

August 15

Environmental Standards Statement

Eastbank Phase 2, Manchester



Contents

1.	Introduction	4
2.	Policy Context	5
3.	Sustainability at Eastbank Phase 2	11
4.	Conclusion	23

This Environmental Standards Statement has been prepared by **Turley Sustainability** on behalf of **X1 Development** for the development of **201 new residential apartments** at Eastbank Phase 2, Manchester

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X1 Development

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Eastbank Phase 2 will provide
energy efficient, low carbon
new apartments in a
sustainable location with
access to a range of **services**
and amenities

1. Introduction

This Environmental Standards Statement summarises the proposed approach to the sustainable delivery of Eastbank Phase 2 which includes 201 new residential apartments.

This report has been structured to demonstrate how the proposed development meets the local policies of Manchester City Council, the National Planning Policy Framework (NPPF) supporting local and national sustainability priorities.

Site and Surroundings

The application site comprises approximately 0.4 hectares of previously developed, brownfield land located within 1.5km of the centre of Manchester and is in the Ancoats and New Islington development area.



Figure 1: Site location photograph

The site is located on the junction of Great Ancoats Street and Every Street and is adjacent to the residential Eastbank Phase 1 development. The wider area is characterised by a mixture of industrial, commercial and residential land uses.

Planning History

The proposed development site has previously used for commercial purposes and in 2003 planning permission was granted (Ref – 067871/FU/2003/N2) for the demolition of the existing buildings and the provision of a 300 space temporary car park.

Also in 2003, an outline planning permission (Ref – 067584/OO/NORTH2/03) was granted for a mixed use development including 600 residential units. This permission was followed by a number of Reserved Matters applications for new multi-storey apartment buildings. Further information on the planning history is available in the planning statement which accompanies the application.

Proposed Development

The proposed redevelopment and regeneration of the site comprises of two new multi-storey apartment buildings containing 201 new apartments and an integrated gym. The application description is:

“The erection of a 7 storey and 9 storey building to form 201 residential apartments (Use Class C3), ancillary gym, associated car parking, landscaping, public realm, associated works, and vehicular and pedestrian access”.

Full details of the proposed development are provided within the Design and Access Statement and Planning Statement that accompany the detailed planning application.

2. Policy Context

This section of the report provides an overview of the relevant planning policy and guidance regarding sustainability standards for new buildings from a national and local perspective.

The concept of sustainable development became part of the international political arena in 1987 with the World Commission on Environment and Development's publication of "Our Common Future" (commonly known as the "Brundtland Report"). Today, governments across the globe seek to implement sustainable development to ensure that progress meets the needs of everyone, makes wise use of natural resources and does not damage the environment.

UK Sustainable Development Strategy

In 2005, the government published an updated strategy for implementing sustainable development across the UK. This strategy acts as an overarching document from which a range of specific policies and legislation was derived. Although published in 2005, the strategy has taken a recently renewed focus in light of the government's definition of Sustainable Development in the NPPF.

Climate Change Act

The Climate Change Act (2008) sets a legally binding target for reducing UK CO₂ emissions by least 80% on 1990 levels by 2050.

It established the Committee on Climate Change, which is responsible for setting binding interim carbon budgets for the government over successive five year periods. The first three carbon budgets were announced in the Budget 2009, resulting in an interim target of a 34% reduction in CO₂ equivalent emissions on 1990 levels by 2020.

Building Regulations

Whilst not planning policy, the Building Regulations, and specifically Approved Documents Part L; Conservation of Fuel and Power, are relevant as they determine the energy efficiency and carbon emission standards required by new buildings.

The primary mechanism for reducing carbon emissions in new development is progressive changes to Part L of the Building Regulations.

In April 2014 the Part L regulations changed and it is now a requirement for new homes to deliver a 6% reduction in carbon emissions compared to equivalent 2010 Part L standards. This change aims to strike a balance between the commitments to reducing carbon emissions and improving energy efficiency and ensuring that the overall effect of regulation upon consumers and businesses does not stifle growth.

The government has stated that house builders will continue to have flexibility in how they meet carbon reduction targets, however, the emphasis of these changes is on using a fabric first approach and this is reinforced through the introduction of a new target for fabric energy efficiency.

