

Back of Ancoats - Ancoats Mobility Hub
Environmental Standards and Energy Statement

AMH-BH-XX-XX-RP-N-(00)2000

0047195

16 April 2021

Revision 01

Revision	Description	Issued by	Date	Checked
00	DRAFT - Issued for comment	TS	16.04.21	MR
01	Final submission	TS	28.04.21	MR

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Executive Summary

This Environmental Standards and Energy Statement has been prepared in support of the Application for Full Planning Permission and Demolition for the Ancoats Mobility Hub.

The Proposed Development Site covers an area of approximately 0.33 ha. in total and is bounded by Poland Street to the west, the City Court Trading Estate to the South, Crown Industrial Estate to the North and Ancoats Green to the East to deliver a mobility hub development of up to 8 storeys including 150 cycle parking spaces, 410 car parking spaces, a ground floor retail unit and a delivery hub. The Site can be accessed by pedestrians and vehicles via Poland Street.

It should be noted that the site is located within the Ancoats and New Islington area. The regeneration and development that has taken place so far has been guided by the Ancoats and New Islington Development Framework which was originally endorsed by Manchester City Council in October 2014. In July 2020, Manchester City Council endorsed a refreshed Neighbourhood Development Framework which focused on the Poland Street Zone in Ancoats and was prepared to ensure future development preserved the character of the area whilst meeting future housing, sustainability and community needs. The Neighbourhood Development Framework states that the development will be a welcoming residential area with a range and mix of accommodation befitting a neighbourhood of choice within a low car use area with high levels of cycle parking.

This Statement seeks to demonstrate how Manchester City Council's (MCC) sustainability policies within the Core Strategy (2012) and Manchester Guide to Development (2007) have informed the Proposed Development. This Statement should be read in conjunction with a separate Sustainability Statement, which aims to address how the Proposed Development is responding to the Zero Carbon and sustainability related policies including Manchester and Greater Manchester Combined Authority.

In summary, the development is actively targeting the following environmental standards, in line with the planning policies:

- The Hub will be central to an integrated transport plan and infrastructure of the Ancoats area and promote sustainable travel modes with modal shift towards walking, cycling and public transport.
- The Hub has incorporated the facility for Electric Vehicle and e-bike charging which will further accelerate take-up of EVs and encourage the residents to move away from privately owned fossil fuel vehicles. This would significantly improve air quality of the neighbourhood.
- The building has been designed with green walls with the associated benefits on improving air quality and reducing surface water run-off.
- The car park floors have been designed to be naturally ventilated throughout the year. This would reduce annual energy use significantly.
- The ground floor amenity spaces have been designed with mechanical ventilation with heat recovery, this would improve energy efficiency and reduce annual energy use. Through adopting the 'fabric first' approach for the ground floor amenity and commercial spaces, the proposed Hub can meet the EN6 planning requirement of 15% improvement on Part L 2010, which is approximately 6% over above Part L 2013. By using PVs, the Hub has the potential to meet the projected carbon standards of the upcoming Part L 2020 (based on the consultation paper).

- 40% of the estimated annual car park and landlord operation energy will be from the roof mounted PVs. This would significantly reduce the electricity use from the grid, thus reducing carbon emissions.
- The Hub will provide a 'day one' Electric Vehicle (EV) charging facility of 25% which is based on evidence, with the power infrastructure having the capability of providing 100% EV with smart management in place.
- The roof mounted PVs will contribute to charging EVs. From "day one" provision, 7 rapid chargers each rated at 50kW will be benefitted from the PVs generated electricity.
- Due to the nature of the building, lighting at night time presents the largest proportion of the annual energy use, whilst PVs energy generation peak at noon time during summer months. The building has been allocated with an external compound for a potential battery in the future. This would in the future improve efficiency and contribution from the PVs to reduce the energy and carbon of the building further.

1.1 Scope of the Document

This Environmental Standards Statement has been prepared in support of the Application for Full Planning Permission and Demolition for Back of Ancoats Phase 1 – Ancoats Mobility Hub in a Conservation Area.

This Statement seeks to demonstrate how Manchester City Council's (MCC) environmental sustainability policies have informed the Proposed Development.

The Statement comprises the following sections:

- **Planning Policy Review** to set the context for the development and identify key present and potential future planning related environmental sustainability targets,
- **Energy Statement** to summarise how the development responds to the carbon reductions, and
- **Environmental Standards Review** to outline how the development will respond to the Environmental Standards set out in Chapter 4 of the Guide to Development in Manchester Supplementary Planning Document and Planning Guidance (Adopted April 2007), and relevant Core Policies (Adopted July 2012) which form part of the Manchester Local Plan.

It is recognised that sustainable development cuts across a number of issues and disciplines, reference should be made to the accompanying planning documents for further technical details. Of particular note are the following documents:

- Water Management and Weather Resilience (Hill Cannon)
- Waste Management (Buttress Architects)
- Construction Management (Manchester Life)
- Ecological Survey (Tyler Grange)
- Transport Assessment (Hydrock)
- Air Quality Report (Hoare Lea)

1.2 Description of Development

The Proposed Development involves the erection of a mobility hub building of up to 8 storeys including 150 cycle parking spaces, 410 car parking spaces, a ground floor retail unit and a delivery hub.

1.3 Site Description

The Site covers an area of approximately 0.33 ha. in total and is bounded by Poland Street to the west, the City Court Trading Estate to the South, Crown Industrial Estate to the North and Ancoats Green to the East. The Site can be accessed by pedestrians and vehicles via Poland Street. The Site is currently occupied by low-rise, multi-tenanted industrial estate units and hardstanding. Modern industrial units lie to the north and south of the Site with the residential neighbourhood of Miles Platting further beyond to the east. The Rochdale Canal is located 0.2km south of the Site.

The Site is located within the Ancoats and New Islington area. The regeneration and development that has taken place so far has been guided by the Ancoats and New Islington Development Framework which was originally endorsed by Manchester City Council in October 2014. In July 2020, Manchester City Council endorsed a refreshed Neighbourhood Development Framework which focused on the Poland Street Zone in Ancoats and was prepared to ensure future development preserved the character of the area whilst meeting future housing, sustainability and community needs. The Neighbourhood Development Framework states that the development will be a welcoming residential area with a range and mix of accommodation befitting a neighbourhood of choice within a low car use area with high levels of cycle parking.

