ELEMENT SUSTAINABILITY

1NQ, Tariff Street

Manchester

Environmental Standards Statement

April 2024

Ref: 2022.264



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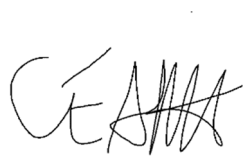
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Charles Atkins Sustainability Consultant	Luke Goodier Sustainability Consultant	Laurie Wills Director

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ELEMENT SUSTAINABILITY

phone: 01829 733 444

email: hello@elementsustainability.co.uk

www: www.elementsustanability.co.uk

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1. INTRODUCTION

Element Sustainability have been commissioned by United Living to review the sustainability and energy performance of the proposed new residential scheme, 1 Northern Quarter, Tariff Street in Manchester.

The purpose of this Statement is to summarise the relevant policy background and requirements of Manchester City Council (hereafter referred to as the council) and demonstrate the ways in which the design team have sought to address these aims through the schemes proposals, ensuring measures have been taken in order to provide a sustainable development at this site.

Details of the design attributes, specifications and characteristics of the scheme are appraised in order to establish how the proposals contribute to sustainable development in Manchester and seek to mitigate the environmental impacts of the scheme.

2. DEVELOPMENT PROPOSALS

2.1 Development Site Description

The proposed application site is currently utilised as a car park, operated by The Parking Space (TPS). The plot of land is accessed via Port Street and comprises hard standing and a perimeter wall. The site is bound by Tariff Street to the south, car parking to the southwest and west, Port Street to the north and hardstanding coupled with a derelict building beyond the site boundary to the north east.

Figure 2.1 – Pre-development Site



2.2 Development Proposals

The proposed 1 Northern Quarter (1NQ) scheme will consist of two new residential tower blocks (Block 1 and Block 2). Block 1 will provide a build to rent residential tower, consisting of 211 apartment units. The proposal for Block 2 includes a new tower block consisting of 56 apartments.

The accommodation schedules for block one and two are presented in table 2.1 and table 2.2.

Table 2.1 – Accommodation Schedule – Block 1

Floor	1 Bed	2 Bed	3 Bed
Lowest Floor	1	5	-
Ground Floor	4	8	1
First Floor	5	11	4
Second Floor	4	17	1
Third Floor	4	17	1

Fourth Floor	7	15	1
Fifth Floor	7	15	1
Sixth Floor	7	15	1
Seventh Floor	7	15	1
Eighth Floor	7	15	1
Ninth Floor	5	7	1
Tenth Floor	-	-	-
Total	**58**	**140**	**13**
	211		

Table 2.2 - Accommodation Schedule – Block 2

Floor	1 Bed	2 Bed	3 Bed
Lowest Ground Floor	-	-	-
Ground Floor	-	-	-
First Floor	-	2	1
Second Floor	4	2	-
Third Floor	4	2	-
Fourth Floor	4	2	-
Fifth Floor	1	4	-
Sixth Floor	1	4	-
Seventh Floor	1	4	-
Eighth Floor	1	4	-
Ninth Floor	1	4	-
Tenth Floor	1	4	-
Eleventh Floor	1	4	-
Total	**19**	**36**	**1**
	56		

The proposed plans and elevations are presented in Figures 2.2 to 2.11.

Figure 2.2 – Proposed Ground Floor Layout



Figure 2.3 – Proposed First Floor Layout



Figure 2.4 – Proposed Second to Third Floor Layout



Figure 2.5 – Proposed Fourth Floor Layout



Figure 2.6 – Proposed Fifth to Eighth Floor Layout



Figure 2.7 – Proposed Tenth Floor Layout



Figure 2.8 – Proposed Eleventh Floor Layout



Figure 2.9 - Proposed Twelfth Floor Layout



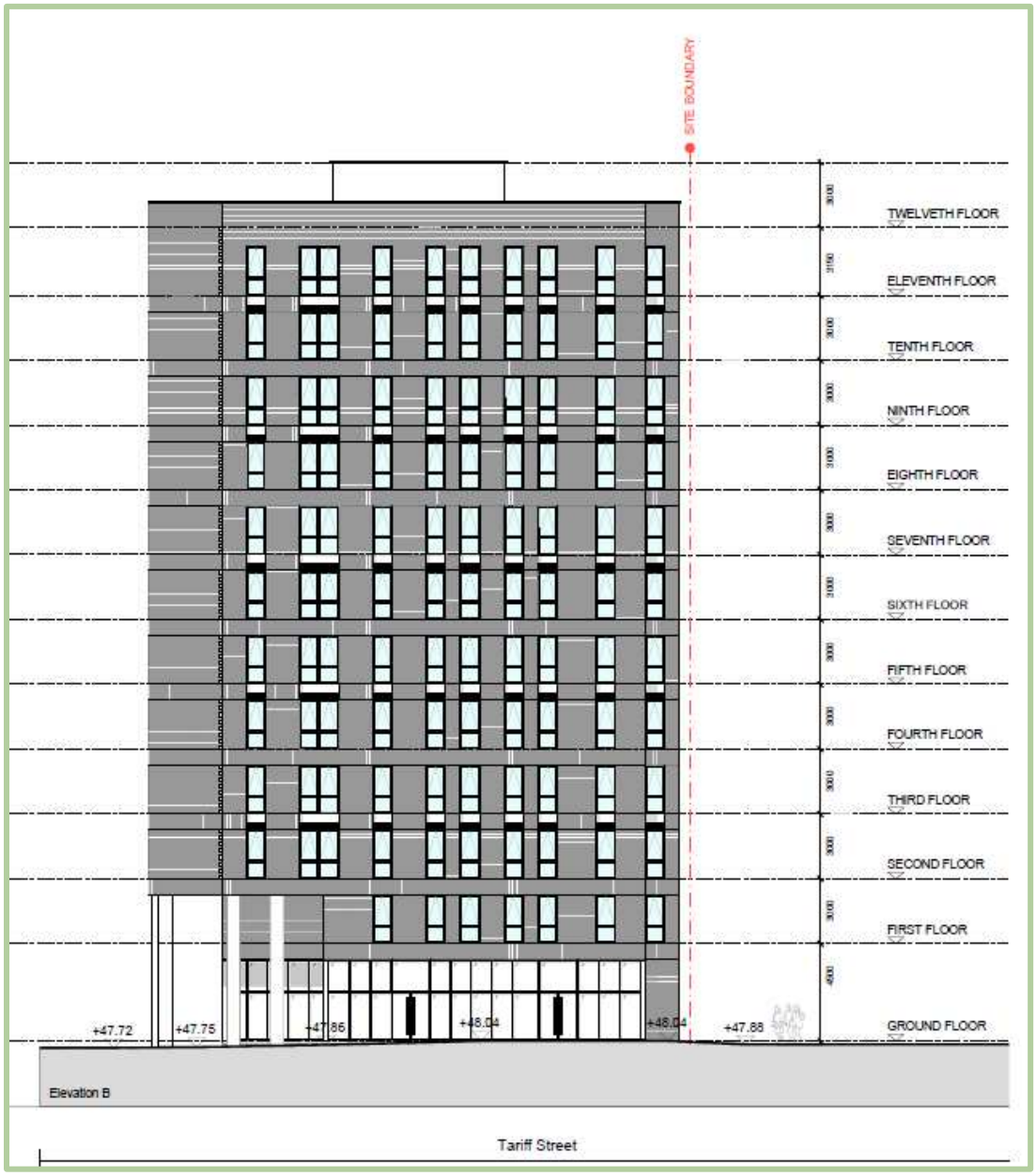
Figure 2.10 – Proposed Rooftop Layout



Figure 2.11 - Proposed Elevation A – Block 1



Figure 2.12 - Proposed Elevation A – Block 2



3. POLICY REVIEW

3.1 National Planning Policy

3.1.1 National Planning Policy Framework

The National Planning Policy Framework (NPPF) 2021 states that the planning system should play an active role in guiding development to sustainable solutions. At the heart of the 2021 updated NPPF lies the 'presumption' in favour of sustainable development. There are three dimensions to sustainable development, as stated within the NPPF: economic, social, and environmental. These dimensions give rise to the need for the planning system to perform a number of roles:

An economic role – contributing to building a strong, responsive, and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation; and by identifying and coordinating development requirements, including the provision of infrastructure;

A social role – supporting strong, vibrant, and healthy communities, by providing the supply of housing required to meet the needs of present and future generations; and by creating beautiful and safe places, with accessible local services that reflect the community's needs and support its health, social and cultural well-being; and

An environmental role – contributing to protecting and enhancing our natural, built, and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy.