The Housing Standards Review

In August 2013 the government published the Housing Standards Review (HSR) Consultation in relation to the rationalisation of the framework of building regulations and local housing standards with the aim of preventing local and national housing standards being unnecessarily complex and overlapping or contradicting each other, or parts of the Building Regulations.

In March 2014 the government announced the results of the consultation and outlined proposals for the simplification of residential sustainability standards, consolidating requirements into the Building Regulations with amendments proposed for the Planning and Energy Act 2008 to remove local authorities' ability to set energy standards above Building Regulations. The announcement confirmed the government's intention to wind down the Code for Sustainable Homes (CfSH).

In March 2015 the results of the HSR technical consultation and subsequent Royal Assent of the Deregulation Bill confirmed that local authorities and plan making bodies should no longer to set technical standards beyond those in the Building Regulations.

Fixing the Foundations

Following the 2015 general election the government released its paper, 'Fixing the Foundations' in July 2015. This sets out a range of measures to be implemented by the government and includes reference to the Zero Carbon Homes policy.

It is the government's intention to no longer proceed with the Zero Carbon Allowable Solutions carbon offsetting scheme, or further increases in on-site energy efficiency standards recognising that the existing measures to increase energy

efficiency of new buildings should be allowed time to become established.

National Planning Policy Framework

Following its publication in March 2012, national planning policy is now provided by the NPPF which sets out the government's planning policies for England and how these are expected to be applied. It also sets out the requirements for the planning system only to the extent that it is relevant, proportionate and necessary to do so.

The government has made clear its expectation that the planning system should positively embrace well-conceived development to deliver the economic growth necessary and the housing we need to create inclusive and mixed communities.

The NPPF states that the purpose of the planning system is to contribute to the achievement of sustainable development and that in order to deliver sustainable development, the planning system must perform three distinct roles, aligned to the three pillars of sustainability, which must not be taken in isolation and should be pursued jointly:

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 a high quality built environment, 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.

Demonstrating Sustainable Development

Paragraph 6 of the NPPF states that:

“The purpose of the planning system is to contribute to the achievement of sustainable development. The policies in paragraphs 18 to 219, taken as a whole, constitute the Government’s view of what sustainable development in England means in practice for the planning system”.

The policies referred to in Paragraph 6 of the NPPF have been divided into 13 themes;

- 1. Building a Strong Competitive Economy**
- 2. Ensuring the Vitality of Town Centres**
- 3. Supporting a prosperous rural economy**
- 4. Promoting sustainable transport**
- 5. Supporting high quality communications infrastructure**
- 6. Delivering a wide choice of high quality homes**
- 7. Requiring good design**
- 8. Promoting healthy communities**

9. Protecting Green Belt Land

10.Meeting the challenge of climate change, flooding and coastal change

11.Conserving and enhancing the natural environment

12.Conserving and enhancing the historic environment

13.Facilitating the sustainable use of minerals

Should a proposed development demonstrate that it is supporting the relevant policies of the NPPF then it is deemed to be ‘Sustainable Development’.

National Planning Policy Guidance

In March 2014 the government released the updated National Planning Policy Guidance (the Guidance). The Guidance provides information to local authorities on how to implement the policies of the NPPF and approach specific policy aims.

The Guidance sets out how local authorities should include policies that protect the local environment and strategies to mitigate and adapt to climate change. It reiterates that local authorities should set sustainability policies for new housing in line with the government’s latest guidance and the findings of the Housing Standards Review. It supports developments of good design that are functional and adaptable for the future.

The Development Plan

The Development Plan for Manchester City Council comprises the adopted Manchester Core Strategy (2012), the saved policies of the Manchester Unitary Development Plan (1995), and a range of supporting guidance documents including; the Guide to Development in Manchester Supplementary Planning Guidance Document and the Ancoats and New Islington Neighbourhood Development Framework.

The Manchester UDP

The majority of the policies contained within the UDP have now been superseded by the Core Strategy. Of the remaining policies only Policy EM8, East Manchester, is relevant and it describes Ancoats as a regeneration area and states development will be permitted which includes high density development.

Core Strategy

The Council's Core Strategy was adopted in 2012 and covers the period from 2012 to 2027. One of the Council's key visions for the City is meeting the challenge of climate change, delivering sustainable development and green infrastructure.

The following policies relate to sustainable development.