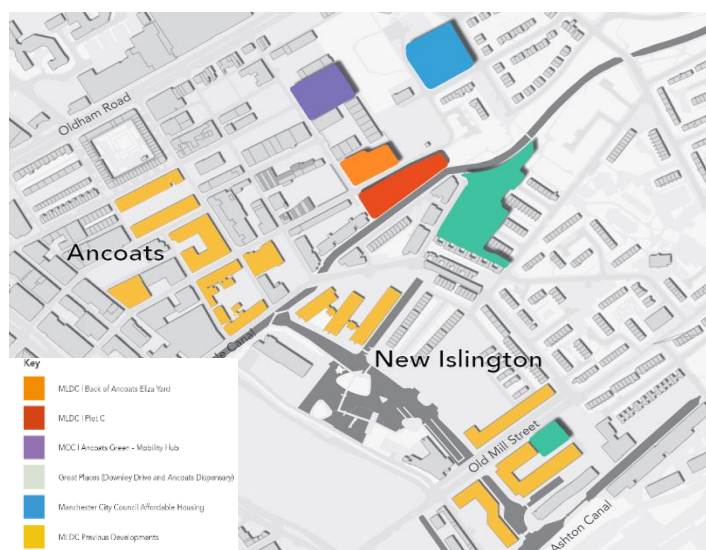


Figure 0-1 Location plan

Planning Policy Context

2.1 Scope of the Policy Review

To better understand the sustainability drivers for this development and set the policy context, a summary of key sustainable development policies at a national and local level has been provided. These reviews are in addition to that of the Sustainability Statement that will be included in support of the planning application, which sets out the overarching strategy and vision of Manchester Life for the Proposed Development.

2.2 National Policy

National Planning Policy Framework (Updated Feb 2019)

The National Planning Policy Framework and relevant planning practice guidance sets out the Government's planning policies for England. **The presumption in favour of sustainable development** is at the heart of the framework, cascading through to local plans and the approval process for planning applications.

Key issues addressed are summarised below:

Delivering a sufficient supply of homes	Achieving well-designed places
Building a strong, competitive economy	Protecting Green Belt land
Ensuring the vitality of town centres	Meeting the challenge of climate change, flooding and coastal change
Promoting healthy and safe communities	Conserving and enhancing the natural environment
Promoting sustainable transport	Conserving and enhancing the historic environment
Supporting high quality communications	Facilitating the sustainable use of minerals
Making effective use of land	

25 Year Environmental Plan (2018)

This plan sets out the Government's ambition to '*...champion sustainable development, lead in environmental science, innovate to achieve clean growth and increase resource efficiency to provide benefits to both our environment and economy*'.

The plan provides fresh impetus for the principles of sustainable development to be at the heart of decision-making, setting out clear objectives and common language for policy and decision makers to adopt

Policies and actions are structured around six key areas:

Chapter 1: Using and managing land sustainability
Chapter 2: recovering nature and enhancing the beauty of landscapes
Chapter 3: Connecting people with the environment to improve health & wellbeing
Chapter 4: Increasing resource efficiency and reducing pollution and waste
Chapter 5: Securing clean, healthy, productive and biologically diverse seas and oceans
Chapter 6: Protecting and improving our global environment

Climate Change Act 2008

The Climate Change Act sets out the UK Government's pathway to reduce greenhouse gas emissions by at least 80% (relative to 1990 levels) by 2050. This includes the requirements to set legally binding carbon budgets over five-year periods to act as intermediate milestones.

On 27th June 2019, a more ambitious target of net zero carbon by 2050 was adopted by the UK Government in response to public sentiment and the release of the Intergovernmental Panel on Climate Change (IPCC) Special Report on Global Warming of 1.5°C (October 2018).

Part L 2020 Building Regulation Consultation and Future Homes Policy (Nov 2019) and Draft Approved Document Part L Consultation (Jan 2021)

The Ministry of Housing, Communities & Local Government published the consultation paper for Part L 2020 and Future Homes Policy in autumn 2019. A series of energy and carbon targets have been set for the upcoming progressive energy improvement policies towards achieving net zero carbon standard in the future.

- A 20% reduction in carbon emissions over the current standard, expected to be delivered predominantly by very high fabric standards.
- A 31% reduction in carbon emissions over the current standard, achieved through a more minor increase to fabric standards, alongside low carbon heating and/or renewables e.g. PV.
- The intention for an average home built to Future Homes Standard 2025 will have 75-80% fewer carbon emissions than one built to Part L 2013.

Draft guidance of Approved Document Part L for dwellings (Part L1A) and for buildings other than dwellings (Part L2A) published in January 2021 provide the similar energy and carbon targets to those proposed in the 2019 consultation paper. It is expected that Part L1A 2020 and Part L2A 2020 will become the new legislative benchmark for all new buildings when they formally take effect likely in 2021 or 2022 subject to the confirmation from the government.

2.3 Local Policy

Core Strategy Development Plan Document (Adopted 11th July 2012):

The Manchester Local Plan guides development within Manchester. The Core Strategy is the key document in Manchester's Local Plan, covering a period of 15 years from 2012 to 2027. It sets out the long-term strategic policies for Manchester's future development, forming the framework for planning applications.

Sustainability cuts across the objectives set out within the Core Strategy. A summary of key policies relevant to the Environmental Standards Statement are summarised below:

Policy Ref	Summary of Requirements
DM1 Development Management	• Environmental design • BREEAM certification
EN4 Reducing CO2 Emissions by Enabling Low and Zero Carbon Development	• Apply principles of the Energy Hierarchy • Use of building materials with low embodied carbon

EN 6 Target Framework for CO2 reductions from low or zero carbon energy supplies	15% CO2 emissions betterment on Part L 2010
EN 8 Adaptation to Climate Change	- Minimise flood risk - Reduction in urban heat island effect through use of Green Infrastructure - Control overheating in buildings through passive design - Linked and diverse green space to assist species to adapt
EN 9 Green Infrastructure	- Maintain and enhance green infrastructure where possible - Encouragement of green roofs, green walls, tree planting and other forms of green infrastructure to allow for the adaptation to climate change in heavily urbanised areas.
EN 14 Flood Risk	- Flood risk assessment in line with PPS25 - Minimise surface water run-off, through SuDS and Green Infrastructure
16 Air Quality	Take measures to minimise and mitigate the impact of emissions from traffic and combustion plant resulting from the development
EN 17 Water Quality	Avoid adverse impact on water quality, including during construction
EN 19 Waste	- Apply principles of the waste hierarchy (prevention, reduction, re-use, recycling/composting, energy recovery, final disposal) - Waste management plan to minimise construction and demolition waste
T1 Sustainable Transport	Encourage modal shift away from car travel to public transport, cycling and walking

Guide to Development in Manchester Supplementary Planning Document and Planning Guidance (Adopted April 2007)

The Guide to Development in Manchester is effectively a hybrid document bringing together all the development principles that assist in creating a city which people choose to live, learn, work and relax. It does not create new planning policy but rather complements existing policies by providing additional guidance on compliance. Where policies from the former Unitary Development Plan (UDP) are referenced, these are superseded by the Core Strategy. Otherwise, the principles and guidance on the Environmental Standards Statement remain current and complimentary to the Local Plan.