These dimensions are considered to be mutually dependent with the NPPF, in its entirety, defining sustainable development. The NPPF states that 'the purpose of the planning system is to contribute to the achievement of sustainable development' (paragraph 7). It summarises the objective of sustainable development as meeting the needs of the present without compromising the ability of future generations to meet their needs. It goes on to state that at a similarly high level, members of the United Nations – including the United Kingdom – have agreed to pursue the 17 Global Goals for Sustainable Development in the period to 2030. These address social progress, economic well-being, and environmental protection.

3.2 Local Planning Policy

3.2.1 Manchester Local Development Framework – Core Strategy

Manchester's Core Strategy was adopted on 11th July 2012. The strategy sets out he long term strategic policies for Manchester's future development and will form the framework that planning applications will be assessed against. Therefore, the following planning policies are relevant to this scheme:

Policy CC5 – Transport: Developers should work with public transport providers to ensure that all users are able to access development by sustainable means, especially taking account of times when developments are likely to be busiest.

Proposals will be supported that improve pedestrian safety, improve air quality and increase the scope for accessible public realm improvements, for example improvements to:

- Remove buses and private cars from St Peter's Square
- Create a new pedestrian priority zone initially the area bounded by Deansgate, Peter Street / Oxford Street, Portland Street, Piccadilly North, Manchester Arndale, Corporation Street and Exchange Square
- Close Victoria Street in the Medieval Quarter to traffic and create a new public realm around the Cathedral and Chethams.

The Council will seek to ensure that development includes adequate parking provision for cars and bicycles.

Policy T1 – Sustainable Transport: To deliver a sustainable, high quality, integrated transport system to encourage modal shift away from car travel to public transport, cycling and walking, to support the needs of residents and businesses and to prepare for carbon free modes of transport, the Council will support proposals that: -

- Improve choice by developing alternatives to the car;
- Promote regeneration and economic vitality by relieving traffic congestion and improving access to jobs and services, particularly for those most in need and for those without a car;
- Improve access to transport services and facilities in order to enable disabled people and people with mobility impairments to participate fully in public life;
- Improve pedestrian routes and the pedestrian environment;
- Improve and develop further Manchester's cycle network (for example the Manchester Cycleway and the Trans Pennine Trail);
- Contribute to improvements to the extent and reliability of the public transport network through safe and attractive waiting and interchange facilities, better priority, improved services and information provision;
- Improve and develop appropriate road, rail and water freight transport routes and associated intermodal freight transport facilities in order to assist in the sustainable and efficient movement of goods;
- Facilitate modes of transport that reduce carbon emissions e.g by incorporating charging points for electric vehicles, subject to their appropriate design and location;
- Would reduce the negative impacts of road traffic, for example, congestion, air pollution and road accident casualties; and,
- Take account of the needs of road users according to a broad hierarchy consisting of, in order of priority:

    - Pedestrians and disabled people
    - Cyclists, public transport,
    - Commercial access,
    - General off peak traffic,
    - General peak time traffic.

Policy EN4 – Reducing CO_2 Emissions by Enabling Low and Zero Carbon Development: The Council will seek to reduce fuel poverty and decouple growth in the economy, growth in CO_2 emissions, and rising fossil fuel prices, through the following actions:

- All development must follow the principle of the Energy Hierarchy, being designed:

    - To reduce the need for energy through design features that provide passive heating, natural lighting and cooling;
    - To reduce the need for energy through energy efficient features such as improved insulation and glazing; and,

  - To meet residual energy requirements through the use of low or zero carbon energy generating technologies

- Wherever possible new development and retrofit projects, including energy generation plant, must be located and designed in a manner that allows advantage to be taken of opportunities for low and zero carbon energy supplies;
- Where possible new development and retrofit projects will be used as a mechanism to help improve energy efficiency and provide low and zero carbon energy supplies to existing buildings;
- Where appropriate new development and retrofit projects will be required to connect to and/or make contributions to low or zero carbon energy schemes and/or to incorporate provision to enable future connection to any existing / potential decentralised energy schemes; and,
- The use of building materials with low embodied carbon in new development and refurbishment schemes.

Policy EN6 - Target Framework for CO_2 reductions from low or zero carbon energy supplies:

Applications for residential development of 10 or more units and all other development over 1,000sqm will be expected as a minimum to meet the target shown in figure 3.1 and 3.2 below, unless this can be shown not to be viable. This should be demonstrated through an energy statement, submitted as part of the Design and Access Statement. Such a statement will be expected to set out the projected regulated energy demand and associated CO_2 emissions for all phases of the development.

Figure 3.1 – Domestic CO_2 Emissions Reduction Targets

Target	% Minimum Requirement
Target 1: Network development area	CHP/district heating anchor or connection or where not feasible a 15% increase on Part L 2010
Target 2: Electricity intense buildings	+15% increase on Part L 2010
Target 3: Micro generation area	+15%increase on Part L 2010

Figure 3.2 – Non - domestic CO_2 Emissions Reduction Targets

Target	% Minimum Requirement
Target 1: Network development area	CHP/district heating anchor or connection or where not feasible a 15% increase on Part L 2010
Target 2: Electricity intense buildings (Applies to commercial uses with a high proportion of emissions from electricity use (>45 kg CO_2/m^2))	+10%increase on Part L 2010
Target 3: Micro generation area	+15%increase on Part L 2010

Where the CO_2 emissions reduction required under any future revision to Part L of the building regulations becomes greater than the '% Minimum requirement', the reduction required under building regulations would apply.

Developments smaller than the above threshold but involving the erection of a building or substantial improvement to an existing building will also be expected to meet the minimum target, where viable, but will not be expected to submit an energy statement.

The target framework relates to three broad development locations and their potential for low and zero carbon, decentralised energy. The areas are defined as follows:

- Target 1 Network development areas: Locations where the proximity of new and existing buildings, the mix of uses and density of development provide the right conditions to support district heating (and cooling);
- Target 2 Electricity intense areas: Locations where the predominant building type has an all-electric fit-out such as retail units and leisure complexes; and
- Target 3 Micro-generation areas: Locations where lower densities and a fragmented mix of uses tend to mean that only building scale solutions are practical.

Where the Council identifies an 'allowable solution', for example within an energy proposals plan, that would produce higher carbon reductions at no extra cost than that of achieving the '% minimum requirement' (or required under building regulations if greater) the higher percentage reduction will be required. The cost comparison is based on the cost of incorporating the 'allowable solution' at design stage.

The energy statement will be required to be submitted at the outset of any proposed development (outline application or before). Developers will be permitted to use green infrastructure elements such as green roofs, green walls, street trees and waterways to contribute to compliance with CO_2 mitigation, subject to the energy statement incorporating evidence such as modelling to demonstrate compliance.

Guidance on what the energy statement should contain and how to decide which target applies to a development proposal is given in Appendix A.

Policy EN8 – Adaption to Climate Change: All new development will be expected to be adaptable to climate change in terms of the design, layout, siting and function of both buildings and associated external spaces. In achieving developments which are adaptable to climate change developers should have regard to the following, although this is not an exhaustive list:

- Minimisation of flood risk by appropriate siting, drainage, and treatment of surface areas to ensure rain water permeability;
- Reduction in urban heat island effect through the use of Green Infrastructure such as green roofs, green walls, increased tree cover and waterways;
- The need to control overheating of buildings through passive design;

The opportunity to provide linked and diverse green space to enhance natural habitats which will assist species adaptation Developers will be permitted to use green infrastructure elements such as green roofs, green walls, street trees and waterways to contribute to compliance with CO_2 mitigation under Policy EN6, subject to sufficient evidence to quantify their contribution to compliance.

Policy EN9 – Green Infrastructure: New development will be expected to maintain existing green infrastructure in terms of its quantity, quality and multiple function. Where the opportunity arises and in accordance with current Green Infrastructure Strategies the Council will encourage developers to enhance the quality and quantity of green infrastructure, improve the performance of its functions and create and improve linkages to and between areas of green infrastructure. Where the benefits of a proposed development are considered to

outweigh the loss of an existing element of green infrastructure, the developer will be required to demonstrate how this loss will be mitigated in terms of quantity, quality, function and future management.

Key features of Manchester's green infrastructure will include:

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

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

Policy EN14 – Flood Risk:

- In line with the risk-based sequential approach contained within PPS25, development should be directed away from sites at the greatest risk of flooding, and towards sites with little or no risk of flooding; this should take account of all sources of flooding identified in the Manchester-Salford-Trafford Strategic Flood Risk Assessment (SFRA);
- In addition to the requirements for site-specific Flood Risk Assessments (FRAs) set out in PPS25, an appropriate FRA will also be required for all development proposals, including changes of use, on sites greater than 0.5ha within Critical Drainage Areas (CDAs) and Canal Hazard Zones identified in the SFRA.
- All new development should minimise surface water run-off, including through Sustainable Drainage Systems (SUDS) and the appropriate use of Green Infrastructure. Developers should have regard to the surface water run-off rates in the SFRA User Guide. In CDAs, evidence to justify the surface water run-off approach / rates will be required.
- The City of Manchester contains many sections of rivers which are culverted or 'hidden'; where these are indicated in the SFRA beneath the proposed development site, further investigation will be required and the development proposal should take this into account; where feasible and appropriate development should seek to open up culverted/hidden rivers to reduce the associated flood risk and danger of collapse, taking advantage of opportunities to enhance biodiversity and Green Infrastructure.