Policy T1 – Sustainable Transport –

States that the Council aims to deliver a sustainable transport system which promotes cycling, walking and use of public transport. The Council supports development which promotes sustainable transport options and facilitates low carbon transport, i.e. electric vehicles and improvement of pedestrian routes and environment.

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

Development – States that the Council seeks to reduce fuel poverty and therefore requires new development to follow the principles of the Energy Hierarchy to; reduce the need to energy through fabric design specification and energy efficient measures; and to meet residual energy requirements through the use of Low Zero Carbon Technologies (LZCT).

Additionally the policy also states:

- Where possible development should be located and designed to take advantage of opportunities for Low Zero Carbon energy supplies.
- Where appropriate developments are required to connect to and/or make contributions to low zero carbon energy schemes and/or incorporate provision to enable future connection to and existing/potential decentralised energy schemes.
- New development should use materials with low embodied carbon.

Policy EN5 – Strategic Areas for Low and Zero Carbon Decentralised Energy

Infrastructure – States that in the Regional Centre, District and Airport areas developments should consider the use of low and zero carbon energy generation. Where development is adjacent to a public building or decentralised energy network consideration should be given to how the development may connect to or support low carbon energy generation.

Policy EN6 – Target Framework for CO₂ Reductions from Low or Zero Carbon Energy Supplies

– States that development over 10 units should provide as a minimum a 15% reduction in carbon emissions over Building Regulations Part L 2010. This should be demonstrated through an Energy Statement which sets out the

projected energy demand and associates carbon emissions from the development. It is noted in the policy that Green Infrastructure can contribute to compliance with the required CO₂ mitigation.

Policy EN8 – Adaptation to Climate Change

– States that development is expected to be adaptable to climate change and consider minimising flood risk, surface water management, provision of green infrastructure, overheating and enhancement of natural habitats.

Policy EN9 – Green Infrastructure –

States that the Council expects development to protect existing green infrastructure and encourages development to enhance the quantity and quality of on-site green infrastructure.

Policy EN14 – Flood Risk – States that development is expected to be located in areas with a low risk of flooding and minimise surface water run-off through the use of Sustainable Drainage Systems (SuDS) and appropriate Green Infrastructure.

Policy DM1 – Development Management

– States that all developments are required to consider issues related to a range of sustainability issues including design, the local character, local amenities, accessibility, health, etc.

Prior to the release of the HSR the council encouraged development to achieve Code Level 4, however the government has since withdrawn the Code and new development can no longer be assessed against this standard.

Guide to Development in Manchester Supplementary Planning Guidance

The document, adopted in 2007, sets out supporting guidance for new development

reflecting the policies of the Council's UDP. The document includes guidance on the design of new development which states that development applications should be supported by an Environmental Standards Statement demonstrating how the development responds to the Council's sustainability objectives and policies.

Ancoats and New Islington Neighbourhood Development Framework

The Neighbourhood Development Framework adopted in 2014 provides an update to the East Manchester Strategic Regeneration Framework (2008) which identifies the East of Manchester, including Ancoats as a key development area.

The Framework sets out that Ancoats is an important development area which will be able to provide new residential units in an accessible location and confirms that development will be supported in accordance with the policies of the adopted Core Strategy.

Validation Requirements

The Council requires applications of this nature to be accompanied by an Environmental Standards Statement to address the sustainability rating of the development and the provision of renewable energy.

Summary

National and local policy supports the delivery of more sustainable development. The NPPF and its supporting guidance clearly sets out that when setting local requirements for a building's sustainability, local planning authorities should adopt nationally described standards and do so in a way consistent with the government's latest guidance.

At a local level Manchester City Council supports sustainable development which includes measures to mitigate against the impacts of Climate Change. The Core Strategy therefore includes a number of sustainability policies including a requirement for development to achieve Code Level 4 and deliver a 15% carbon reduction over the 2010 Part L Building Regulations, considering the use of low and zero carbon energy generation options.

The results of the Housing Standards Review in March 2015 confirmed the winding down of the Code and state that Local Authorities should no longer include Code policies within their Development Frameworks.

The Council's policies state that development applications should be accompanied by an Environmental Standards Statement and Energy Statement demonstrating how the development meets the Council's sustainability aspirations.

As the Code is no longer available to assess the development a bespoke Environmental Standards Statement has been developed to demonstrate how the proposed development responds to the requirements of national and local sustainability policies to deliver sustainable development.