'Section 4 Environmental Standards' sets out the Council's commitment to making Manchester "the Greenest City in Britain". An Environmental Standards Statement is required to accompany all planning applications, demonstrating the required environmental standards under the following headings have been met:

- Energy Strategy
- Environmental design
- Water management and weather resilience
- Waste management
- Construction management
- Biodiversity
- Adaptation to climate change

Energy Strategy

3.1 Introduction

This section of the report has been written in accordance with Policy EN6 of the Manchester Core Strategy (2012-2027), that require an Energy Statement be submitted.

Development Summary

The proposed mobility hub building consists of up to 8 storeys including 150 cycle parking spaces, 410 car parking spaces, a ground floor retail unit and a delivery hub.

The ground commercial and amenity spaces represent a small portion of the development. The target performance for these spaces are in line with the Policy EN6.

3.2 Approach to low energy building design

Energy Hierarchy

Ensuring optimal performance through passive design measures, commonly referred to as a 'fabric first' approach ensures efficient operation and reduced operational costs for prospective tenants. The energy hierarchy has been applied in order to identify opportunities for carbon emissions reductions:

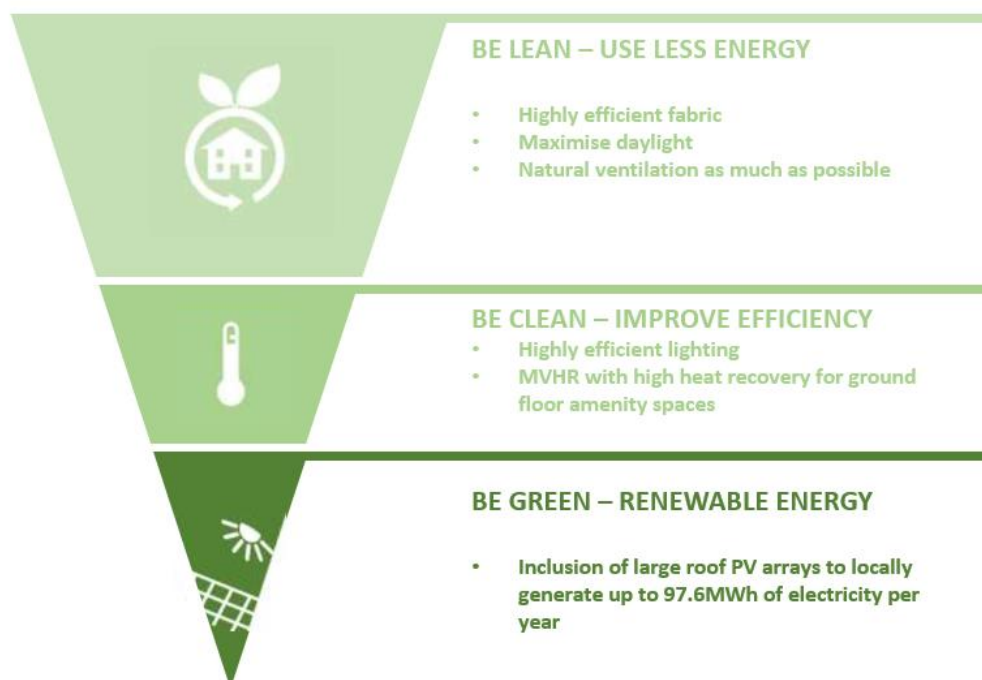


Figure 0-1 Energy Hierarchy Summary

Lean/Clean: Fabric and Services System

This section outlines the fabric and fixed services specification identified through the successful implementation of the energy hierarchy, highlighting the use of highly efficient LED lighting for the entire building and highly efficient MVHR units for the ground floor amenity spaces. The ground floor spaces include the following:

- Delivery Hub area comprising storage area, delivery counter, pick up lockers and staff mess etc – up to 755 sq. m.
- Cycle Hub area comprising storage; lockers; and, changing space – up to 245 sq. m.
- Commercial unit suitable for café uses Up to 221 sq. m.

The majority of the building is the naturally ventilated car park floors. It is designed in accordance with the requirements of Approved Document F. A minimum of 1/20th of the floor area shall be provided as an aggregate equivalent area, with a minimum of 25% provided on two opposing walls. As the car park floors are not designed to be habitable spaces, low energy design has been focussed on the specification of high efficient lighting system.

The table below outlines the fabric performance specification and a high-level summary of system performance for the ground floor occupied spaces. This performance standard exceeds the Part L2 2013 requirement.

Construction Element of ground floor occupied spaces	20% improvement over above the Part L Limiting fabric requirement
Wall U-Value	0.28 W/m ² K
Floor U-Value	0.2 W/m ² K
Roof U-Value	0.2 W/m ² K
Glazing U-Value (overall)	1.76 W/m ² K
Glazing G-Value	0.48 (0.8 Frame Factor)
Air Permeability	3m ³ /(h.m ²) @ 50Pa
Ventilation	MVHR, Low SFP, HR 81%
Lighting	100% Low Energy
Space Heating	Electric Panel Heaters
Water Heating	Local point of use (electric)
Space Cooling	MVHR and highly efficient VRF Split System where required.

Table 0-1 Proposed Specification Summary

Green: Implementation of Renewable Technologies

A preliminary review of the potential renewable technologies including wind turbines, PVs and heat pumps was carried out. The building will not be energy intensive and the heating demand will be low and is limited to the ground floor amenity and commercial spaces. Wind turbines are not feasible due to the potential impact of noise considerations and the fact that the close proximity of adjacent buildings would make the wind speeds not suitable for the urban installation of turbines. Due to the low heating and cooling demand of the building, a simple VRF system has been proposed instead of ground source heat pumps to provide low carbon solution and flexibility for future tenant fit-out of the commercial spaces.

