted in alignment with pertinent planning policies, guidance documents, and legislative instruments, which are outlined as follows.

National planning policy

20.1.2. The NNPPF (2023) does not specifically reference wind or microclimate. However, it does emphasise the benefits of a high-quality built environment, for example:

- Paragraph 126 “Good design […] creates better places in which to live and work and helps make development acceptable to communities.”
- Paragraph 130.f) “Planning policies and decisions should ensure that developments create places that are safe, inclusive, and accessible [...] with a high standard of amenity for existing and future users.”

20.1.3. The National Design Guide[252] 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…environmental impacts, such as sunlight, daylight, overshadowing and wind. These need to be resolved satisfactorily in relation to the context and local character’.

Local planning policy

20.1.4. Any work will follow the relevant policies for MCC as in Policy EN 2 part of the Manchester’s Local Development Framework Core Strategy Development Plan Document, and Places for Everyone (March 2024) to highlight any specific wind microclimate requirement additional to the regional and national planning policies.

Technical standards and guidance

20.1.5. The industry standard criteria for wind microclimate assessments are commonly referred to as the Lawson criteria and emerged during a period of substantial research on the subject. Professor Tom Lawson presented what has become the ‘University of Bristol’ variant of the Lawson criteria in 1973, prior to a collaborative initiative that produced the London Docklands Development Corporation (LDDC) variant of the Lawson Comfort Criteria (LCC)[253].

20.1.6. The LDDC variant applies a single percentage probability of exceedance of a range of wind speeds and associates each wind speed to a common pedestrian use such as sitting, standing, and walking for comfort, with higher wind speed thresholds for the assessment of safety.

20.1.7. The de-facto standard for wind microclimate assessments in the UK is the Lawson criteria predominantly the LDDC variant.

20.2. Summary of baseline conditions

20.2.1. The baseline wind microclimate in the area is driven by prevailing southwesterly winds. This is typical of the Manchester wind climate. Available long-term records from Manchester airport be used in accordance with the methodology set out in ESDU 01008.

20.2.2. The existing Site is surrounded by medium-rise commercial developments with lower-rise buildings on the south border of the Site. As a result, the wind conditions are dominated by the medium-rise nature of the surrounding buildings. Described in terms of the LCC, wind conditions are expected to be suitable for a combination of strolling and short-term standing / sitting and thus suitable for comfortable pedestrian passage and for ingress / egress at surrounding entrances.

[252] Department of Levelling Up, Housing and Communities, (2021), *National Design Guide.*
[253] Lawson T.V, (1990), The determination of the wind environment of a building complex before construction.

20.3. Key issues and potential impacts

Construction phase

20.3.1. While demolition and construction activities are underway, there is a possibility of wind circulating through and across any open spaces within the Site, potentially causing minor inconvenience to pedestrians. Considering the dusty nature commonly associated with construction sites, individuals traversing the area would anticipate a reduced level of comfort. In terms of the intensity of the wind conditions, the shift is anticipated to occur progressively from the current state to the final state of the Proposed Development. Therefore, because of the progressive changes to massing of the Site, the effects on pedestrians from changes in the local wind environment during enabling and construction are expected to be of a temporary nature.

Operation phase

20.3.2. Wind conditions will undergo an evaluation using the industry standard LCC. Instances where the conditions fall short of meeting the comfort or safety criteria, thus signifying a notable impact, are expected to arise primarily in locations characterized by tall structures and sharp corners, which tend to amplify wind effects.

20.3.3. The assessment will identify areas of the Proposed Development where potential uncomfortable wind conditions may be present for the designated pedestrian activities, according to Lawson's LDDC Criteria.

20.3.4. Mitigation measures, including shape and massing of the building, canopies over entrance door, soft and hard landscaping., wind brakers and wind deflectors will be incorporated during the Computational Fluid Dynamics (CFD), if required. The residual effects are likely to be negligible.

20.4. Proposed scope of assessment

20.4.1. The study will cover those aspects of the microclimate concerning wind at pedestrian level. An assessment will be made of the conditions to be expected at the Site. Where appropriate, comparisons will be made between conditions before the Proposed Development (baseline) and upon completion. All analysis will be undertaken using computer modelling using CFD. The wind modelling study of the Proposed Development will assess the impact of air flows arising from a minimum of 16 wind directions as good practice and availability of weather data.

20.5. Assessment methodology

Determination of the baseline

20.5.1. The existing Site conditions will be assessed in detail during using CFD and based on the methodology outlined below for the Proposed Development. Baseline conditions are expected to be comfortable and safe for existing pedestrian activities. The baseline conditions generally are suitable for existing pedestrian conditions as the proposed development is not present and does not affect the already existing conditions.

20.5.2. The Baseline scenario involves evaluating the current state of the Existing Site within its prevailing surroundings.

Prediction methodology

Demolition and construction phase

20.5.3. A quantitative assessment of the Site's conditions during demolition and construction will not be conducted as the effects on pedestrians from changes in the local wind environment are expected to be temporary. Instead, a qualitative evaluation will be carried out using professional judgment to predict the potential effects during the construction phase.

Operational phase

20.5.4. An evaluation of how wind speeds affect pedestrian comfort near the building structures connected to the proposed development will be part of the operational phase. The evaluation will also examine the wind speeds at the proposed building entry locations. Early evaluation will guide design to verify

that the places are appropriate for the intended purpose. If necessary, mitigating strategies will be incorporated into the design and tested.

20.5.5. The evaluation will be guided by a statistical study of the predominant wind climate in the region, which will be based on a characterisation of the wind climate based on at least 15 years of wind climate data from local weather data, such as Manchester Airport or Manchester City Centre, if available.