3. Sustainability at Eastbank Phase 2

This Environmental Standards Statement has been prepared in response to local and national sustainability objectives and sets out the sustainability measures incorporated into the development at Eastbank Phase 2.

The purpose of the planning system is to contribute to the achievement of sustainable development and the scheme presents proposals that balance economic, social and environmental benefits, giving due consideration to each of these sustainability pillars.

The proposed development aims to deliver new homes which respond to the Council's sustainability objectives and latest government sustainable development guidance.

In this context the Environmental Standards Statement is set out under headings which reflect local and national policy, incorporating the Council's requirements for an Energy Statement detailing how energy and carbon emissions have been considered in line with Policy EN6 of the Core Strategy.

Sustainability at Eastbank Phase 2

The Environmental Standards Statement for Eastbank Phase 2 is presented under the following headings:

3.1 Building a Strong and Competitive Economy

3.2 Promoting Sustainable Transport

3.3 Delivering a well-designed development

3.4 Promoting Healthy Communities

3.5 Meeting the Challenge of Climate Change

- Energy and Carbon Emissions
- Water Efficiency
- Flood Risk and Sustainable Drainage

3.6 Conserving and Enhancing the Natural Environment

- Waste Management

These themes respond to the local sustainability priorities of Manchester City Council as well as supporting the applicants own sustainability aspirations aiming to deliver an energy and resource efficient, low carbon development.

3.1 Building a Strong and Competitive Economy

The development at Eastbank Phase 2 will deliver 201 new residential apartments which will contribute to positive economic growth for Manchester providing sustainable new homes in an accessible location.

The economic benefits of construction are well known with considerable direct and indirect positive impacts resulting from new housing construction. A recent study by the Confederation of British Industries (CBI) demonstrates that construction projects have a significant benefit on the local and wider economy. The report concludes that for every £1 of construction spend £2.84 is injected into the economy.

The construction of 201 new apartments will create direct local employment opportunities as well as indirect benefits through demand for goods and services to support the construction phase.

The new development will provide additional Council Tax revenues, which can be used to support local services providing further benefits to the local economy and community.

New residents will also have a positive impact through local consumer spending which will help to support local businesses. As part of the development X1 Development will also be providing financial contribution via a section 106 agreement to support local infrastructure.

3.2 Promoting Sustainable Transport

Providing sustainable travel options is a key requirement of the Council's Core Strategy and the Transport Assessment which accompanies the application sets out details on the sustainable transport links available to the development.



Primary vehicle access to the site will be via Advent Way off an existing junction to Every Street on the eastern corner of the development site and secondary pedestrian access will be provided via points along Great Ancoats Street and Every Street.

The site is located within 1.5km of the centre of Manchester and therefore is within easy walking and cycling distance of a full range of services, including schools, health facilities, convenience stores, food and non-food retail units and leisure facilities.

Due to its proximity to the centre of Manchester the development is well served by a range of sustainable transport options including options for walking, cycling and public transport.

The closest bus stop to the site is located on Great Ancoats Street less than 50m from the development providing local bus services to the city centre and surrounding area.

The site is located 300m south of the New Islington MetroLink stop providing access to the City Centre and out to the East and North of the City.

Manchester Piccadilly station is located less than 1km from the site and provides local and national rail links including Liverpool, Birmingham and London.

The site is in close proximity to a number of national and regional cycle routes and includes provision for 64 secure cycle spaces to encourage more sustainable travel.

Appropriate underground off-street parking for vehicles including provision for electric vehicle charging is to be provided and the development is designed to promote low vehicle speeds and safe pedestrian and cycle access.

More detailed information on how the development promotes sustainable transportation is contained within the Transport Assessment that accompanies the planning application.

3.3 Delivering well-designed development

The proposed development site at Eastbank Phase 2 is considered a brownfield site and the redevelopment and regeneration of the site is considered a key sustainability attribute of the development as it reduces the need for the development of green field sites.

As well as providing regeneration of a City centre brownfield site the proposed development aims to deliver new buildings and apartments that promote character and quality in their design approach. The design principles for the development have been developed in response to the specific constraints and opportunities of the site and its local context, and include:

- A building complex which is designed to be of a high quality, reflecting the regeneration of the area and previous phases of development.