Policy EN15 – Biodiversity and Geological Conservation: The Council will seek to maintain or enhance sites of biodiversity and geological value throughout the City. Particular consideration will be given to:

- Sites with international or national designations for their biodiversity value. Manchester contains one Site of Special Scientific Interest (SSSI) (Cotteril Clough); there is a Special Area of Conservation (SAC) and an SSSI just over the border in Oldham (both on the Rochdale Canal within Oldham);
- Other sites of biodiversity value, including Sites of Biological Importance (SBIs) and Local Nature Reserves (LNRs); Manchester currently has 35 SBIs (including the Rochdale and Ashton Canals) and 7 LNRs; priority habitats found within Manchester, as listed in the Manchester Biodiversity Strategy and included in the Greater Manchester Biodiversity Action Plan (GM BAP);

- Protected and priority species, as listed in the Manchester Biodiversity Strategy and included in the Greater Manchester Biodiversity Action Plan (GM BAP);
- Sites that are recognised for their geological importance; and,
- The Council's objective to protect and conserve the City's existing trees and woodlands and the aim for a net increase in trees across the City.

Developers will be expected to identify and implement reasonable opportunities to enhance, restore or create new biodiversity, either on-site or adjacent to the site, contributing to linkages between valuable or potentially valuable habitat areas where appropriate, with reference to:

- The Manchester Biodiversity Strategy, which provides further details of priority habitats within Manchester and opportunities for biodiversity enhancement including corridors such as the Mersey, Medlock and Irk river valleys, the canals and disused railway lines and areas of managed greenspace particularly in parks;
- The Green Infrastructure Framework for Greater Manchester, which encompasses an ecological framework that seeks to guide and inform habitat creation and repair, including identifying large 'biodiversity opportunity areas' including the Moston Brook Corridor and Nutsford Vale;
- The Open Space, Sport & Recreation Study, which identifies areas where there is a deficit of natural and semi-natural greenspace, opportunities for green corridors and other linkages;
- Manchester's Climate Change Action Plan;
- The Strategic Flood Risk Assessment (SFRA) for Manchester;
- The Habitats Regulations Assessment (HRA) for Manchester, which gives detailed consideration to Special Areas of Conservation (SACs), including the Rochdale Canal SAC just outside the district boundary;
- The River Basin Management Plan for the North West; and,
- The Manchester Tree Strategy

Any adverse impacts on biodiversity will need to be justified against the wider benefits of the proposal, assessed against other LDF policies. Where adverse impacts are unavoidable, developers will be required to provide appropriate mitigation and/or compensation.

Development should wherever possible seek to maintain, enhance or restore existing geology.

Policy EN16 – Air Quality: The Council will seek to improve the air quality within Manchester, and particularly within Air Quality Management Areas, located along Manchester's principal traffic routes and at Manchester Airport. Developers will be expected to take measures to minimise and mitigate the local impact of emissions from traffic generated by the development, as well as emissions created by the use of the development itself, including from Combined Heat and Power and biomass plant.

When assessing the appropriateness of locations for new development the Council will consider the impacts on air quality, alongside other plan objectives. This includes cumulative impacts, particularly in Air Quality Management Areas.

Policy EN17 – Water Quality: With reference to the Manchester-Salford-Trafford SFRA and other relevant documents:

- Development should avoid any adverse impact on water quality, including during the construction phase, and wherever possible should seek to enhance water quality, both chemical and ecological;
- Development should minimise surface water run-off from development and associated roads, and maximise the use of appropriate sustainable drainage systems, to minimise groundwater contamination, and to avoid pollutants reaching watercourses;

- Development close to a watercourse should also ensure that waste or litter cannot enter the watercourse from the site; and
- Development should, where feasible and appropriate, seek to open up any culverted or hidden watercourse beneath the site to improve the ecological status of that watercourse.

Policy EN19 – Waste: The Council will:

- Work with other Districts through the Greater Manchester Joint Waste Development Plan Document (GMJWDPD) to safeguard existing sites for waste management and identify and safeguard new sites in existing areas of employment where appropriate;
- Require all developers, including those of new waste management facilities within the District, to demonstrate the proposal's consistency with the principles of the waste hierarchy (prevention, reduction, re-use, recycling/composting, energy recovery, final disposal);
- Require all developers to submit a waste management plan to demonstrate how both construction and demolition waste will be minimised and recycled on site wherever possible and how the sustainable waste management needs of the end user will be met.
- Encourage communities to take responsibility for the waste they create through the provision of accessible facilities.

Policy DM1 – Development Management: All development should have regard to the following specific issues for which more detailed guidance may be given within a supplementary planning document:-

- Appropriate siting, layout, scale, form, massing, materials and detail.
- Impact on the surrounding areas in terms of the design, scale and appearance of the proposed development. Development should have regard to the character of the surrounding area.
- Effects on amenity, including privacy, light, noise, vibration, air quality, odours, litter, vermin, birds, road safety and traffic generation. This could also include proposals which would be sensitive to existing environmental conditions, such as noise.
- Accessibility: buildings and neighbourhoods fully accessible to disabled people, access to new development by sustainable transport modes.
- Community safety and crime prevention.
- Design for health.
- Adequacy of internal accommodation and external amenity space.
- Refuse storage and collection.
- Vehicular access and car parking.
- Effects relating to biodiversity, landscape, archaeological or built heritage.
- Green Infrastructure including open space, both public and private.
- The use of alternatives to peat-based products in landscaping/gardens within development schemes.
- Flood risk and drainage.
- Development incorporates sustainable construction techniques as follows (In terms of energy targets this policy should be read alongside policy EN6 and the higher target will apply):-

    - For new residential development meet as a minimum the following Code for Sustainable Homes standards. This will apply until a higher national standard is required:

        - Year 2010 – Code Level 3;
        - Year 2013 - Code Level 4;
        - Year 2016 - Code Level 6; and

- For new commercial developments to demonstrate best practice which will include the application of the BREEAM (Building Research Establishment Environmental Assessment Method) standards. By 2019 provisions similar to the Code for Sustainable Homes will also apply to all new non-domestic buildings.

3.3 Supplementary Planning Documents

3.3.1 Guide to Development in Manchester SPD

The Guide to Development in Manchester is effectively a hybrid document acting as both a Supplementary Planning Document and planning guidance.

Energy Efficiency: Part 1 UDP Policy E1.5 encourages high standards of energy efficiency in new development. In the Environmental Standards Statement, developers should show how they have considered the steps necessary to reduce energy demand at the earliest stages of design. Developers should aim to reduce CO_2 emissions by at least 25% more than the requirements of the current Building Regulations, which when this document was adopted, was Building Regulations: Approved Document L (2006) – 'Conservation of Fuel and Power.' The following design principles will assist developers in achieving energy efficiency targets:

- Minimise reliance on energy-using equipment for heating, cooling, lighting and natural ventilation;
- Position trees and soft landscaping on and around the development and within buildings to provide natural shading, insulation and air conditioning;
- Integrate energy efficient micro-generation and community heating schemes, such as combined heat and power (CHP);
- Site layout and building design principles should maximise the capture and use of daylight and passive solar energy, whilst avoiding excessive solar gain in summer; and
- Specify energy and water efficient appliances and systems.

Renewable Energy: To reduce energy demand and the harmful impact of using energy from non-renewables, in line with the initial UDP Part 1 Policy E1.5, developers should aim for at least 20% of final site energy demand to be met by on-site renewable energy technologies. To achieve this, developers should[1]:

- Assess opportunities for integrating small and large scale renewable energy generation systems (i) to improve the energy security of occupants and the neighbourhood, including siting of energy generation businesses on-site and export of surplus energy;
- Use a mix of technologies to help generation patterns match demand;
- Investigate energy generation opportunities before designing building envelopes or fixing their location, to optimise utilisation of wind, solar and geothermal resources;
- Consider final energy demand rather than building energy consumption in the selectien6on and sizing of generation equipment;
- Explore opportunities to tackle waste and energy issues collectively through use of anaerobic digesters linked to CHPs (Combined Heat and Power devices); and,
- Consider private wire networks as an alternative to grid connection and availability charges on larger developments.