20.5.6. The following factors will be taken into account during the assessment:

- The effect of the proposed development's geometry, height, massing, exposure, and orientation; and
- The expected pedestrian activity, including throughfares, ingress / egress points, waiting areas, recreational spaces, outdoor seating spaces (such as cafes), and the Lawson comfort category that corresponds to the activity – long-term sitting, short-term sitting / standing, strolling, or walking (see Table 20-1).
- The season(s) in which the activity is anticipated to occur, e.g., walking thought the boulevard and using the entrance, would all take place throughout the year and be evaluated against a worst-case ('worst-seasonal' results), whereas areas where prolonged outdoor seating occurs (such as outdoor café seating) would be evaluated during the summer whereby these activities are more likely to happen.

Table 20-1 – Lawson Comfort Criteria

Suitability	Lawson Comfort Criteria
For passage in areas where tolerance of less comfortable windy conditions is expected, e.g., in substantially built-up areas of commerce where transit from A to B is often prompt, with pedestrians unlikely to linger.	Walking in all seasons.
For access to and passage through the Development and surrounding area.	Strolling in all seasons.
For leisure uses excluding such as a park, children's play area, etc.	Standing or short-term sitting from spring to autumn.
For pedestrian ingress/egress at a building entrance, or short periods of sitting or standing such as at a bus stop, taxi rank, meeting point, etc.	Standing or short-term sitting in all seasons.
For lengthy periods of sitting such as for an outdoor café.	Long-term sitting in summer.

20.5.7. The wind microclimate assessment will include the following:

- A computer model of the proposed development geometry/arrangement will be constructed. This model will be imported to the CFD package and used to simulate each scenario.
- The model will take into account the external wind condition based on the available wind data for the Site.
- CFD iterations will then be undertaken to model the airflow under steady state conditions.
- Preliminary results will be presented, and adjustments made to the models if necessary to reflect more closely the intended usage and performance of the proposed development.
- The results will be post-processed to generate air flow images and contour maps showing the level of exhaust concentration, temperature distributions and trajectory and path line at varied locations within the domain.
- A set of tabulated and graphical simulation results will be provided in the reports chapter. The report will list all relevant modelling parameters and compare results for each of the strategy investigated.

20.5.8. A digital model of the Site and surrounding area with a radius of approximately five times the extent of the development upwind and downwind to allow the wind profile to fully develop or more will be prepared and assessments conducted using CFD.
The ES will present the results in three scenarios:

- Scenario 1: Baseline – Existing Site in Existing Surrounding Context
- Scenario 2: Proposed Development in Existing Surrounding Context
- Scenario 3: Proposed Development in Cumulative Surrounding Context

20.5.9. During the early stages of the CFD analysis, all scenarios will be based on the model of the Proposed Development, in accordance with the maximum massing and height parameters proposed.

20.5.10. The gust and mean wind speed ratios, such as the pedestrian level wind speeds as a ratio of a reference wind speed at a known height above ground, will be measured at key locations within the Site. These locations include areas where increased wind zones are expected due to the building's geometry and areas of wind-sensitive activities such as public entrances or pedestrian pathways. The measurements will be taken for 16 wind directions in in 22.5° increments.

20.5.11. To calculate the net windiness at the Site, the wind speed ratios in the virtual wind tunnel (CFD) will be wind data on the Manchester city's local wind environment. If available, historical wind data from local weather data will be used to determine the wind statistics for Manchester Airport or Manchester City Centre, which will then be adjusted for terrain roughness both around the local weather data point and over the Site.

20.5.12. A comprehensive report presented as a technical appendix to the ES will describe the results of the CFD, demonstrating the conditions' conformity at all points to the London Docklands Development Corporation (LDDC) variation of the Lawson Criteria. The assessment of the environmental effects and receptor sites where significant effects are found will be provided in the ES Chapter.

20.5.13. The Lawson LDDC Wind Comfort Criteria, illustrated in Table 20-2, provides the wind speed thresholds for certain activities whereby if the associated wind speed is greater for more than 5% of the time in a season the activity would no longer be suitable. The safety criteria identify areas where someone could find walking difficult, or even stumble and fall. This criterion provides a maximum wind speed threshold of 15 m/s which should not be exceeded more than once per year.

Table 20-2 – Lawson LDDC Wind Comfort Criteria

Category		Wind speed	Fulfilment value	Activity
	A	>2.5 m/s	<5%	Frequent Sitting
	B	>4 m/s	<5%	Occasional Sitting
	C	>6 m/s	<5%	Standing
	D	>8 m/s	<5%	Walking
	E	>8 m/s	>5%	Uncomfortable
	S	>15 m/s	>0.022%	Unsafe

20.6. Proposed mitigation

20.6.1. If required, mitigation measures will be developed during the virtual wind tunnel analysis via CFD for the areas where wind conditions do not satisfy their comfort / safety criteria.

21. Major Accidents and Disasters

21.1.1. The EIA Regulations require the developer to assess the expected significant effects on the environment arising from the vulnerability of the Proposed Scheme to 'major accidents or disasters that are relevant to that development'.

21.1.2. The general scope of the assessments covers:

- Vulnerability of the Site to risks of major accidents and/or disasters that are relevant to the Site (subsequently referred to as major events);
- Identification of any consequential significant adverse environmental effects from those major events; and
- Measures to prevent or mitigate the significant adverse environmental effects of those major events and details of the preparedness for and response to such major events.

21.1.3. The assessment of major events:

- Identifies any major events that are relevant to and can affect the Proposed Development.
- Where major events are identified, describes the expected significant effects arising from the vulnerability of the Proposed Scheme to the events.
- Reports the conclusions of this assessment within this section.
- Clearly describes any mitigation measures and details of the preparedness for and proposed response to such emergencies, to provide an evidence base to support the conclusions and demonstrate that likely effects have been mitigated/managed to an acceptable level.