- Use of sustainable, low carbon materials, with major building elements sourced in accordance with the Green Guide.
- A development that is accessible to the local area through sustainable transport links.
- New apartments with comfortable living environments that have natural day-lighting and thermal comfort prioritised through good design.
- Apartments which make efficient use of space incorporating well designed storage solutions to maximise the available living space.
- Internal layouts that are adaptable to reflect changing needs of the occupants.

More detailed information on the best practice design principles have been incorporated into the developments design is contained within the Design and Access Statement that accompanies the planning application.

3.4 Promoting Healthy Communities

Creating a high quality development that promotes health and wellbeing for new residents is a key aim for Eastbank Phase 2. The design has been developed incorporating a number of features to support the health and wellbeing of the residents, including:

- A sustainable location with easy walking and cycling access to a full range of services, amenities and leisure facilities.
- A development which reflects the requirements of the Secured by Design standard, providing a safe and secure living environment for residents.

- Safe and secure accessibility through links overlooked by the development encouraging walking and cycling.
- Apartments which maximise access to natural daylighting, thermal comfort and aim to reduce the risk of overheating.
- Provision of balconies to provide an area of outside space.
- A site located within 200m of the River Medlock and open spaces providing local recreational opportunities.

More detailed information on the measures design to promote health and well-being for new residents is contained within the Design and Access Statement that accompanies the planning application.

3.5 Meeting the Challenge of Climate Change

One of the main challenges facing the UK and new residential development is the need to mitigate and adapt to a changing climate. The government is committed to tackling climate change and has an ambitious long-term goal to reduce carbon emissions by 80% by 2050.

Climate change will cause the UK to become warmer, winters will become wetter, and summers will become drier. Adapting to this changing climate will impact on the design, construction, location, cost and operation of all new homes and other buildings in the next few decades.

One of the NPPF's core planning principles is to encourage development to consider climate change adaptation and mitigation during the planning process.

The following sections outline the key climate change mitigation and adaptation measures proposed for this development under the headings of;

- Energy and Carbon Emissions,
- Water Efficiency, and
- Flood Risk and Drainage

Energy and Carbon Emissions

The Council's Core Strategy requires development to develop an energy strategy which follows the energy hierarchy, prioritising fabric and energy efficiency measures before considering the implementation of low and zero carbon technologies.

The Council's policies require development to achieve a 15% carbon reduction over Building Regulations Part L 2010 and consider the use of low zero carbon technologies including existing or potential decentralised energy schemes.

The development comprises of two buildings with up to 201 new apartments and a small gym on the ground floor.

Table 1: Accommodation schedule

Apartment type	Number	Floor area (m ²)
1 bed apartment	54	50
2 bed apartment	110	61
3 bed apartment	30	86
3 bed, 2 storey townhouse	7	93
Gym		100
Total floor area		12,741

The proposed development aims to meet the local policy requirements and achieve a 15% reduction in carbon over Part L 2010

through a Fabric First approach to design and construction, maximising the savings through both passive and active design measures before considering the use of Low Zero Carbon Technologies (LZCT).

A Fabric First Approach

Central to the creation of low carbon and energy efficient apartments at Eastbank Phase 2 is the 'Fabric First' principle which recognises the most effective way of minimising carbon emissions is to reduce the demand for heat and power through a well-insulated, energy efficient building fabric and services.

This approach has a number of distinct benefits including:

- Carbon savings delivered are 'locked-in' the house for the lifetime of the homes (60 years or more).
- There are virtually no maintenance and/or replacement costs to maintain carbon reductions through improved fabric.

Additional passive design features can reduce carbon emissions and improve sustainability of new dwellings, and the development includes:

- Using construction materials with low environmental impact to provide high levels of insulation and thermal efficiency, maximising cost effective carbon savings.
- Designing the development giving consideration to maximising natural daylight and passive heating while minimising the risk of overheating.

The development will aim to reduce energy requirements by targeting low air leakage and fabric U-Values shown below.

Table 2: Target U-values

Building Element	Backstop Performance Values	Proposed Development Performance Values
Wall	0.3 (W/m ² k)	0.2 (W/m ² k)
Roof	0.2 (W/m ² k)	0.11 (W/m ² k)
Floor	0.25 (W/m ² k)	0.13 (W/m ² k)
Windows and doors	2 (W/m ² k)	1.2 (W/m ² k)
Air permeability	10 (m ³ /hr/m ²)	5 (m ³ /hr/m ²)

The exact specification and thermal performance of construction materials will vary by individual apartment and the values given in table 2 are indicative at the planning application stage of the proposed performance specification.