[1] However, in accordance with the more recent adopted Core Strategy, the proposed target framework in EN6 is expressed in terms of CO_2 reduction rather than a requirement for renewable energy, providing flexibility to the developer in terms of how the target is met. The target is framed with reference to building regulations, so compliance is easy to measure using the Standard Assessment Procedure (SAP) and the National Calculation Methodology".

Environmental Design: Developers must demonstrate energy efficiency in line with UDP Part 1 Policy E1.5. For residential developments, this should be through the use of the Department for Communities and Local Government's 'Code for Sustainable Homes

To demonstrate energy efficiency in non-residential developments, the City Council would encourage developers to use the Building Research Establishment Environmental Assessment Method (BREEAM) which is used to assess environmental performance. Developments should be achieving a design and post-construction rating of "very good." However, using alternative modelling tools that enable the developer to exceed the requirements of BREEAM is also encouraged

Water Management and Weather Resilience: Sustainable drainage systems (SUDS) should be included, and the amount of hard surfacing minimised, for example by providing on site capture and soakaway of all rainwater on site.

Waste Management: All developments should have a waste management strategy included in the Environmental Standards Statement. This will ensure that adequately sized bin storage areas, access for collection crews and vehicles, and other aspects of waste management are designed into the development at the earliest stage.

Biodiversity: UDP Part 1 Policies E2.3 and E2.4 require the protection of wildlife, wildlife habitats, and where possible, the creation of new nature reserves and features which will sustain wildlife.

Developers will need to contribute to Manchester's Biodiversity Strategy by demonstrating in their Environment Standards Statement how they have taken full account of the effect of their proposed development on biodiversity

3.4 Emerging Policies

3.4.1 Places for Everyone

The Draft 'Places for Everyone' (PfE) Plan is a new long-term plan of nine Greater Manchester districts (Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan) for jobs, new homes, and sustainable growth. It has been prepared by the GMCA on behalf of these nine districts.

The Draft Plan will determine the kind of development that takes place across the city-region, maximising the use of brownfield land and urban spaces while protecting green belt land from the risk of unplanned development. It will also ensure all new developments are sustainably integrated into Greater Manchester's transport network or supported by new infrastructure.

On 1st March 2022, the Secretary of State appointed three planning inspectors to conduct an independent examination of the Places for Everyone Joint Development Plan Document. It is therefore considered that the Plan is in an advanced stage of preparation.

3.5 Climate Emergency

On 10th July 2019, a motion asking MCC to formally declare a climate emergency was unanimously agreed. The motion declares that climate change is a serious risk to Manchester's future and committed to embedding the issue as an integral part of council decision-making – making sure that all key decisions are taken with the city's target of becoming zero-carbon by 2038 in mind.

The council has agreed the following:

- To deliver the 2038 zero carbon target and determine if an earlier target can be possible;
- Encourage involvement in all wards by April 2020 through meetings as part of the Our Manchester strategy;
- Review all policies, processes and procedures to ensure the council can become carbon neutral. Present an action plan by March 2020 detailing how the city can stay within its carbon budget;
- Make climate breakdown and the environment an integral part of activity throughout the council, including all decision making, ensuring key decisions take into account the impact on achieving the zero-carbon target;
- Investigate measures to ensure future procurement is carbon neutral. Increase the percentage of social value with an additional environmental element;
- Work with suppliers to green their supply chains and support local production;
- Investigate and introduce measures to help reach domestic zero carbon levels including addressing fuel poverty and retrofitting existing homes; and
- Investigate ways to ensure that future local plans place a mandatory requirement for all new development to be net zero carbon by the earliest possible date.

In March 2020 the Executive adopted the Manchester Climate Change Framework 2020-2025. The five-year framework sets out measures that MCC will take in order to reduce carbon emissions from its buildings, energy use and transport.

3.6 Regulatory Framework

Building Regulations, Part L - Conservation of Fuel and Power sets the compliance standards for energy demand and carbon dioxide emissions from buildings. Guidance on how to meet the requirements of this regulation is provided within a number of approved documents. The relevant document is referenced below:

Approved Document Volume 1: Dwellings: Gives guidance on how to comply with Part L of Schedule 1 to the Building Regulations and the energy efficiency requirements for dwellings. These standards came into effect in June 2022 and are subject to a twelve-month transitional arrangement period. Part L 2021 standards are expected to reduce dwelling carbon emissions by 31% in relation to Building Regulations Part L, 2013.

Minimum energy performance requirements shall be approved and expressed in accordance with the methodology for:

a) New buildings (which shall include new dwellings), in the form of target CO_2 emission rates;
b) New buildings, in the form of target fabric efficiency rates; and
c) New buildings in the form of target primary energy rates.

3.7 Applicable Targets

- NPPF Guidance

- Manchester Core Strategy
  Policy CC5 – Transport
  Policy T1 – Sustainable Transport
  Policy EN4 – Reducing CO_2 Emissions by Enabling Low and Zero Carbon Development
  Policy EN6 - Target Framework for CO_2 reductions from low or zero carbon energy supplies
  Policy EN8 – Adaption to Climate Change
  Policy EN14 – Flood Risk
  Policy EN15 – Biodiversity and Geological Conservation
  Policy EN16 – Air Quality
  Policy EN17 – Water Quality
  Policy EN19 – Waste
  Policy DM1 – Development Management

- Building Regulation, Part L (2021)
  Approved Document Volume 1

4. SUSTAINABLE PERFORMANCE

This section provides an appraisal of the development proposals and details the specific approach, design features and specifications which will contribute to reducing the environmental impact of the proposed development. This section outlines those commitments that have been made by the client to ensure this development meets the council's current policies and examines the following categories identified below:

- Energy efficiency;
- Renewable energy;
- Sustainable design;
- Water management;
- Waste management;
- Construction management;
- Transport;
- Health wellbeing;
- Biodiversity; and,
- Surface water management.

Key specifications, site characteristics and design measures of the proposed development are considered below. They will mitigate the environmental impact of the scheme throughout both the construction stage and the future occupation of the development.

4.1 Energy Efficiency

In order to limit energy demand and carbon dioxide (CO_2) emissions from the operation of the buildings, a number of design features will be integrated that will collectively contribute towards the emissions reduction for the scheme.

Detailed measures are presented in Chapter 5 of this report, but in essence, the energy strategy focuses on a holistic and multi-faceted approach of improving the buildings' performance by applying a fabric-led approach and through improvements in the efficiency of the mechanical and electrical systems.

The reduction in energy demand to meet the carbon reduction targets will be achieved through the following design measures:

- High performance thermal insulation;
- Low air permeability; and
- Heat recovery ventilation systems (MVHR)

4.2 Water

The proposed development will be designed to reduce mains/potable water consumption and will include the following water efficient design and equipment:

- 'A' rated appliances will be used for dishwashers and washing machines (where provided) for their water saving capabilities;

- Specification of efficient water fixtures throughout the scheme (low flow taps and showers, dual flush WCs and low volume baths); and,

- In order to reduce water demand, the sanitary fixtures will be specified to achieve a calculated daily consumption of <110 litres/person/day.

4.3 Materials and Resources

This development will contribute towards making more efficient use of non-renewable material resources and to reducing the lifecycle impact of materials used in construction. This is demonstrated by the selection of:

- Materials with low environmental impact throughout their lifecycle;
- Responsibly sourced materials from suppliers operating an Environmental Management System or procuring timber verified by either the Forest Stewardship Council (FSC) or Programme for the Endorsement of Forest Certification standard (PEFC);
- Local sourcing of construction materials where feasible and viable, which will minimise the impact of carbon dioxide emissions associated with the transportation of materials;
- Robust materials such as permeable paving, block paving and stone will be utilised for hard landscaping therefore, minimising the frequency of replacement and maximising materials optimisation and extending replacement intervals;
- Material selection within the apartment and will be carefully considered to avoid the use of toxic materials, such as Volatile Organic Compounds (VOCs) and contribute towards creating a healthy indoor environment; and,
- Excavated material (such as soil and substructural elements) from construction and demolition works will be used, where practical, for landscaping purposes and within the public realm.

4.4 Flood Risk Management

A Flood Risk Assessment and Outline Drainage Strategy has been produced by Fairhurst, to establish the flood risk associated with the proposed development. From this the following conclusions can be drawn:

Flood Risk -

- The proposed site is located within Flood Risk Zone 1 and therefore has a low probability of flooding. Data provided on the Environment Agency website confirms the Flood Risk Zone classification for the site (see Figure 4.1).
- The extent of flooding from surface water is considered to be very low across the majority of the site, with a small proportion of the site within an area at low risk as shown in figure 4.2.