21.1.4. There is no clear definition of the term 'major accident and / or disaster' in the Regulations therefore, the key terms used in the assessment are listed below:

Table 21-1 – Sensitivity and value criteria

Significance Category	Typical descriptors of effect
Major accident	The Control of Major Accident Hazards (COMAH) 2015 regulations define a 'major accident' as an occurrence such as a major emission, fire, or explosion resulting from uncontrolled developments in the course of the operation of any establishment and leading to serious danger to human health or the environment (whether immediate or delayed) inside or outside the establishment and involving one or more dangerous substances.
Disaster	May be a natural hazard (e.g., earthquake) or a man-made / external hazard (e.g. act of terrorism) with the potential to cause an event or situation that meets the definition of a major accident.
Natural disaster	A naturally occurring event such as extreme weather (storm, flooding) or a ground related hazard event (subsidence, landslide, earthquake) with the potential to cause an event or situation that meets the definition of a major accident.
Risk	The likelihood of an impact occurring combined with the effect or consequence(s) of the impact on a receptor(s) if it does occur
Risk event	An identified unplanned event which is considered relevant to the Proposed Development and has the potential to be a major accident or natural disaster subject to the identification of its potential to result in a significant adverse effect on an environmental receptor.
Serious damage	Serious damage includes the loss of life, permanent injury and temporary or permanent damage/destruction of an environmental receptor.
Vulnerability	Describes the potential for harm as a result of an event, for example due to sensitivity or value of receptors. In the context of environmental

Significance Category	Typical descriptors of effect
	risk assessment, the term refers to the 'exposure and resilience' of the Scheme to the risk of a major accident or natural disaster.

21.1.5. By the above definitions, a significant adverse effect is considered to mean the loss of life or permanent injury, and/or permanent or long-lasting damage to an environmental receptor. The significance of this effect considers the extent, severity and duration of harm and the importance and sensitivity of the receptor.

21.1.6. The aim of EIA scoping, as described by the Institute of Environmental Management and Assessment (IEMA) Major Accidents and Disasters in EIA[254] (herein referred to as the IEMA Primer), is 'to *determine in more detail whether there is potential for significant effects as a result of major accidents and/or disasters associated with a development, and the resulting scope of and approach to the assessment if required*.'

21.1.7. The IEMA Primer states that major accidents and disasters can be scoped out as a standalone chapter within the ES, if the chapter can demonstrate:

- 'There is no source-pathway-receptor linkage of a hazard that could trigger a major accident and/or disaster or potential for the scheme to lead to a significant environmental effect.
- All possible major accidents and/or disasters are adequately covered elsewhere in the assessment or covered by existing design measures or compliance with legislation and best practice.'

21.2. Methodology

21.2.1. The methodology adopted includes three main stages, as follows:

- Stage 1: a long list of all possible major events was developed. This list drew upon a variety of sources, including the UK Government's Risk Register of Civil Emergencies. Major events with little relevance in the UK were not included. Stage 1 also included an initial review of potential receptors.
- Stage 2: a screening exercise was undertaken to review the long list of major events and to consider their relevance to the Proposed Development, and whether any major events required further consideration. The study area for relevant major events was identified to be within 2 km of the Proposed Development.
- Stage 3: for those major events requiring further consideration, the consequence was identified including consideration of any mitigation measures to identify if a major accident or disaster could occur.

21.3. Assessment findings

Stage 1

21.3.1. The long list of major events was collated and the major events categories considered included:

- Geological disasters, such as earthquakes, avalanches, volcanic eruptions, sinkholes, ground dissolution or instability.
- Hydrological disasters, such as tsunamis, storm surges, limnic eruptions and floods.
- Meteorological disasters, such as extreme weather events.
- Space disasters, such as geomagnetic storms, solar flares, and astronomical object collision.
- Transport, such as aircraft disaster, rail or road accidents and maritime disasters.
- Engineering accidents or failure, such as infrastructure and utilities failure.
- Industrial accidents, such as mining, chemical, energy or power industry.
- Terrorism/crime, civil unrest, and war.
- Disease, such as human or animal diseases.

[254] Institute of Environmental Management and Assessment (2020) Major Accidents and Disasters in EIA: A Primer [online]. https://www.iema.net/resources/blog/2020/09/23/iema-major-accidents-and-disasters-in-eia-primer

- UXO.

Stage 2

21.3.2. In general, major events, as they relate to the Proposed Development, fall into three categories:

- Events that could not realistically occur, due to the type of Proposed Development or its location.
- Events that could realistically occur, but for which the Proposed Development and associated receptors, are no more vulnerable than any other development.
- Events that could occur, and to which the Proposed Development is particularly vulnerable, or which the Proposed Development has a particular capacity to exacerbate.

21.3.3. A screening stage was undertaken in Stage 2 to identify this third group of major events, which then formed the list of events to be taken forward for further consideration.

Stage 3

21.3.4. Stage 3 of the assessment resulted in a list of major events to be considered further within the ES which include:

- Flooding
- Engineering/utility accidents/failures during construction
- Terrorism/ crime/ civil unrest
- Potential for UXO

21.3.5. The assessment of these major events will include the identification of potential receptors, potential consequence of the event and a review of the embedded mitigation and other assessments that have been undertaken as part of the design to demonstrate that the likely effects have been mitigated or managed to an acceptable level. This will be presented in the major accidents and disasters chapter in the ES.

22. Cumulative Effects

22.1.1. This chapter provides the legislative and policy context for consideration of cumulative impacts and presents the definition of cumulative effects that will be used in producing the ES for the Proposed Development. The proposed scope for the cumulative effects assessment (CEA) is described, together with the approach to be adopted in identifying and reporting on cumulative effects within the ES, which has been developed with reference to relevant guidance and best practice, cited within the chapter.