Heating and Appliances

Additional 'active' measures can further enhance the energy efficiency of the apartments and reduce carbon emissions. Active measures incorporated into the development include:

- High efficiency heating and hot water systems for all apartments.
- All apartments will include suitable zoning and segregation of internal spaces to allow effective temperature control.
- 100% low energy lighting and controls installed throughout the apartments and communal areas.

- Where white goods are to be provided they will have a minimum of an A+ rating and conform to the EU labelling scheme for electrical equipment.

At this stage it is anticipated that heating and hot water will be provided by high efficiency gas boilers, however the building services has not yet been finalised and therefore the exact specification will be defined during the detailed design process.

The combined fabric and energy efficiency measures will aim to maximise the carbon efficiency of the development and contribute towards meeting the Council's required 15% carbon reduction above Part L 2010. Any residual carbon reduction required after this stage will be met through the use of low carbon renewable energy.

Low Carbon and Renewable Energy

The Council's Core Strategy advocates the use of low carbon renewable energy and/or decentralised energy schemes to meet any residual carbon reduction requirements.

The development aims to meet the Council's 15% carbon reduction target via a fabric first approach with and residual savings met through the use of low carbon and renewable energy technologies.

An assessment of available technologies has been completed to determine which low carbon and/or renewable energy technologies, including decentralised energy, would be suitable for inclusion on this site.

Decentralised energy

Decentralised energy and district heating can provide carbon savings through increased efficiencies from centralised heat generation which is then supplied to dwellings and buildings via a heat network and the Council encourages new development to consider the connection or

provision of decentralised energy as appropriate.

Decentralised energy systems are suited to developments with high heat density requiring either sufficient units to create a critical heat mass or an anchor load such as a leisure centre.

A review of the existing and proposed heat networks in Manchester show that there are currently no existing heat networks the new building could connect to now or in the immediate future. Additionally a review of the national heat map below demonstrates there is a lack of high heat users within close proximity of the site which could be used to create a viable network.



One of the principal restrictions to the use of decentralised energy on residential led development is the low heat demand and low thermal density of new residential development which is due to improvements in fabric efficiency and design driven by the Building Regulations.

Guidance for decentralised energy networks indicates that is typically uneconomical for developments of less than 500 units to install CHP viably due to the administrative burden of setting up Energy Service Companies to sell energy.

In this context the lack of adjacent heat sources, low thermal demand of efficient

new apartments and insufficient scale to create a viable heat network means that the connection to, or provision of a CHP for community heating scheme is not considered feasible for this development.

Renewable Energy Generation

An assessment of potential renewable energy generation systems has been undertaken to determine which may be suitable to install on the site has been undertaken to any residual carbon reductions required.

Solar PV – Solar PV systems generate electricity and on pitched or flat roofs. The apartment buildings have large roof spaces available which could be used to install Solar PV systems connected to the buildings communal areas.

Solar Thermal – Solar Hot Water systems provide domestic hot water and are feasible on roofs orientated towards the south. Communal systems for flats are not considered viable and individual systems require space for hot water tanks which is not considered suitable for apartments where storage space is restricted.

Biomass Heating – Biomass boilers can provide hot water and space heating to apartments as part of a communal system, however given the site location, spatial and maintenance demands, with potential fuel sourcing, storage and air quality impacts, as well as viability issues the use of this type of system is not considered viable for this site.

Heat Pumps – Heat pumps provide low grade heat best suited to energy efficient buildings.

- **Ground Source Heat Pump** – Ground Source Heat Pumps (GSHP) require sufficient external space for horizontal loops or vertical boreholes. Unknown

ground conditions, high capital costs and viability issues with communal systems restrict the suitability of ground source heat pumps at the site.

- **Air Source Heat Pump** – Air Source Heat Pumps (ASHP) require significantly less space and could be attached to individual units or as part of a communal roof mounted system. There is some anecdotal evidence of poor performance of ASHP systems, noise generated by systems and their visual impact can also be an issue.

Consideration will be given to the installation of low carbon renewable energy systems during the detailed design process to ensure the development meets a 15% reduction in carbon emissions over Part L 2010 once the fabric energy efficiency measures have been taken into account.