Figure 4.1 – EA Flood Zone Risk Map

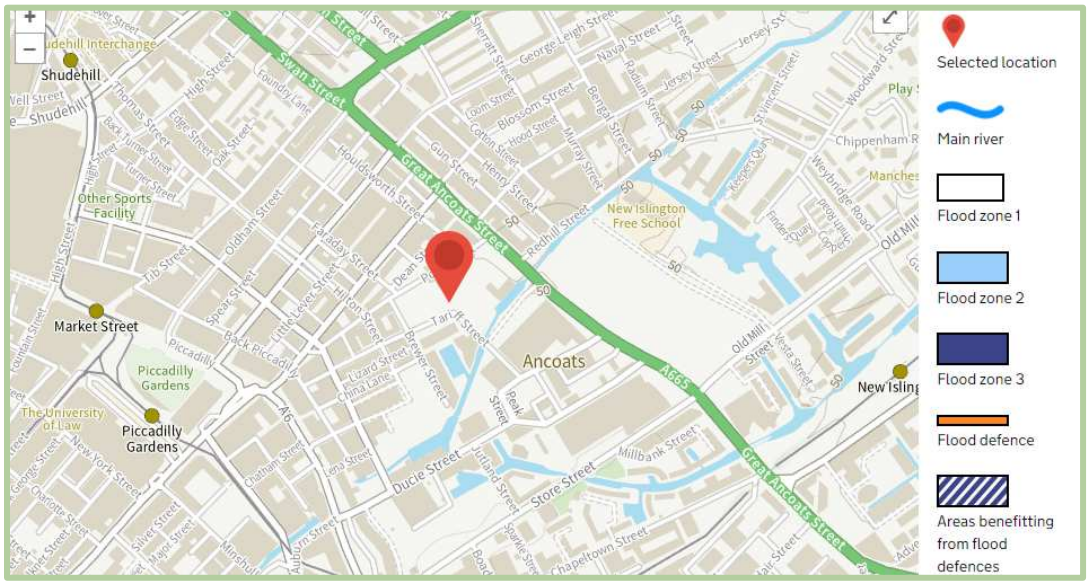
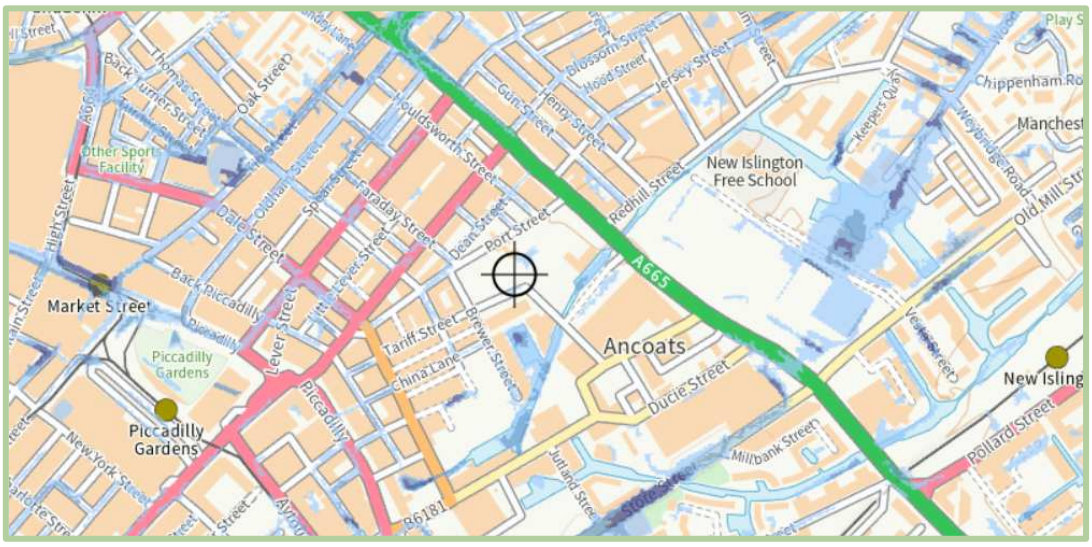


Figure 4.2 - EA Extent of Flooding from Surface Water



On Site Surface Water -

- The majority of the site is not at risk from surface water flooding. However, the area to the east is subject to surface water flooding where the lower ground floor apartments are proposed.

- The developer commits to ensuring that the surface water runoff will be managed, and the runoff rate will not exceed 5 l/s based on the peak greenfield flowrate for this development.

- The site is also not at risk of reservoir flooding and the BGS flood data indicates the site has limited potential for groundwater flooding to occur.

- A SuDS Audit has been completed for the site and the following SuDS designs are considered suitable on site:

    - Rainwater Harvesting and Water Butts
    - Below ground tank Storage
    - Flow Control Structure (Hydro Brake)
    - Permeable Pavement to external paved areas

Therefore, the proposed development will not increase flood risk to the wider catchment area as a result of the suitable management of surface water runoff discharging from the site, in accordance with Core Strategy Policy EN14.

4.5 Waste Management

This development will encourage the reduction of waste from construction and throughout the lifetime of the building, via a waste management plan. To demonstrate how both construction and demolition waste will be minimised and recycled on site wherever possible in accordance with Core Strategy Policy EN19.

The proposals include for the following provisions, which consider current and future needs, and respond to functional requirements and climate change adaptation:

Construction Waste –

- Prior to commencement of the construction phase, a site waste management plan (SWMP) will be produced by the developer to limit the on and off-site environmental impacts of construction. The SWMP will detail:

    - Recycled and secondary materials;
    - Waste reduction;
    - Waste segregation;
    - Waste recovery; and,
    - Waste disposal.

- This scheme will promote the minimisation of waste arising and seek to maximise the use of recycled materials in construction; and,

- A site waste management plan will identify opportunities to minimise waste generation and divert construction waste away from landfill.

Operational Waste -

The operational waste strategy for the scheme focuses on the segregation of waste at source, in order to maximise the potential for residents and visitors to recycle in accordance with Core Strategy Policy EN19.

All residents will be informed on collection frequency, as well as guidance on recycling and health and safety practices related to the management and storage of waste.

The proposed strategy has been developed in compliance with the policies of Manchester City Council:

- Waste will be segregated at source with the help of segregated bins. It is expected that there will be multiple streams of waste – general, recyclables and compost / green waste;
- Residents will be required to take their waste (via lifts) to the refuse store on the ground floor;
- The number of bins and subsequently the size of the refuse store is based on waste generation figures for each apartment;
- The management company will be responsible for transferring the waste from the refuse store to a hardstanding service area on the day of collection by refuse operators; and
- Following collection, the bins will be returned to the refuse store.

4.6 Health and Wellbeing

The development will seek to (where viable to do so) enhance the quality of the buildings by increased comfort, health and safety of building users, visitors and others within the vicinity.

Visual Comfort -

- The external lighting strategy will be designed to reduce unnecessary light pollution, energy consumption and nuisance to neighbouring properties.

Thermal Comfort -

To ensure that appropriate thermal comfort levels are achieved throughout the design, and controls are selected to maintain a thermally comfortable environment for occupants within the building, the following will be undertaken:

- Thermal modelling will be carried out to appropriate standards; and,

- Projected climate change scenario(s) will be considered as part of the thermal model.

Safety, Security and Healthy Surroundings

- Security needs will be understood and taken into account in the design and specification. This will ensure effective measures are implemented that promote safe and secure use of the building.

4.7 Management

In order to minimise the impact of the development during project delivery, construction and operation whilst providing a safe place to live, the proposals include for the following provisions:

Construction site impacts -

To recognise and encourage construction sites that are managed in an environmentally and socially considerate, responsible, and accountable manner, the following will be carried out/implemented during the construction phase:

- All timber and timber-based products used throughout the project will be classified as 'legally harvested and traded timber'; and,

- The principal contractor will demonstrate sound environmental management practices and consideration for neighbours across their activities on-site.

4.8 Biodiversity

A Preliminary Ecological Appraisal has been prepared by Tyrer Ecological Consultants Ltd. The report provides an overview of the habitats present within the site and any issues associated with protected species. From this the following conclusions can be drawn:

- No habitats of conservation importance were identified on the application site;
- No botanical species of conservation were identified within the site boundary and no further recommendations are applied at this time; and,
- Negligible bat roost potential in accordance with the Bat Conservation Trust

The site has poor linkages to the abovementioned habitats due to the level of infrastructure surrounding the site, which provides a significant barrier to dispersal for most terrestrial species; though access to the application site by avian fauna is considered possible. The pre-developed site is therefore of negligible ecological value and the appraisal confirms that limited habitat mitigation is considered necessary, however, the development could include the following measures:

- Integrated bat boxes
- Soffit access
- External fitted boxes
- Ridge access
- Bird boxes
- Bee bricks

The proposed planting strategy will also create new habitat opportunities and enhance the site's ecological value.