A detailed assessment of the use of PVs for the Mobility Hub has been undertaken to demonstrate that the use of PV, coupled with a high-performance fabric and natural ventilation has proven to be the most economically effective design. The use of renewable technologies as indicated in the following section has reduced the energy use and carbon emissions significantly.

3.3 PV Feasibility

An energy study for the Hub has been undertaken, following the two steps of work:

- Establish the likely energy use of the building.
- PV energy generation potentials from the roof.

A multi-story car park is not classified as a habitable space and does not have “regulated” energy under Part L assessment. In order to evaluate the likely energy use of the building, metered data from the existing Manchester Life’s facilities have been used to provide a suitable energy benchmark for the proposed Mobility Hub, taking into account that natural ventilation for the car park floors and the ground floor amenity spaces.

Based on the energy assessment of the existing One Cutting Room Square car park and Sawmill Court, it has been found that annual energy use for the car park floors is in the order of **19.5kWh/m2/annum** and **57kWh/m2/annum** for the ground floor landlord amenity uses. This leads to the estimated total annual energy use of **240 MWh/annum** for the Mobility Hub including car park floors and landlord use on the ground floor.

Figure 3.2 shows the predicted Mobility Hub monthly energy use over 24hours including night-time energy, as well as the monthly energy use during the daytime only. The two energy use profiles are overlaid with the monthly PV generated energy assuming the fully potential of entire roof is utilised for PV generation.

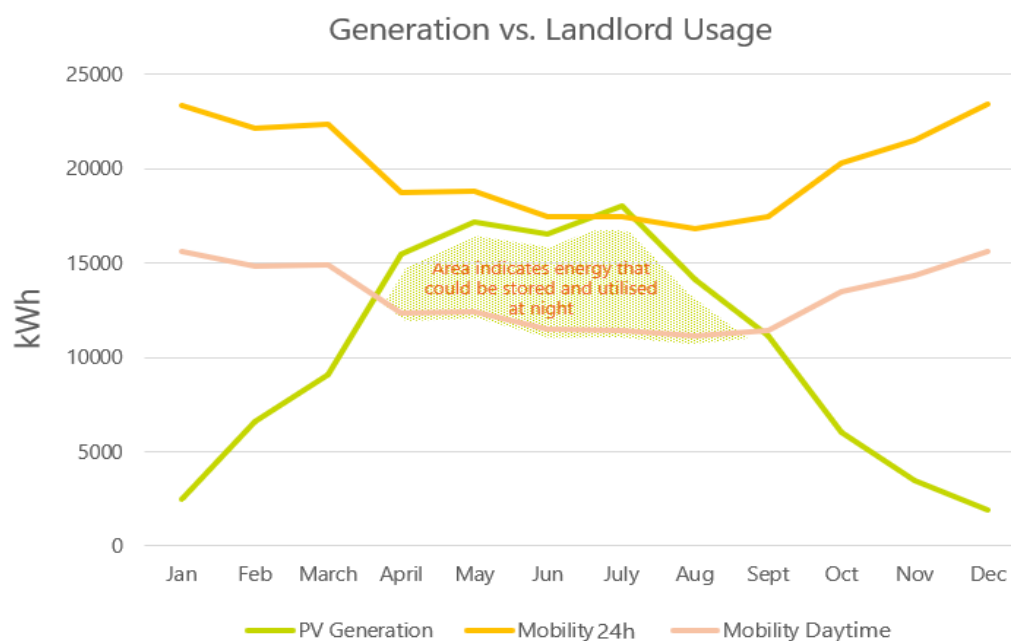


Figure 3.1 Car Park landlord energy use and potential PV energy generation

As can be seen from Figure 3.2, during the summer months, the renewable energy potentially generated on site will be much more than the daytime demand from the car park and the landlord uses. Three scenarios have been assessed in order to maximise the benefit of the PV energy, revenue and payback performance,

3.3.1 Scenario 1 - PV and battery

The aim is to maximise the use of renewable energy on site by installing battery so that the energy generated during the daytime can be stored for use during the night to meet the night-time demand such as lighting etc. Based on the peak time of a typical day in July, there may be 213kWh/day (6600kWh in July) PV energy that could be stored using battery.