22.1.2. The chapter includes the criteria intended to be used to generate an initial long list of Reasonably Foreseeable Future Projects (RFFP) that could potentially interact with the Proposed Development to give rise to cumulative effects for certain receptors. The methodology that will be used in refining a short list of RFFPs for assessment within the ES is also included.

22.1.3. No CEA is undertaken as part of this Scoping Report due to the design phase in which it is being prepared.

22.2. Planning policy and legislation

22.2.1. Paragraph 5 of Schedule 4 to the EIA Regulations 2017 requires an ES to include the assessment of cumulative effects. To date there is no single agreed methodological approach for the completion of cumulative effects assessment; however, transferable guidance commonly used is contained within the DMRB standard (LA 104[255]) and PINS Advice Note 17[256].

22.2.2. Environmental effects of the Proposed Development must be assessed as part of the EIA process. There are two aspects to the cumulative effects assessment – exploring cumulative effects of the Proposed Development on a given receptor due to impacts relating to two or more topics – intra-Scheme cumulative effects; and instances where the effects of the Proposed Development may act in combination with the effects of other developments to give rise to greater or a different type of cumulative effects – inter-project cumulative effects.

22.3. Summary of baseline conditions

Intra-Scheme cumulative effects assessment

22.3.1. The baseline conditions for the intra-Scheme cumulative effects assessment will be as described within the contributing topic assessments. This will be developed at the next stage in the EIA process.

Inter-project cumulative effects assessment

22.3.2. The baseline conditions for the inter-project cumulative effects assessment take account of the changes that are anticipated to arise to the existing baseline due to the implementation of RFFPs. This forms a future baseline based on informed assumptions about the progression of the RFFPs and is used for this part of the cumulative effects assessment.

22.3.3. RFFPs are projects that are known to the planning system or already in the consenting process or expected to be under construction at the same time as the Proposed Development. The locational criteria applied to identify the RFFPs have been developed in consideration of the study areas defined within the preceding topic chapters, taking account of the likely zones of influence for interactions between the Proposed Development and different types of RFFPs to give rise to significant cumulative effects.

22.3.4. An RFFP long-list will be produced for the ES comprising projects that fall into one of the following categories, which intend to encompass developments of a more substantive scale, thus offering greater potential to give rise to cumulative effects:

[255] Standard for Highways. 2020. LA 104 Environmental assessment and monitoring. Available at: LA 104 - Environmental assessment and monitoring (standardsforhighways.co.uk). Accessed 08.08.2023.
[256] National Infrastructure Planning. 2019. Advice Note Seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects. Version 2. Available at: Advice Note Seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects | National Infrastructure Planning (planninginspectorate.gov.uk). Accessed 08.08.2023.

- Major planning applications within 250m of the Proposed Development boundary. This encompasses planning applications for 10 or more residential properties, planning applications incorporating commercial/recreational floorspace over 1,000 sqm, or a site exceeding 1ha.
- Planning applications within the Site boundary that have been granted planning permission or are pending determination within a time frame that reflects the typical 3-year period within which granted developments must commence works (at the point at which the RFFP long list is first produced; and updated at each subsequent review of the RFFP long list).
- Planning applications or consented development that are accompanied by an ES or non-statutory environmental report, situated within 1km of the Site boundary; typically, likely to produce an uplift of more than 10,000sqm of mixed use floorspace or over 150 residential units.
- Development Plan projects scheduled for development within the local development plan that are within 500 m of the Site boundary (with the flexibility to consider additional projects if consultation with technical stakeholders identifies a need). The inclusion of such projects is subject to desk-based validation of sufficient evidence available relating to the projects to allow a meaningful cumulative effects assessment.

22.3.5. For certain topics (e.g., transport or visual impact), it may be appropriate to include developments that sit outside the above qualifying criteria if their individual characteristics warrant it. Examples could include forthcoming Development Consent Order (DCO) applications, Transport and Works Act Order (TWA Order) applications and proposals including particularly tall elements. Additional RFFPs of this type for each topic will be identified within the individual topic chapters.

22.3.6. An initial review of planning applications and development plan allocations to 250m from the Site boundary only has been undertaken for the purposes of this Scoping report (in July 2023). These RFFPs are included in Table 22-1. The review has not identified any qualifying projects within the development plan.

22.3.7. At the next stage of the EIA, this list of planning applications will be reviewed – any that have been constructed will be removed from the RFFP list and instead considered as receptors within the baseline for the main assessment; and qualifying planning applications submitted since July 2023 will be added. The RFFP list will also be developed further to include all qualifying types of projects on the basis of the criteria listed above, in order to form a full RFFP long-list for the inter-project cumulative effects assessment.

22.3.8. This Scoping Report is being used as an opportunity to consult on the methodology proposed to produce the RFFP long list and proposals to subsequently refine it to form a shortlist of RFFPs for consideration in the EIA and reporting in the ES.

Table 22-1 – List of planning applications within 250m of Site boundary that form RFFPs

Application reference	Location	Description	Distance from Site boundary	Status
128191/FO/2020 Discharging conditions: 133841/JO/2022 (Approved) CND/22/0673 –(Approved Aug 2022)	Land Bounded By Ashton Canal, Great Ancoats Street, Munday Street And Pollard Street Manchester M4 7DS	Erection of five office buildings and new public realm comprising: 3 no. 8 storey mixed use buildings (Buildings A, D and E) comprising workspaces (Use Class E) together with flexible uses at ground floor (Use Class E) and/or theatre/bar (Sui Generis) together with a multi-use rooftop amenity area to Building A; and 2 no. 5 storey mixed use buildings (Buildings B and C) comprising workspaces (Use Class E) together with flexible uses at ground floor (Use Class E) and/or theatre/bar (Sui Generis); together with cycle parking, creation of pedestrian and cycle routes, external amenity spaces, new public realm and other associated engineering and infrastructure works	250m	Approved December 2022 – under construction
126608/FO/2020 Discharging conditions CDN/21/0064 CDN/21/0083 CDN/21/0072 CDN/20/0851 Non-material Amendments 130506/NMC/2021 130493/NMC/2021 Section 73 129395/JO/2021	Land To The South Of Store Street Manchester M1 2NE	Erection of part 4, part 11 storey residential (Class C3) development (with roof top plant room) comprising 66 (Class C3) residential units (3 x 2 bed town houses, 46 x two bed apartments and 17 x one bed apartments) together with associated car parking (10 spaces including 5 EVC spaces), cycle parking (66 spaces) communal roof terrace (level 6), landscaping and ancillary infrastructure including rooftop PV panels, alterations to access onto Store Street	200m	Approved April 2020 – under construction