Figure 4.3 – Proposed Landscape Plan



4.9 Transport

A Transport Assessment has been prepared by Vectos Limited. The assessment concludes that future building users will have a variety of sustainable travel options to choose from that will reduce reliance on the car in accordance with Core Strategy Policy T1.

The proposed development is located within an urban centre, in a highly sustainable location; particularly in relation to key pedestrian routes, rail, and bus transport nodes. The site is well located in terms of non-car modes of transport with basic facilities all within easy walking distance of the site.

- Bus – There are bus stops located within 0.5 miles of the site, the nearest bus stops are located on Lever Street and Warwick Street, which can be accessed within a five-minute walk from the site. Further bus stops are available at Piccadilly Gardens and along Patron Street.

- Rail – The nearest major train station is Manchester Piccadilly Station, located just a ten-minute walk away from the site (within 0.5 miles of the site). The station services regional and national locations.

- Tram - The site is located within 0.5 miles of the Piccadilly Gardens Metro Stop to the west of the site. Providing services to destinations such as Bury, Altrincham and Media City.

- Cycle - The area is accessible by bike with particularly strong links to employment opportunities in the city centre. The site will also provide cycle parking spaces to encourage the use of this mode of transport.

- Pedestrians – The site is in a sustainable location with basic facilities that can be accessed from the development via foot or public transport.

Local Amenity Access -

- The site benefits from good links to local city centre amenities, shops and recreational facilities which are all within walking distance.

5. HOME QUALITY MARK

A Home Quality Mark (HQM) Pre-Assessment has been produced to identify a possible route to achieving a 4* rating.

HQM is a customer- focused, third-party assessment and certification scheme. It recognises new homes where performance meets best-practice standards that are often significantly above those required by regulation. It defines a rigorous, evidence-based, relevant and independent voluntary standard for new homes, and is built on tried and tested processes commonly used in the UK and the rest of the world.

HQM measures performance across a wide range of financial, wellbeing, environmental and social issues to give an overview of the performance of the whole home and how it may affect the occupier. HQM can only be used to assess new-build homes and apartments in England, Scotland and Wales. HQM is not appropriate for the refurbishment of existing homes or for new-build projects which are defined for more than one household to live, such as student accommodation.

The HQM rating benchmarks for HQM UK new construction projects assessed using the V6 version of HQM are presented in Table 5.1 below.

Table 5.1 – HQM Rating Benchmarks

HQM Rating	Credits Required	% Score Required	Equivalent BREEAM Rating
1*	Minimum Requirements Only		N/A
1.5*	90	18	
2*	100	20	
2.5*	120	24	
3*	150	30	Good
3.5*	190	38	
4*	240	48	Very Good
4.5*	300	60	Excellent
5*	400	80	Outstanding

The minimum standards to achieve a HQM rating are provided below (Table 5.2). To achieve a particular level of performance the majority of HQM credits can be traded, i.e. non-compliance in one area can be offset through compliance in another to achieve the target HQM rating.

To ensure that performance against fundamental issues is not overlooked in pursuit of a particular rating, HQM sets minimum requirements of performance in key areas.

Table 5.2 – Home Quality Mark Minimum Standards

HQM Issues	Criteria	Credit Summary
Flood Risk Assessment	1 – 2	Carry out an assessment of the sites risk of flooding.
Flood Consequence Assessment (Wales Only)	3 – 4	
Approved Document Q Compliance (Wales Only	2	The home meets Approved Document Q.
Temperature Analysis	2	Thermal analysis has been carried out. The result of the analysis is included in the home information with guidance on how to manage high temperatures..
Information Sign	1	A securely fixed sign providing information on the location, design intent, operation and maintenance of all ventilation systems and controls has been installed in the home
Ventilation Rates	4	The home achieves the minimum ventilation rates set for systems 3 and 4
Maintenance and Controls	8	Ventilation systems are capable of boosting the rates during instances of increased humidity
Project Delivery Plan	3 - 4	A project delivery plan is in place, which sets out roles, responsibilities, target, requirements for handing over the home to the occupier after construction is complete, strategy to manage quality, carry out commissioning and testing
Product Procurement and Substitution Policy	5	The project has a product procurement and substitution policy in place
Dissemination of Information	6	Processes are in place to communicate project requirements and key considerations to all trades and site workers
Commissioning Building Services and Control Systems	1 - 3	Commissioning of building systems is carried out according to best practice guidance, by people not involved in installations
Visual defects inspection	2	A visual defects inspection is carried out for the assessed home when construction is complete to make sure any defects identified are put right and that the home is finished and habitable (suitable to live in) in line with the specifications
Construction Inspections	3	Inspection details are agreed and carried out at key stages to ensure the home complies with required performance characteristics. Any design variations or material substitutions are appropriately managed and approved.
Construction Record	4 – 5	Throughout the construction stage, a record is kept of all the quality assurance measures carried out
Building Warranty	1	The home is covered by a building warranty, recognised by the Consumer Code for Home Builders or the Trading Standards Institute
Handover Visit	2	The developer has committed to provide demonstrations to occupants when they move in to make sure they know how to operate and maintain their home
Home Information	1	The developer gives occupants key information in an accessible way, to help them get the most from their home.

HQM Rating

The HQM Pre-Assessment has been prepared for the proposed the development by a qualified, licensed HQM Assessor. This determines the feasible credits and potential HQM rating for the Tariff Street scheme and demonstrates a commitment to the principles of good construction, design and sustainability.

Indicative **HQM Score** and Rating: **4* (50%)**

Working alongside the qualified HQM Accredited Professional assessor, the technical design team has reviewed the individual credit criteria and award of credits within the Pre-Assessment in order to optimise the building's HQM performance. All credits allocated within the HQM Pre-Assessment will require further technical verification and additional feasibility assessment during the formal Design Stage and Post Construction HQM assessment.

The HQM Pre-Assessment shows that the development is expected to perform as follows:

Tariff Street -

- Indicative building HQM score = **50.00%** *(minimum required = 48% for HQM 4 Star Rating)*
- Indicative HQM rating = Potential for **HQM '4*' rating.**

Following an initial review of the proposals, the HQM Pre-Assessment report demonstrates that the proposed development is able, in principle, to meet all mandatory credit requirements and achieve an overall HQM '4*' rating.

Note that a number of assumptions have been made within this initial appraisal which will require confirmation by means of further technical input during the formal assessment, once the design and specifications are finalised. The approach to achieving the target HQM rating may, therefore, be subject to change further into the development cycle.

6. ENERGY STRATEGY

The energy strategy for this development prioritises a fabric led solution combined with mechanical and electrical servicing provision. An enhanced building fabric specification throughout the scheme allied to efficient servicing and controls will help the dwellings to achieve compliance with the stringent new build carbon dioxide emission reduction, primary energy and fabric energy efficiency targets stipulated by Building Regulations, Part L Approved Document Volume 1 (2021).

Details of the proposed energy strategy are presented below.

6.1 Build Fabric and Thermal Performance

The standard measurement of heat transfer through a given building material or construction type is the U-value (W/m^{2}K). The lower the U-value, the more slowly heat transfers and is lost out of a building. In buildings, heat loss generally occurs through the following main areas and elements of the construction:

- External walls;
- Ground floor;
- Roofs;
- Doors and windows;
- Thermal bridging; and
- Uncontrolled ventilation.

Table 6.1 presents the fabric parameters proposed for both blocks, which will limit heat loss and improve the buildings performance for the new residential apartments.

Table 6.1 – Proposed Fabric Specification

Item	Specification
Ground Floor	U = 0.12 W/m^{2}K
External Wall	U = 0.15 W/m^{2}K
Party Wall	U = 0.00 W/m^{2}K
Flat Roof	U = 0.12 W/m^{2}K
Windows	U = 1.20 W/m^{2}K g = 0.35 (Southerly Elevations) g = 0.40 (Northerly Elevations)
Air Permeability	3.00m^3/hm^2 (@50Pa.)
Thermal Bridging	Bespoke Psi Values

This enhanced material specification and design provides the following benefits:

- **High performance thermal insulation** will ensure low U-values for all heat loss elements will minimise heat loss through the thermal envelopes of the dwellings;

- **Thermally efficient, 'A' rated, double glazed windows** will be specified with argon gas fill and low emissivity coatings to limit heat loss through the panes. Thermal breaks will be incorporated within the frames of the vision panels to further limit heat loss. The glazing 'g value' will be specified to optimise beneficial solar gains but limit the propensity for the dwelling to overheat.