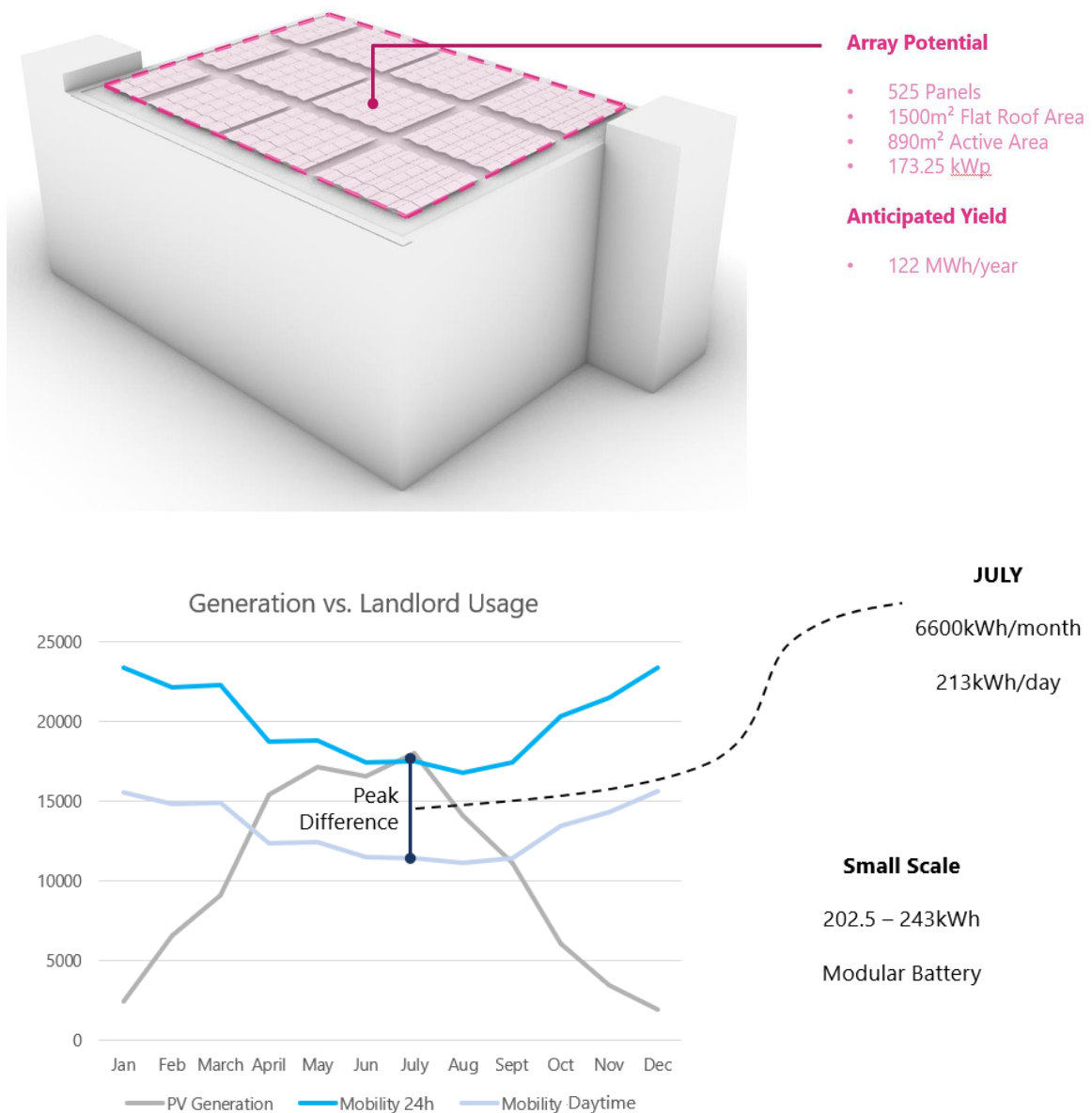


Figure 3.2 PV and battery to maximise the use of renewable energy on site

3.3.2 Scenario 2 - Smaller amount of PV

This scenario has been designed to ensure the payback period of the investment is around 10 years. The size of active PV array has been reduced to provide a better match between the supply and demand of energy for the landlord use.

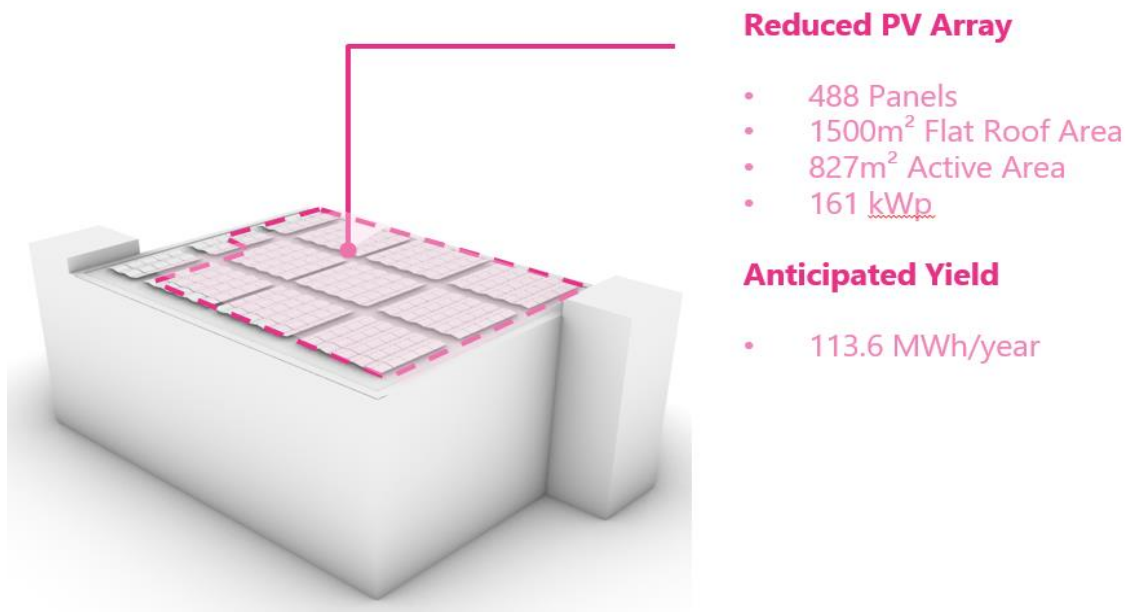


Figure 3.3 Reduced PV array without energy storage

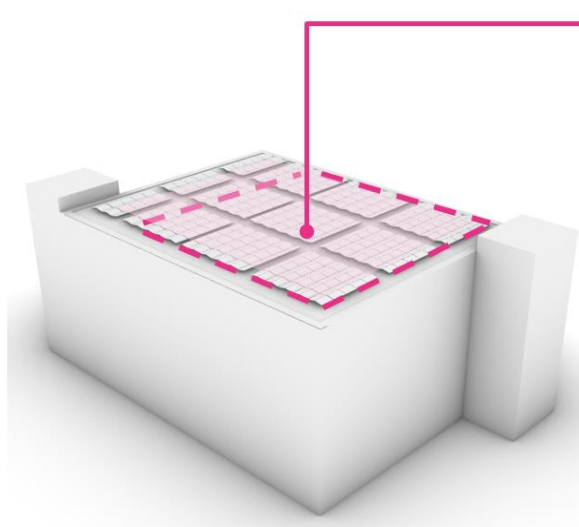
3.3.3 Scenario 3 – PV and EV charging facility

This scenario is to evaluate the PV energy for not only the Mobility Hub landlord energy uses but also for the EVs. The full EV strategy is yet to be fully developed, which will provide dynamic charging and discharging profile modelling of the EVs and the associated cost assessment. In absence of the dynamic modelling, it is assumed that there will be 7 rapid chargers, each rated at 50kW. The rapid chargers will be used for a car club or delivery vehicles which will likely result in higher use and travel mileage each day.

Assumption:

- Averaged travel: 40 miles/day
- Average energy use: 13 kWh/day

Based on this assumption of the EV energy load, the PV area has been sized to provide the landlord uses as well as 7 rapid chargers. During the summer peak day, the EV chargers will utilise around 93 kWh/day of the excess PV energy generated over the landlord energy use.



PV Array and EV charging

- 420 Panels
- 1500m² Flat Roof Area
- 712m² Active Area
- 138.6 kWp

Anticipated Yield

- 97.6 MWh/year
- Daily peak excess: 93 kWh/day
- Average Rapid Charger energy: 13kWh/day
- Capacity to charge: **7 vehicles**

Figure 3.4 PV array to feed rapid EV chargers

3.3.4 Summary

The following table summarises the cost and payback of the options. The capital costs have been based on the two suppliers' budget advice of supply and installation as well as the BEIS benchmarked data for PV supply and installation. This will be subject to further discussion with the suppliers, taking into account the roof installation details.