Energy and Carbon Summary

In response to Policy EN6 of the Core Strategy this section summarises the energy and carbon strategy of the development and table 4 below illustrates the anticipated carbon savings that will be achieved by the development in meeting the Council's carbon target.

The table demonstrates the energy and carbon emissions of the new apartments and gym, showing the carbon savings achieved over the 2010 Part L baseline. It is anticipated that these savings will be achieved through a combined approach outlined here:

- The development will incorporate a fabric first approach to design and construction including a number of passive and active design measures such as; maximising day lighting and passive heat gains, minimising the risk of overheating, high efficiency heating and hot water services and efficient lighting to minimise the energy use and carbon emissions of the development.

- Any residual carbon savings required to meet the Council's 15% carbon target will be met through the installation of a suitable low carbon renewable energy technology.

The energy and carbon emissions below are based on a sample of energy use and emissions figures and the development accommodation schedule. The final building energy use and carbon emissions will depend on the final specification of the building and may vary significantly from the values below.

The final specification of building fabric, associated thermal and carbon performance and any renewable energy technologies incorporated into development will be confirmed as part of the detail design process.

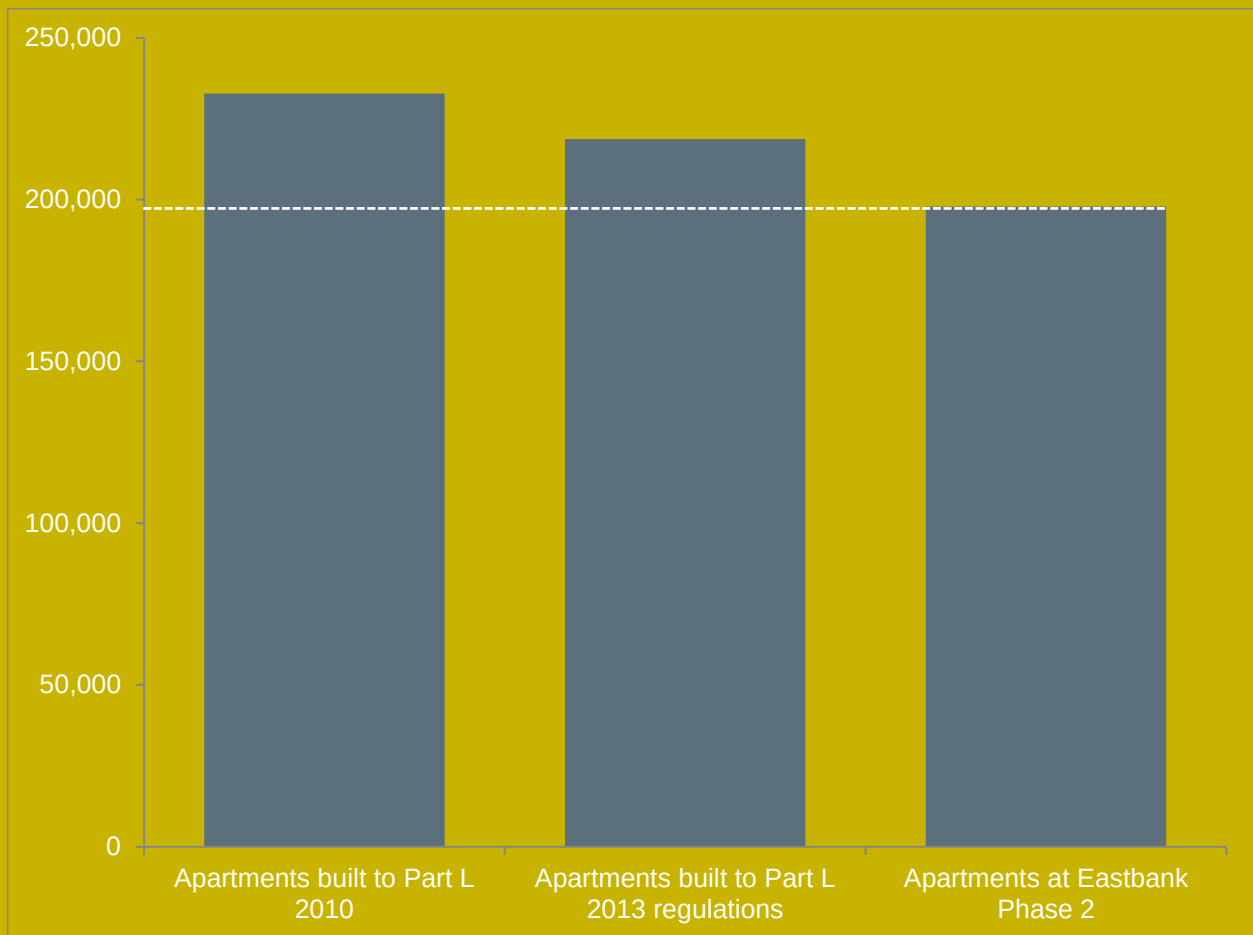
Table 3: Estimated carbon emissions summary