- **A low air permeability of 3.00m^3/hm^2** will minimise uncontrolled ventilation. This will reduce heat losses and provide high levels of occupant comfort;

- **Improved cold bridging junctions** through the provision of insulation to reduce heat and limit heat losses that occur at the junctions between building elements and around openings, will significantly improve the emission rate of the dwellings. 'Bespoke' psi values have been used to achieve a low y-value thus minimising heat loss through cold bridge junctions; and,

- **Residential apartment blocks** are an inherently efficient form of construction, both in terms of the materials required to build the dwellings and the ongoing heat energy demand. This is a result of relatively low areas of external heat loss elements associated with such layouts which enhance the energy efficiency of the dwellings and guarantees low energy demand throughout their occupation.

This enhanced fabric specification will deliver a Building Regulation Part L Approved Document Volume 1 compliant scheme for all aspects of the proposed development and thereby exceeds the policy requirements stipulated in policy EN6. It ensures an inherently energy efficient development, focussing upon limiting demand side reductions in accordance with the energy hierarchy.

6.2 Building Services

The proposed mechanical and electrical specification that will be incorporated throughout both blocks to ensure efficient servicing of the dwellings is presented in Table 5.2.

Table 6.2 – Proposed Mechanical and Electrical Specification

Item	Specification
Ventilation	Kitchen Energy Recovery System (KERS) Mechanical Ventilation Heat Recovery W230
Lighting	100% 'Low E' / LED, 120lm/W
Main Heating	Electric panel heaters
Water Heating	Kitchen Energy Recovery System (KERS) Mechanical Ventilation Heat Recovery W230
Heating Controls	Programmer and appliance thermostat

This mechanical and electrical specification will deliver a Building Regulation Part L Approved Document Volume 1 compliant scheme for all aspects of the proposed development and thereby exceeds the policy requirements stipulated in policy EN6.

The mechanical and electrical specification will provide the following benefits:

- **Low energy and LED lighting** will be specified throughout the dwellings in order to maximise operational efficiencies and lifespan of the fittings. LEDs operate with an estimated energy efficiency of up to 90% when compared to traditional lighting and conventional light bulbs. This means that about c.90% of the electrical energy is converted to light, rather than wasted heat as in conventional bulbs;

- **Electrical panel heating** is 100% efficient at the point of consumption and generates a reduced overheating potential. Electric space heating also delivers virtually instantaneous heating at the location it is required.

- **Sophisticated heating controls** including appliance programmer and room thermostats will ensure the efficient delivery of heat from electric panel heaters to further reduce the dwellings' energy demand; and,

- Kitchen Energy Recovery System (KERS) MVHR systems will be specified in each apartment unit to maintain a healthy living environment. This will further reduce the heat losses and the energy demand of the apartments. KERS MEV is a combined heat recovery, hot water heat pump and MEV system coupled with a high-efficiency storage cylinder (see Figure 6.1). The system actively converts excess waste heat energy from kitchens and bathrooms to low-cost, renewable hot water;

Figure 6.1 – Example KERS System



Source: KERS Energy Recovery

7. CARBON DIOXIDE EMISSIONS CALCULATIONS

In order to demonstrate the environmental benefits associated with the energy strategy for the proposed apartments, approved SAP 10 software has been used to generate representative energy demand models for the development. SAP software calculates the regulated energy demand and associated carbon dioxide emissions in accordance with the requirements of Building Regulations, Part L Approved Document Volume 1 (2021) that this development will be constructed in compliance with.

7.1 Regulated Energy Performance Calculations

Table 7.1 below presents a summary of the results, which show the regulated energy demand and emission reductions achieved by the enhanced material specification and efficient servicing for both Block 1 and 2.

Table 7.1 – Calculated Regulated Dwelling Emission Rates

	1NQ – Block 1	1NQ – Block 2
Dwelling DER ($kgCO_2/m^2/yr.$)	5.23	5.75
Target TER ($kgCO_2/m^2/yr.$)	11.87	12.89
Variance (%)	**55.91**	**55.41**

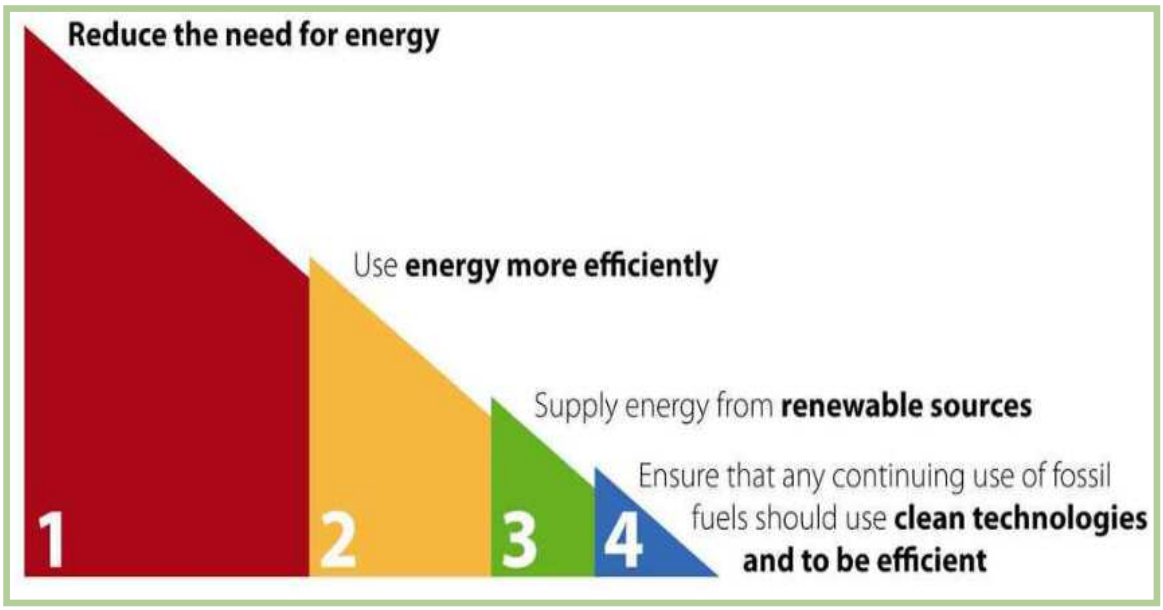
Both blocks for the proposed development have the potential to secure a 55% carbon dioxide reduction rate, relative to the current Part L Approved Document Volume 1 (2021) requirements. Thereby exceeding Manchester Core Strategy Policy EN6 requirements.

The development will incorporate an enhanced material specification along with high quality design and construction standards; in order to improve the energy efficiency of the whole building through a 'fabric led' energy strategy, allied to efficient mechanical and electrical systems.

7.2 Energy Hierarchy

The Energy Hierarchy has been used as a framework to guide this energy strategy to achieve practical and cost-effective carbon emission reductions. It is intended that the construction, design and specification proposed for this scheme will deliver dwellings that are inherently efficient and cost-effective during occupation. The hierarchy prioritises such demand-side activities to reduce wastage and improve efficiency (see Figure 7.1).

Figure 7.1 – The Energy Hierarchy



First Principle

The development will benefit from a material and design specification that is aligned with Building Regulation standards and includes numerous efficiency measures designed to reduce heat losses and minimise energy demand, including:

- ✓ High performance u - values;
- ✓ Reduced thermal bridge heat losses;
- ✓ Efficient form of construction, limiting heat loss areas; and,
- ✓ Low design air permeability target.

This 'fabric led' approach to minimising energy demand and associated carbon dioxide emissions through the performance of the thermal envelope is aligned with the first principle of the energy hierarchy, which states that reduction in energy demand should be achieved initially by energy efficiency.

Second Principle

100% low energy and LED lighting provision and sophisticated control systems for the space and water heating will boost the operational efficiency of the dwellings. The heat recovery ventilation systems ensure that energy consumed is managed efficiently, as per the second principle of the Energy Hierarchy.

Third Principle

The KERS MEV indoor heat pump is a combined hot water, heat recovery and MEV system with a storage cylinder. It converts waste heat energy from bathrooms and kitchens to low-cost renewable hot water and has an operating efficiency of over 300%.