It has been concluded with the client that Scenario 3 has been chosen using PV to provide the landlord energy as well as to meet the estimated demand in the peak summer months for seven rapid chargers for EVs.

Scenarios	Scenario 1 - PV and battery	Scenario 2 - Smaller amount of PV	Scenario 3 - PV and EV charging facility
Contribution to annual car park and landlord operation energy	50%	40%	40%
Capital cost	PV: £127-173,000 Battery: £112 – 135,000	£ 119-161,000	£100,000-137,000
Estimated Simple Payback (years)	> 10	10 -12	10
Proposed			Y

Table 0-2 Summary of PV options

3.4 Conclusion

The proposed design, with the PV installation of 138.6 kWp to generate an estimated output of 97.6MWh will significantly reduce energy consumption and carbon emissions of the landlord operation energy, with a surplus during the summer months to feed the EV chargers. The PV energy will contribute to **40%** of annual car park and the landlord operation energy. In addition, the proposed PV will also contribute to the reduction of grid electricity in EV charging.

Manchester Life Strategic Development Company Limited (MLSDC) is considering the future EVs roll out in the Hub. In order to enable this flexibility, it is recommended that an external compound space is allocated for future installation of externally mounted batteries. Figure 3.5 indicates an example of Tesla battery installation. It is recommended to allow a space of approximately 5.7m x 3.3m, which includes 1m around the equipment for air flow and maintenance access.

The potential addition of more PV arrays on the roof together with the batteries would support the smart grid of the Hub and enhance revenue generation and reduce carbon emissions from grid electricity for charging EVs. The installation of batteries will also improve the resilience of the Mobility Hub.



Figure 3.5 An image of external mounted battery for future flexibility

In summary, through adopting the 'fabric first' approach for the ground floor amenity and commercial spaces as summarised above, the Proposed Development can meet the EN6 planning requirement of 15% improvement on Part L 2010, which is approximately 6% over above Part L 2013. By using PVs, the Proposed Development has the potential to meet the projected carbon standards of the upcoming Part L 2020 (based on the consultation paper).

The renewable electricity generated from the roof PVs can deliver up to 40% energy and CO₂ reductions for the development. This has been driven by the client aspiration for a sustainable exemplar development.

This energy strategy outlines the performance of the building by adoption of energy hierarchy, combined with a highly efficient services design that is further supplemented through building integrated renewables to meet and exceed renewables requirement set out by the Core Strategy. In addition, the proposed PV will also contribute to the reduction of grid electricity in EV charging.

Environmental Standards Review

4.1 Overview

This section summarises how the Proposed Development has, as a minimum, responded to Section 4 Environmental Standards of the Guide to Development in Manchester Supplementary Planning Document and Planning Guidance (Adopted April 2007) and environmental sustainability policies set out in the Core Strategy (2012).

As environmental sustainability cuts across a number of issues and disciplines, references have been made to accompanying planning submission documents for technical details. Summaries of these documents against the policies set out in the Core Strategy are provided below, organised under the Section 4 Environmental Standards headings within the Guide to Development in Manchester.

4.2 Energy Efficiency and Renewable Energy

Policy EN4 Reducing CO₂ Emissions by Enabling Low and Zero Carbon Development

Energy Strategy in Section 3 has set out the route to compliance with current Building Regulations Part L (2013) and the Core Strategy. The design of building adopts the “fabric first” approach with key proposals summarised as follows:

- Improving the envelope thermal performance on the ground floor amenity spaces
- Efficient heat recovery and fan within the Mechanical Ventilation Heat Recovery (MVHR) units for the ground floor occupied spaces
- Use of low energy lighting fittings and intelligent lighting controls throughout
- Metering and monitoring provisions for all systems
- Roof mounted PV to generate electricity for use in the building and for EV chargers

Policy EN 6 Target Framework for CO₂ reductions from low or zero carbon energy supplies

Applications for residential developments are expected to meet the targets set out in Policy EN6 as a minimum:

Domestic

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% improvement on Part L 2010 (approximately 6% over above Part L 2013 for non-domestic buildings)

Target 3 (Micro Generation Area): 15% improvement on Part L 2010 (approximately 6% over above Part L 2013 for non-domestic buildings)

Due to the unique nature of the proposed Mobility Hub, the majority of the building is naturally ventilated without provision of heating in the car park floors. Through adopting the 'fabric first' approach for the ground floor amenity spaces as summarised above, the Proposed Development can meet the EN6 planning requirement of 15% improvement on Part L 2010, which is approximately 6% over above Part L 2013. The Proposed Development has the potential to meet the projected carbon standards of the upcoming Part L 2020 (based on the consultation paper). The development can deliver up to 40% energy and CO2 reductions by the use of the PV arrays, driven by the client aspiration for a sustainable exemplar development.

4.3 Environmental Design

This section aims to summarise key headlines on how the Proposed Development has addressed Core Policy DM 1 Development Management.

Sustainable and Efficient use of Materials

Reducing the environmental and social impact of the material used for the development has been considered by the design team. The design approach to choosing the primary structural requirements is based on a life cycle cost approach to address aesthetics, functionality and sustainability. This has included:

- With regards to material efficiencies, the design has been developed using a regular grid of columns, allowing a wide variety of efficient floor structures to be considered in steel and concrete. Long-span beams provide clear spaces for ease of use and easy flow and circulation of the traffic. The adoption of long span beams reduces steel beam and column numbers, resulting in less end connection details, less material and reducing the energy consumption for the construction stage as well as speeding site erection of steelworks which in turn would minimise the plant usage on site.
- Floor slabs are designed to be as light as possible to reduce foundation cost as well as reducing the use of concrete. This is in line with the intention of reducing the carbon footprint of the structure.
- In terms of end of life / recycling opportunities, whilst the frame cannot be deconstructed and re-used elsewhere, the steel beam can be recycled and the concrete can be crushed and re-used as an aggregate for future mixes.
- To minimise the frequency of replacement and maximise material optimisation, the durability and resilience of key finishes and components has been considered from the early stages of the project. Consideration has been given to the longevity, and therefore sustainability, of materials and is reflected within the outline specification.

As the project progresses, the proposal will continually be reviewed to identify any areas vulnerable to damage both internally and externally and where possible the risk will be removed. During the concept design and spatial coordination stages of the project, the Hub has been developed to utilise robust, long lasting, and sustainable materials.