Application reference	Location	Description	Distance from Site boundary	Status
128911/FO/2020	Land bound by Ducie Street, Brock Street, Pigeon Street and Laystall Street	Erection of 9 storey residential building (Use Class C3) comprising 89 residential units (28 x 1 bed and 61 x 2 bed) and conversion of and 3 storey extension to 32-34 Laystall Street for use as offices (Class E) with associated external works following demolition of outrigger and associated structures along with other associated works including access, servicing, landscaping and secure cycle parking	90m south west	Approved February 2022
135662/FO/2022	Laystall Street / Great Ancoats Street Manchester M4 6DE	Erection of a 20-storey building to create a 154-bedroom hotel (Class C1) above 2 basement levels with ancillary café / bar / restaurant and gym and other associated works including highway improvements, cycle parking and creation of accessible parking bay following removal of on-site structures.	26m	Approved June 2023
132574/FO/2021	Land South Of Stables Car Park Paradise Wharf Ducie Street Manchester M1 2JN	Erection of 4 no. part 4, part 5 storey, three-bedroom townhouses (Use Class C3) with associated car / cycle parking, recessed balconies and rooftop terraces.	215m	Approved July 2022
135675/FO/2022	Tariff Street Manchester	Erection of two residential apartment buildings (Use Class C3) comprising Block 1 -part 9, part 10 (plus roof level amenity block) and Block 2- 12 storey building (comprising of 261 dwellings in total) above basement levels with ground floor commercial units (Use Class E (excluding E (b)), associated residents amenity space, cycle parking, landscaping, access, street loading and other associated works following demolition of the existing building and structures on site	120m	Approved – June 2023 – under construction
137346/FO/2023	Land Bounded By Naval Street To The North, Poland Street To The East, Jersey Street To The South And Radium Street To The West Manchester	Erection of a part 5, part 10 storey building comprising residential apartments and townhouses, residents' amenity space (Use Class C3a) (265 new dwellings), ground floor commercial (Use Class E), cycle and car parking, landscaping, access and servicing, and other associated works following demolition of existing structures	210m	Approved – December 2023

Application reference	Location	Description	Distance from Site boundary	Status
130354/FO/2021	Land On The Corner Of Poland Street And Jersey Street Manchester M4 6JW	Erection of an 8 storey building to form 118 residential apartments (Use Class C3) and ground floor commercial floorspace (Use Class E (a),(c),(g)(i)) (583 sqm) together with amenity space, car and cycle parking provision, hard and soft landscaping, access, servicing and other associated works	290m	Approved July 2021
122598/FO/2019	Land Between Coppersmith Road, Lockyard Lane And New Islington Marina Manchester	Proposed erection of a residential development comprising 34 no. 3 storey dwellinghouses, 2 no. 6 storey apartment blocks comprising 60 no. apartments with commercial space at the ground floor (Use Classes A1, A2, A3, A4, B1 and D1) with outdoor seating, all with associated car parking, landscaping, public realm works and boundary treatments	145m	Approved March 2020 – first phase completed.

Source: Derived from a planning application search (July 2023)

Reasonably Foreseeable Future Projects (RFFP) Shortlisting

22.3.9. As the EIA progresses, the RFFP long-list will be screened, in order to produce an RFFP shortlist for the inter-project element of the CEA. This screening will be undertaken by each of the topic specialists with the aim of identifying those developments that have reasonable potential to interact with the Proposed Development in respect of their topic and, therefore, potentially give rise to impacts that could result in cumulative effects.

22.3.10. The methodology and consideration that will be applied by each topic to complete the screening exercise and generate their RFFP shortlist for assessment will be set out in the CEA sections of each topic chapter in the ES, supported by a screening appendix if appropriate. This will typically be based on a combination of development type, proximity, and the likelihood of impact pathways between the Proposed Development and the RFFP for the topic under consideration. The consideration of impact pathways usually allows for mandatory regulatory/legislative requirements that all developers must meet, for example, air quality control measures that would essentially negate risks of impact interactions between the Proposed Development and RFFPs.

22.3.11. RFFPs are screened out where the likelihood of interactions with the Proposed Development is extremely low/negligible. Where appropriate, specialists will then complete a scoping exercise to exclude detailed consideration of RFFPs where there is a robust justification for assuming that cumulative impacts would not occur between the Proposed Development and the RFFP – this will also be set out in individual topic chapters in the ES. This approach will assist in tightening the scope of the consideration of RFFPs and specialist topic assessment to cumulative impacts that bring meaningful inputs to the overall ES findings, delivering a proportional assessment that focuses on the potential for significant inter-project cumulative effects.

22.3.12. The screening and scoping process will allow an RFFP shortlist to be produced, highlighting which topics will consider which RFFPs. This will be consulted upon and agreed with relevant stakeholders prior to incorporation within the EIA process.