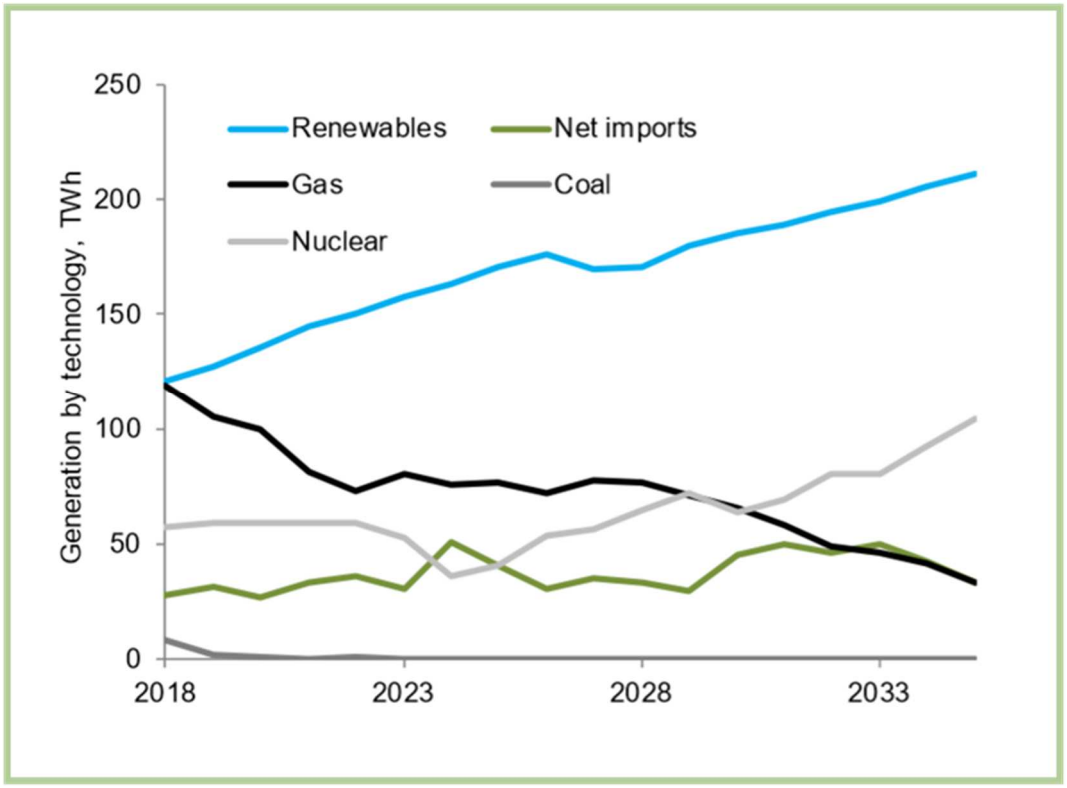
Fourth Principle

The remaining space heating demand of the dwellings will be met by direct acting, 100% efficient electrical systems.

The use of electric panel heaters will ensure that fossil fuels converted and distributed through the National Grid as electrical energy for heating purposes will be consumed cleanly and efficiently.

Furthermore, as the UK electricity grids' CO_2 footprint continues to improve, so too would the carbon dioxide emissions associated with the operational phase of the proposed scheme which benefits from a 'full electric' energy strategy.

Figure 7.2 - Energy and Emissions Projections 2018 (BEIS)



8. CLIMATE CHANGE EMERGENCY

A climate emergency was declared by Manchester City Council on 10th July 2019, with a target to make Manchester zero carbon neutral by 2038. In support of this, the developer wishes to highlight the following measures that will form part of the specification of this development:

- An energy strategy that delivers carbon dioxide emission reductions, which exceed Building Regulations Part L requirements and that is in line with the Energy Hierarchy:
    - In securing compliance with the current, stringent building regulation Part L targets, a commitment is made to construct a high quality, energy efficient thermal envelope thereby minimising demand side energy loads.

- Unregulated energy demand (that is, the energy demand associated with 'plug in' appliances) typically accounts for over half of the total carbon dioxide emissions from modern developments such as this. To limit this:
    - The integrated white goods will have as a minimum an A+ energy rating;
    - A Welcome Pack could be provided to all building users to enable them to make informed decisions; and,
    - All landlord supply will be supplied by 'low carbon' electricity tariffs, containing high percentage of renewables, above that supplied within the standard grid mix (the facilities manager will be required to ensure this is maintained going forward).

- Waste is a misuse of natural resources and also contributes towards a large proportion of the UK's carbon footprint;
    - Waste minimisation and material re-use during construction will reduce raw material demand, thereby reducing the building's embodied carbon footprint; and,
    - During occupation, the building will benefit from recycling facilities to enable the local authority waste reduction targets, diverting more materials away from landfill and reducing the building's carbon footprint further.

The proposed development will demonstrate resilience to potential climate change effects through cycle storage facilities and the management of surface water:

- The proposed development will not increase the surface water risk on site, as a result there will be a neutral impact of the volume run-off rates pre-development to post-development.
- The site's location will enable a low carbon, sustainable lifestyle. Located within the heart of Manchester city centre, the building users have the option to utilise various sustainable modes of transport. This is facilitated by:
    - Basic infrastructure provided for future connections such as secure cycle storage on site;
    - Travel options, including local access to transport nodes for bus and rail; and,
    - Local amenities that are within easy walking distance of the site, enabling building users to support local businesses with a reduced need to travel.

- The building is designed to incorporate features that will serve to reduce energy demand, and in turn, carbon emissions arising from access to the building:

- The lighting provision will include active sensors; and,
- The fit-out specification will seek to minimise water demand. Water efficiency measures (such as dual flush toilets and flow restrictors) will limit potable water demand. This will reduce water heating energy loads and also cut the process energy required to supply clean drinking water.

These commitments, in combination, support the carbon reduction target of no more than 1.5°C global temperature increase and assist Manchester City Council in meeting their Climate Change Emergency objectives.

9. CONCLUSION

This statement has reviewed the environmental performance of the proposed development against national and local planning policies. The key policy requirements of Manchester city Council have been achieved by the proposals, while responding positively to the council's declaration of a climate emergency. Therefore, the conclusions that may be drawn from the process is as per the following:

Sustainability Performance –

The proposals respond positively to the aims of saved and emerging planning policies of Manchester City Council.

- Water consumption of the development will be minimised through the specification of efficient water fixtures. The internal water strategy will exceed the regulatory standard specified to achieve a calculated daily consumption of <110 litres/person/day through the specification of efficient water fixtures.

- The proposed scheme location promotes access to sustainable transport options. Provision of cycle storage and access to regular busses will contribute towards creating a highly connected and sustainable development.

- The site is located within Flood Zone 1, and therefore the probability of flooding from nearby rivers is low.

- Surface water runoff will be minimised through the implementation of SuDS in accordance with core strategy policies EN8 and EN14.

- Waste arising during construction and occupation/operation will be minimised through the implementation of a Waste Management Plan (WMP) in accordance with policy EN19. The WMP will be used to ensure that there is adequate management and storage of construction waste takes place in line with the Council's policies. Opportunities for the possible recycling of construction from excavation works will also be considered in line with best practice.

- Materials with a low environmental impact, which are responsibly and locally sourced will be prioritised in accordance with policy EN4. Furthermore, Material selection will be carefully considered to avoid the use of toxic materials and materials with VOCs.

- The pre-developed site is of negligible ecological value and the appraisal confirms that limited habitat mitigation is considered to be necessary. However, the developer will enhance the sites biodiversity in accordance with policy EN15.

Energy Strategy -

Full compliance with the key criteria of the councils Core Strategy, its saved policies and accompanying supplementary planning documents have been achieved by aligning the proposed energy strategy with the principles of the energy hierarchy, whilst also responding positively to the council's declaration of a Climate Emergency.

- The focus is on reducing the demand for energy by **limiting heat gains and losses through the building fabric** which includes an enhanced material specification, well beyond the regulatory requirement.

- The apartments will integrate highly efficient mechanical and electrical systems, including **electric panel heaters for space heating**, **low energy lighting and mechanical ventilation heat recovery;**

- The development will benefit from an **all-electric energy strategy** that is 100% efficient at the point of consumption. Therefore, as the UK's electricity grid decarbonises, the buildings' operational emissions will also reduce over time.

- Based on the proposed specification, both blocks will **secure a 55% carbon dioxide emissions reduction**, relative to the current Part L Approved Document Volume 1 (2021) requirements. Thereby exceeding MCC's Core Strategy Policy EN6.

Furthermore, the proposals accord with the aims of the National Planning Policy Framework, as follows:

- Exceeding the regulatory compliance criteria for Part L 2021 Regulations will assist in **reducing the environmental impact of the proposed development**.

- Construction practices that minimise adverse impacts on the environment will be adhered to including a waste management strategy to **reduce the quantity of waste generated**, and to **increase re-use and recycling**, a commitment will be made to **minimise waste and pollution**.

As required by the National Planning Policy Framework (NPPF), proposed development should "contribute to conserving and enhancing the natural environment". Whilst the site is currently considered to have low ecological value, the proposed development provides an opportunity to increase this value and contribute to local biodiversity. Accordingly, a number of appropriate measures have been proposed.

The proposals reviewed within this statement for the Tariff Street 1NQ residential scheme will deliver a highly energy efficient and sustainable development, that accords with the guidance provided within the Manchester City Council's adopted planning policies.