- Column free areas beneath first floor are made available for the communal/Hub area. A series of partition walls with secondary steel posts/framing would allow for the compartmentation as and where required. This would ensure the opportunities for functional adaptability to keep the commercial units in use throughout its useful design life, whilst the majority of the building would be car park spaces.

- In addition to the above, sustainable procurement and responsible sourcing will be considered at detailed design and during construction. This is further discussed in the Waste section.

Reference should be made to the following documents for further details:

- Design and Access Statement (Buttress Architects)

Policy EN 16 Air Quality

An Air Quality Assessment has been undertaken for the Proposed Development by Hoare Lea. This concludes:

- The results of the Air Quality Assessment show no significant impacts associated with the construction and operational phase of the Proposed Development; and
- The impacts of construction work have been assessed and appropriate mitigation measures have been identified.

The Proposed Development will 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:

- **Traffic** – A Travel Plan has been developed to promote sustainable modes of transport for the residents and visitors. The site itself has both excellent public transport accessibility and pedestrian/cycle links to primary routes across the city.
- **Building Services** – The majority of the building is naturally ventilated via openings. The ventilation strategy has been developed to minimise the impact of the installed mechanical plant on the neighbouring buildings or locations where people are likely to be present. All heating and hot water to the ground floor amenity spaces will be supplied by non-combustion systems.

Reference should be made to the following documents for further details:

- Air Quality Assessment (Hoare Lea)
- Transport Assessment (Hydrock)
- Ventilation Statement (Buro Happold).

Policy T1 Sustainable Transport

The Proposed Development benefits from excellent existing sustainable transport options and local amenities, notably:

- The site is located within short walking distance of public transport facilities and numerous local amenities, including a, supermarket, doctors' surgery, public houses, several places of worship, numerous primary schools and other educational institutions, cafes, restaurants, shops, leisure centres and places of recreational activity such as Ancoats Green and the Islington Marina.

- The Proposed Development will fall under a number of nodes for all users, including as a destination for commuters and visitors utilising the car park and commercial spaces on the ground floor, and as a base for residents with cars and cycles permanently parked, as well as a connecting node for commuters and office workers via public transport or using the car club or bikes etc.
- Existing high quality pedestrian facilities, including footways, street lighting and signalised crossing points linking the Proposed Development to the surrounding area and to key pedestrian routes. The Development is within a very sustainable location where a number of pedestrian facilities and links would enable good connections to existing and future local amenities within both a 800m or 2.0km radius.
- The site is located within an approximately 1.2km walking distance of Manchester Piccadilly Rail Station and Victoria Station which provide frequent regular trains for both regional commuting and access to the national rail network, as well as acting as transport interchanges for local rail services and Metrolink services across Greater Manchester. The stations are easily accessible through pedestrian friendly walking and cycling routes in the city centre and free Metroshuttle buses connecting all parts of the city centre.
- 150 cycle parking spaces are provided by the Hub. These cycle spaces are inclusive of TfGM cycle hire and cycle changing facilities and are located in a secure and covered cycle storage area on the building's ground floor accessed off Poland Street and the building's internal circulation. The site is within an accessible 5km cycle route to a number of local areas including the whole of Manchester city centre, Hulme, Rusholme, Cheetham Hill as well as key transportation links such as Metrolink stations, bus stops and railway stations.
- The site benefits from a high number of bus stops located within 800m, with the closest pair located on the A62 Oldham Street, approximately 250m north of the site, accessed via Poland Street. The proximity of the site to the local bus network provides opportunities to travel further afield using linked trips. This enables access to be gained to a variety of local destinations.
- 408 car parking spaces inclusive car club and a delivery hub are provided by the Hub. The Hub will provide a 'day one' Electric Vehicle (EV) charging facility of 25%, with the power infrastructure having the capability of providing 100% EV with smart management in place. There will be seven rapid chargers each rated at 50kW to make available for visitors and car club users.
- The Ancoats Mobility Hub is a key component within the City Centre Strategy. The Proposed Mobility Hub has embraced innovation where it benefits the city centre and its users. The Hub will utilise the latest digital technology to help customers plan how they use transport through interactive systems to book car clubs, EV charging and cycling facilities. This will be a hub for a local car club that encourages flexible car sharing/rental over car ownership, offering a range of vehicles to suit as many users as possible.
- TfGM are currently progressing with the new 'Beeline' network which aims to improve both walking and cycling within Greater Manchester. Based on the new 'Beeline' network introduction in the coming years, both pedestrian and cycling movements around the Proposed Development will improve further with the sustainable travel modes being integrated into the existing and future cycle infrastructure.

Reference should be made to the following documents for further details:

- Transport Assessment (Hydrock)

4.4 Water Management and Weather Resilience

Policy EN14 Flood Risk

A Flood Risk Assessment (FRA) has been undertaken as part of the planning application in line with national and local policy. This concludes the proposed development is at low risk of flooding from all sources and represents no risk of flooding to adjacent areas. Notably:

- The site is located entirely within Flood Zone 1, according to the national flood map produced by the Environment Agency (EA), which is classified as having a low risk of fluvial flooding.
- The drainage strategy has been designed for a 1 in 100 year storm with 40% increase for climate change.
- The development is proposing potential options to include areas of permeable paving and soft landscape with planting. Areas of hardstanding have been minimized with the introduction of soft landscaped areas. The strategy proposes onsite below ground attenuation of surface water run-off to achieve a restricted maximum flow discharge rate of 5 l/s for storm events. With the proposed strategy in place, the overall surface water flood risk at the site is considered low.
- The attenuation tank volume is 175m³ located below the external paved area to the west of the structure. Nature-based sustainable drainage features such as swales, basins and ponds are not feasible due to tight site constraints.
- Green/Blue roofs were considered for the site however, found not viable due to all available roof area being utilised for Photovoltaic (PV) panels. Green walls have been designed on the building façade, this will contribute to the reduction of run-off surface water.

Reference should be made to the following documents for further details:

- Flood Risk Assessment and Drainage Strategy Report (Hill Cannon)

Policy EN 17 Water Quality

The development recognises the importance of mitigating against any adverse impact on water quality, in line with Policy EN 17. Petrol Interceptor is placed after the attenuation tanks and before discharging to the drainage network. This is proposed to minimise potential water pollution.