22.3.13. For each short-listed RFFP, progression through the consenting and development processes will be reviewed drawing on publicly available information and comments from stakeholder consultation. Assumptions will be made about the most likely stage of their development in relation to the Proposed Development construction baseline; opening year; and future (operational) baseline with each RFFP assigned to categories to inform the completion of the inter-project cumulative impact assessment work. The individual topic chapters will then report on the inter-project cumulative effects based on the RFFPs that they have shortlisted, using the common assumptions about their stage of development relative to the Proposed Development.

22.4. Proposed scope of assessment

22.4.1. The CEA will consider cumulative effects arising from both intra-Scheme and inter-project impacts.

22.4.2. Intra-project impacts are defined as those arising within this Proposed Development and affecting specific receptors and/or biophysical resources. This requires consideration of the potential for in-combination impacts to emerge within the same specialist topic, as well as reviewing the interaction between impacts identified by each of the specialist topics undertaking assessment of the Proposed Development.

22.4.3. Inter-project impacts are those arising between the Proposed Development and other developments expected to come forward within similar timeframes. This requires consideration of the impacts of the Scheme in the context of the RFFP list that will be defined for the Proposed Development, building on the list of planning application that is provided as Table 22-1.

22.4.4. The inter-project CEA will make use of a construction baseline and two future baselines for the Proposed Development to be considered against, making informed assumptions to categorise the likely progression of RFFPs for the purposes of consistent assessment:

- Construction baseline – RFFPs may be categorised as ‘undeveloped’’ or ‘under construction’ in the same timeframe as the construction phase for the Proposed Development. Any RFFPs that are noted as likely to be complete prior to the commencement of construction would be treated as ‘receptors’ to the construction impacts of the Proposed Development.

- Opening year future baseline – RFFPs may be categorised as ‘undeveloped’; or ‘under construction’ in the same timeframe as the opening year future baseline; or form new ‘receptors/resources’ that would be in place and operational.
- Operational future baseline – RFFPs may be anticipated to be ‘under construction’ (likely only for very large RFFPs with an extended lead in time and lengthy construction phase); or form new ‘receptors/resources’ that would be in place and operational – this latter category will form the default assumption.

22.5. Assessment methodology

22.5.1. The CEA methodology will be informed by the DMRB LA104 guidance, PINS guidance and the principles to be applied to CEA as expressed within the NPPF; and developed on the basis of professional judgement and experience with a focus on generating tangible and practical outcomes from the assessment. DMRB LA 104 (paras. 3.19-3.22) was published in August 2020. It is focused on highways projects but contains core principles that are considered transferable. This includes the need to assess both ‘single project’ impacts acting together, as well as ‘different projects’ acting together with the project being assessed.

22.5.2. PINS Advice Note 17[257] is currently published as version 2 (August 2019)[258]. It advocates a four-stage approach that moves from the establishment of a long list of ‘other existing development and/or approved development’, through to a short list of the most likely of these to interact with a Scheme’s ‘Zones of Influence’ in order to give rise to potentially significant cumulative effects. Stages 3 and 4 then relate to information gathering and assessment, respectively. The focus is on proportionate and focused assessment of the principal interactions only, allied to correct apportionment of impacts between projects and, if appropriate and feasible, the identification of co-ordinated mitigation strategies.

22.5.3. The methodology for the Proposed Development will be a hybrid of these two approaches. The consideration of cumulative impacts will be drawn together on the basis of receptors and/or biophysical features deemed likely to experience effects as a consequence of cumulative impacts, whether intra-Scheme or inter-project or, potentially, both. The sensitivity of a receptor or biophysical features to changes and the magnitude of impacts (combining to become cumulative impacts) themselves will determine the significance of the resultant cumulative effect or effects, with reference to the ‘significance of effects descriptors’ published in DMRB LA104[259]. The PINS Advice Note 17 sets out criteria which needs to be considered when determining the significance of cumulative effects:

- The duration of the effect
- The geographical area of the effect
- The type of effect
- The frequency of the effect
- The ‘value’ and resilience of the receptor affected; and
- The likely success of mitigation.

22.5.4. The CEA will address intra-Scheme cumulative effects both within topics and across topics, during both construction and operation. It will also address inter-project cumulative effects both within topic and across topics with reference to the projects that will be included on the final RFFP shortlist. The level of detail within the inter-project assessment will be determined by the publicly available data relating to RFFPs and the focus will be on a proportionate assessment that duly reflects the contribution of the Proposed Development to the inter-project cumulative effects that are reported.

22.5.5. Should significant cumulative effects be identified, consideration will be given to approaches to avoid or lessen these effects. Any additional mitigation will be discussed with the relevant stakeholders, which may include third parties in the case of inter-project effects. Commentary will

[257] National Infrastructure Planning. 2019. Advice Note Seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects. Version 2. Available at: Advice Note Seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects | National Infrastructure Planning (planninginspectorate.gov.uk). Accessed 08.08.2023.

[259] Standard for Highways. 2020. LA 104 Environmental assessment and monitoring. Available at: LA 104 - Environmental assessment and monitoring (standardsforhighways.co.uk). Accessed 08.08.2023.

be provided on the significance of residual effects, assuming effective implementation of proposed additional mitigation. This commentary will adopt a precautionary approach, meaning that where there is uncertainty about outcomes, the source of this uncertainty will be described, and a worst-case position will be assumed. The conclusions will be supported by information about ways in which cumulative effects associated with the worst-case position may be lessened.

Significance of cumulative effects

22.5.6. There is no agreed industry standard for determining the type, magnitude, and significance cumulative effects – it is a matter for professional judgement.

22.5.7. On this basis, a narrative approach will be used to describe the factors that have contributed to conclusions about an overall combined significance of the cumulative intra-Scheme effects that may arise from the impacts of all identified single-topic residual effects, working together. This reflects a characterisation of the impact that considers the duration, extent, type, and frequency of the effect (as expressed with the methodology), cross-referenced to the value and resilience of the affected receptors and the nature and likely success of embedded and essential mitigation already noted within topic chapters. Conclusions are then drawn about the magnitude of impact and significance of cumulative effects, drawing on the guidance in DMRB LA104 at Table 3.4N (Magnitude of impact and typical descriptors), Table 3.7 (Significance categories and typical descriptors) and Table 3.8.1 (Significance matrix).