Construction site impacts will be managed for the Contractor to provide copies of their pollution prevention policies and demonstrate how these are implemented on site, for example through site specific procedures, tool box talks and site noticeboards. This will be managed through a conditioned Construction Management Plan.

4.5 Waste Management

Policy EN 19 Waste

A Waste Management Strategy has been prepared by Buttress for the development, demonstrating compliance with local and national policy. Waste streams and quantities have been estimated to ensure sufficient space has been allocated for storage and collection, as well as opportunities to minimise waste and facilitate high recycling rates. Key waste proposals from the Waste Management Strategy are summarised below:

- Based on the total area of 168m² for Commercial / Café and Delivery Hub Staff Mess, the building has provided two main refuse stores with 8 x 1100 litre Eurobins.
- The main refuse store for commercial bins, accessed by the café operator and building management, will act as a holding area for empty/full bins. When bins become full within the main refuse stores management will replace them with an empty one from the holding area adjacent to the Delivery Hub exit.
- Waste collection for the Mobility Hub will be supervised by the on-site building management team and involves bins being brought out immediately prior to collection and returned immediately after and to ensure areas are kept clean.
- 50% of the bins in the store will be dedicated to recycling, with flexibility to increase this as recycling rates increase.
- The waste from the commercial unit will be collected by a licensed waste carrier in accordance with government legislation requiring the appropriate documentation to ensure that waste is disposed of in a hygienic and environmentally sustainable way. The refuse containers will be wheeled a short distance from the refuse store to the collection vehicle.

Policy EN19 supersedes E1.2 which is outlined within the UDP and referenced within the SPD.

Construction waste

The development will seek to minimise the use of primary resources and materials and to minimise the generation of waste during construction works. Where feasible, the contractor will incorporate secondary and recycled materials with low embodied impacts.

Production of a Resource Management Plan (formerly known as the Site Waste Management Plan) to set out the strategy for achieving the targets, including procedures to minimise waste to landfill through procurement and site waste segregation and monitoring on site or through a licensed external waste contractor. The RMP is an important tool to improve the environmental performance of a project. It will be used throughout the design process, to promote 'designing out waste'. It will also be used to monitor waste arisings and optimise waste strategy during construction.

For further information please refer to:

- Waste Management Strategy (Buttress)
- Construction Management Plan (Manchester Life)

4.6 Construction Management

Construction impacts will be minimised through Contractor's Construction Management Plan. Such a Construction Management Plan will be prepared prior to the commencement of development that will specify the best practice measures, which will be implemented to minimise potential impacts.

This is likely to include:

- Adopt responsible construction management practices, including registration with the Considerate Constructor Scheme and implementation of the Code of Considerate Practice, designed to encourage best practice beyond statutory requirements.
- Monitoring of construction site energy and water consumption
- During construction, best practice measures will be implemented to minimise potential impacts to sensitive local receptors resulting from emissions to air and water, noise and vibration and from site lighting.
- Recording of CO₂ emissions associated with construction site vehicles (deliveries and waste removal)

Contractual targets will be set to minimise the generation of construction waste, and a Resource Management Plan required before commencement on site to set out how any waste produced will be diverted from landfill through consideration of re-use and recycling opportunities.

Reference should be made to the following documents for further details:

- Construction Management Plan (Manchester Life)

4.7 Biodiversity

Core Policy EN15 Biodiversity and Geological Conservation requires the protection and enhancement of sites of biodiversity value in line with Manchester's Biodiversity Strategy.

Tyler Grange have been appointed as the Ecologists for the Proposed Development. An extended Phase 1 habitat survey, preliminary roost assessment (PRA) and subsequent nocturnal bat survey of an area of land and associated buildings of the site were undertaken to identify any potential ecological constraints, remit of mitigation required and opportunities to include biodiversity enhancements through the Proposed Development.

A summary of the ecological value of the existing site and recommendation for enhancement are as follows:

- No direct impacts are expected due to Rochdale Canal, 4.4km north east of the proposed development. However a Construction Environmental Management Plan (CEMP) should be put in place to prevent dust pollution into the canal which may lead to incidental hydrological impacts to the Rochdale Canal SAC, Rochdale Canal: Stott's Lane – Ducie Street Basin SBI and Ashton Canal (West) SBI.
- Though the site falls within the Sites of Special Scientific Interest (SSSI) risk zone for Rochdale Canal SSSI, Hollinwood Branch Canal and Huddersfield Narrow Canal – the proposed development does not trigger the need for further action for any of these sites.
- The site has very limited ecological value or importance. The development proposals would not result in any net loss in biodiversity. However, there is opportunity to enhance the site by implementing tree planting in the landscape proposal.
- The extended habitat survey including nocturnal surveys confirmed the absence of protected and priority species. No further ecological surveys are recommended to accompany the planning application.

- Habitat loss due to potential for birds to nest within the tree present on the site will be compensated through the provision of new nest box features and sensitive landscaping scheme all site clearance works preceded.
- There is opportunity to enhance the site by aiming to implement tree planting in the landscape proposals.
- With the implementation of appropriate mitigation and compensation, it is expected that the development proposals within the site would be in conformance with Local and National Planning Policy in relation to protected/notable species, habitats and sites.

Reference should be made to the following documents for further details:

- Ecological Survey and Assessment (Tyler Grange)
- Design and Access Statement (Buttress Architects)

4.8 Adaptation to Climate Change

Policy EN 8 Adaptation to Climate Change

The design team acknowledge that climate change presents one of the biggest global challenges of our time and welcome the leadership demonstrated by the Council by encouraging local solutions through Core Strategy Policy EN 8 Adaptation to Climate Change. Steps taken to increase climate resilience of this development include:

- The drainage strategy has been designed for a 1 in 100 year storm with 40% increase for climate change.
- The building has been designed with the green walls and landscaped proposal to contribute to the climate resilience.
- The car park floors are naturally ventilated with adequate openings to encourage air movement. The occupied spaces on the ground floor of the building is mechanically ventilated using heat recovery for providing ventilation. The systems are inherently resilient to cope with rising external temperatures due to climate change. Provision has been made for the ground floor commercial units to install cooling units when needed.
- The building's adaptation to climate change will be further enhanced by the future landscaped green corridor and the green park nearby as part of Neighbourhood Development Framework. The proximity to the green infrastructure would benefit the proposed development with reduced extreme temperatures, biodiversity, and water management.

Reference should be made to the following documents for further details:

- Drainage Strategy (Hill Cannon)
- Ventilation Statement (BuroHappold Engineering)
- Design and Access Statement (Buttress Architects)

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