22.5.8. The assessment of inter-project effects draws on the topic-specific assessments to comment on the effects of the Proposed Development on relevant receptors. This is then combined with relevant publicly available information relating to the RFFPs. As with the intra-Scheme assessment, the significance of cumulative effects reported is based on professional judgement and a narrative will be included reflecting on the characteristics of the effect, potential efficacy of mitigation proposed and typical descriptors of significance, as set out in the DMRB LA104 standard.

22.5.9. It is the residual effects assessment that will form the overall conclusions of the cumulative effects assessment.

22.5.10. Table 22-2 signposts where the cumulative impacts will be reported within the ES as a whole.

Table 22-2 – Types of cumulative impacts and location of reporting within ES

Types of cumulative impact	Location of reporting within ES
Intra-Scheme cumulative impacts (single project impacts)	
Intra-Scheme in-combination cumulative impacts, identified within specialist topic chapters	**If relevant, reported within specialist topic chapters** Reporting is to be provided under cumulative effects sub-heading in instances where a receptor/receptors has/have been assessed as experiencing a number of different environmental factors relating to that topic.
Intra-Scheme in combination cumulative impacts across topics	**Reported within the CEA chapter** Reporting is to be provided within the CEA chapter in instances where a receptor/receptors has/have been assessed as experiencing different environmental factors relating to two or more specialist topic assessments.
Inter-project cumulative impacts (different project impacts)	
Inter-project additive cumulative impacts identified within specialist topic chapters	**If relevant, reported within specialist topic chapters** Reporting is to be provided under cumulative effects sub-heading in instances where a receptor/receptors has/have been assessed as experiencing a Scheme impact that combines with the same type of impact from one or more RFFPs, to generate a greater magnitude of impact.

Types of cumulative impact	Location of reporting within ES
Inter-project additive cumulative impacts across topics	**Reported within the CEA chapter** Reporting is to be provided within the CEA chapter in instances where a receptor/receptors has/have been identified as experiencing additive cumulative impacts within at least two specialist topic chapters.
Inter-project in-combination cumulative impacts identified within specialist topic chapters	**If relevant, reported within specialist topic chapters** Reporting is to be provided under cumulative effects sub-heading in instances where a receptor/receptors has/have been assessed as experiencing a Scheme impact that combines with one or more different types of impact relevant to the topic, from one or more RFFPs, to generate a third type of impact.
Inter-project in-combination cumulative impacts across topics	**Reported within the CEA chapter** Reporting is to be provided within the CEA chapter in instances where a receptor/receptors has/have been assessed as experiencing a Scheme impact and different type of RFFP impact that combine to generate a third type of impact.

23. Aviation

23.1.1. The Manchester Barton Aerodrome is located approximately 11km to the west and the Manchester Airport is approximately 14km south of the Proposed Development. As outlined within Section 2.3, the Proposed Development will not exceed 10 storeys (with a maximum of 92.950 Above Ordnance Datum (AOD)). The safeguarding threshold that requires National Air Traffic Services (NATS) to be consulted on is 90m AOD. Manchester Airport Group (MAG), Barton Aerodrome and NATS will be contacted for consultation advice. Based on professional experience with similar developments in this area of MCC, it is anticipated that no significant adverse effects will arise from the Proposed Development that cannot be mitigated effectively. As such it is proposed that aviation be scoped out of the ES.

24. Electronic Interference

24.1.1. New developments in urban areas have the potential to affect the transmission paths of radio, television, and other telecommunication services such as mobile network operators. According to Ofcom[260], EE, Three, O2 and Vodafone all have availability in the area. The Proposed Development, at up to 10 storeys, is of modest height and as such is not anticipated to obstruct any radio or signal transmitting equipment, a TV Reception Survey will be carried out and submitted alongside the planning application.

[260] OfCom Checker 2023, View mobile availability - Ofcom Checker, site visited on 04/09/2023

25. Summary

25.1.1. Table 25-1 provides a summary of the scoping report, outlining whether or not topics are considered in the EIA and included in the ES, including a list of the technical documents that will support planning application for scoped out topics.

Table 25-1 – EIA Scoping summary

Topic	ES chapter	Non-EIA assessment	Technical documents to support planning application*
Air Quality	✓	×	-
Biodiversity	✓	×	BNG Assessment
Climate Vulnerability	✓	×	-
Climate Effects	✓	×	-
Daylight, Sunlight, Overshadowing and Solar Glare	✓	×	
Ground Conditions and Contamination	✓	×	Ground Investigation Report
Historic Environment	✓	×	Heritage Statement
Human Health	✓	×	-
Materials and Waste	✓	×	Site Waste Management Plan Sustainability and Circular Economy Statement Operational Waste Management Strategy
Noise and Vibration	✓	×	-
Socio-economics	✓	×	-
Townscape and Visual	✓	×	-
Transport	✓	×	Transport Assessment / Transport Statement Travel Plan Construction Traffic Management Plan
Water Resources and Flood Risk	✓	×	Flood Risk Assessment
Wind and Microclimate	✓	×	
Major Accidents and Disasters	✓	×	Crime Impact Statement
Cumulative effects	✓	×	-
Aviation	×	×	-
Electronic Interference	×	×	TV Reception Survey

* - Additional technical documents will be included as appendices to the ES, which will be identified during the assessment.

26. Proposed structure of the ES

26.1.1. The information presented in the ES will be provided in accordance with Schedule 4 of the EIA Regulations and will comprise of the following:

- ES Volume 1: Non-Technical Summary: this document will provide a concise summary of the Proposed Development, alternative designs that were considered, environmental impacts and mitigation measures;
- ES: Volume 2: Main Text: this will contain the main body of the EIA with the proposed chapter headings as set out below;
  - Chapter 1: Introduction;
  - Chapter 2: Description of the Site and Proposed Development;
  - Chapter 3: Policy Context;
  - Chapter 4: EIA Methodology;
  - Chapter 5: Alternatives Considered and Design Evolution;
  - Chapter 6: Construction Phasing and Methodology;
  - Chapter 7: Air Quality;
  - Chapter 8: Biodiversity;
  - Chapter 9: Climate Vulnerability;
  - Chapter 10: Effects on Climate;
  - Chapter 11: Daylight, Sunlight, Overshadowing and Solar Glare;
  - Chapter 12: Ground Conditions and Contamination;
  - Chapter 13: Historic Environment
  - Chapter 14: Human Health
  - Chapter 15: Materials and Waste
  - Chapter 16: Noise and Vibration;
  - Chapter 17: Socio-economics;
  - Chapter 18: Transport
  - Chapter 19: Water Resources and Flood Risk;
  - Chapter 20: Wind Microclimate;
  - Chapter 21: Major Accidents and Disasters
  - Chapter 22: Cumulative Effects; and
  - Chapter 23: Summary.
- ES Volume 3: TVIA: the methodology and findings of the TVIA accompanied by a full set of views and verified images; and
- ES Volume 4: Technical Appendices: these will provide supplementary details of the environmental studies conducted during the EIA including relevant data tables and photographs.
- ES Volume 5: Figures: these will include all relevant plans and drawings necessary to support the environmental topics.

26.1.2. Each environmental topic will include a summary at the beginning of each chapter to provide a high level overview of the assessment caried out in non-technical language.

26.1.3. There will also be the following (but not limited to) related technical documents submitted as part of the planning application:

- BNG Assessment
- Transport Assessment / Transport Statement
- Travel Plan
- Construction Traffic Management Plan

- Site Waste Management Plan
- Sustainability and Circular Economy Statement
- Operational Waste Management Strategy

27. Glossary

Term	Definition
Application Site	The Site for which the planning application is submitted
Baseline	Environmental conditions at specific periods of time, present on, or near a site, against which future changes may be measured or predicted
Construction	Within the ES this phrase refers to all construction works associated with the Proposed Development
Cumulative effects	The summation of effects that result from changes caused by a development in conjunction with other reasonably foreseeable development that is either consented or not yet construction or is in the process of seeking consent
EIA Regulations	The Town and Country Planning (Environmental Impact Assessment) Regulations 2017
Environmental effect	The consequence of an impact on the environment
Environmental impact	A physical or measurable change to the environment attributable to the Proposed Development
Environmental Impact Assessment (EIA)	A systematic means of assessing a development project's likely significant environmental effects undertaken in accordance with EIA Regulations
EIA Development	A development constitutes 'EIA Development' when it is determines that the Proposed Development requires EIA, or an ES is submitted to accompany the application
Environmental Statement (ES)	A statement that includes the information that is reasonably required to assess the environmental effects of the development and which the applicant can, having regard to current knowledge and methods of assessment, reasonably be required to compile, but that includes at least the information referred to in the EIA Regulations
Flood Zone 1	Low probability of flooding. Land having a less than 0.1% annual probability of river or sea flooding
Flood Zone 2	Medium probability of flooding. Land having between a 1% and 0.1% annual probability of river flooding; or land having between a 0.5% and 0.1% annual probability of sea flooding
Flood Zone 3	High probability of flooding. Land having a 1% or greater annual probability of river flooding; or land having a 0.5% or greater annual probability of sea flooding.
Hectare (ha)	A unit of area (10,000m^2 / 2.471 acres)
Heritage	Historical or cultural associations
Impact	A physical or measurable change to the environment attributable to the Proposed Development
Intra-scheme effects	The combined effects of individual topic impacts on a particular sensitive receptor
Inter-project effects	The combined effects of different development projects on a particular receptor
Methodology	The scientific approach and techniques used for the study

Term	Definition
Mitigation measures	Actions proposed to avoid, prevent, reduce and where possible offset significant adverse environmental effects arising from the whole or specific elements of a development
NPPF	The National Planning Policy Framework sets out the government's planning policies for England and how these are expected to be applied.
NPPG	National Planning Policy Guidance adds further context to the National Planning Policy Framework (NPPF) and it is intended that the two documents should be read together. The NPPG replaces over 7,000 pages of planning guidance that was previously published in separate documents.
Operational	When the Proposed Development is constructed on the Application Site and is in or ready for use
PAS2080	A standard for managing carbon in building and infrastructure. It looks at the whole value chain and aims to reduce carbon and cost through intelligent design, construction, and use
Planning Policy Guidance (PPG)	There are a series of PPGs covering various aspects of the planning system prepared by Central Government and due weight must be given to them when considering individual planning applications as they are material factors in their determination. They are listed on the Department for Communities and Local Government website. These have mainly been superseded by the National Planning Policy Framework (March 2012) and the accompanying Planning Practice Guidance
Receptor	A component of the natural, created or built environment such as people, water, air, a building, or a plant that has the potential to be affected by the Proposed Development
Scoping	An exercise undertaken to determine the topics to be addressed within the Environmental Statement
Schedule 1 Development	Includes larger scale projects and always require an EIA
Schedule 2 Development	An EIA is required is the development is likely to have significant impacts on the environment by virtue of factors such as its nature, size, location, and characteristics of the potential impact. The project is subject to a screening process to determine if an EIA is necessary
Schedule 3 Development	Do not require an EIA where the Secretary of State considers that the project is not likely to have a significant effect on the environment.
Sensitivity	A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor

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