	Energy use (kWh/yr)	Carbon emissions (kg CO ₂ /yr)	Carbon savings (kg CO ₂ /yr)	%
Apartments built to Part L 2010	903,230	232,785		
Apartments built to Part L 2013 regulations	851,014	218,676	14,109	6%
Apartments at Eastbank Phase 2	767,746	197,867	20,808	9%
Total savings			34,918	15%

What is the carbon footprint of Eastbank Phase 2?

The graph below illustrates the estimated carbon savings of the proposed development of 201 new apartments at Eastbank Phase 2 compared with Part L 2010 demonstrating how the development will achieve a 15% reduction in regulated carbon emissions.

Kilograms
of CO₂
emitted per
annum



Water Efficiency

Potable water is an increasingly important natural resource and the conservation of water is becoming a more influential sustainability metric.

To reduce water consumption during occupation, the apartments will aim to achieve high standards of water efficiency. In the apartments it is anticipated that the highest water use will be associated with baths and showers. Therefore water use will be reduced through the installation of water efficiency measures such as; low flow shower and bath fittings, dual flush WCs, and individual apartment water meters.



These measures are anticipated to reduce domestic water consumption in line with the Building Regulations target of <125 litres per person per day which is well below the 150 litres typical use of existing dwellings.

As part of the detailed design process the development will also consider the installation of a rainwater harvesting system to provide water for the maintenance of the development green infrastructure.

Flood Risk and Sustainable Drainage

The proposed development site is located in Flood Zone 1 and is therefore considered to be at a low risk of flooding.

As a previously developed site the existing surface water drainage systems is anticipated to be able accommodate the new development. However as a commitment to tackling climate change the development will consider the use of Sustainable Drainage Systems (SuDS) to mitigate the impact of surface water runoff through provision of a surface water drainage strategy.

The surface water drainage strategy will aim to reduce site surface water runoff rates, ensuring they are restricted to the existing site runoff rates as a minimum. The strategy will also aim to mitigate against the impact of Climate Change. The final strategy will be determined during the detailed design s.

3.6 Conserving and Enhancing the Natural Environment

Both national and local planning policy recognises the importance of conserving and enhancing the natural environment, preventing pollution and providing net gains in biodiversity where possible.

The proposed development site comprises of an area of hard standing with small areas of scrub limited to the margins of the site and as such the ecological value of the site is considered to be low.



The proposed development plans aim to have a positive impact on the sites ecology

and biodiversity through a landscape strategy which includes:

- Areas of green space within the building courtyard and external spaces on Advent way and Isaac Way.
- New native trees and planting incorporated into the developments open spaces.

Green Infrastructure can have additional localised benefits including sequestration of carbon, combating the urban heat island effect and improving local air quality.

It is considered that any potential adverse impacts are limited due to the lack of ecological value to the site and therefore the new habitats created by the development will have a positive impact on the sites ecology and biodiversity.

Waste Management

Effective waste management is a key sustainability consideration for development during both construction and occupation.

Construction Waste Management

The development will aim to manage waste during construction, maximising the reuse and recycling of materials while minimising waste sent to landfill through a range of best practice measures including:

- Development of a Site Waste Management Plan (SWMP) prior to construction to ensure the use of measures to minimise waste during the construction phases of the development.
- The reduction, re-use and recycling of construction waste is to be prioritised through measures such as avoidance of over-ordering, supervision of deliveries, use of secure materials storage facilities and reuse of materials onsite where feasible.

- The development site will be registered with the Considerate Constructors Scheme and target a score of >32.



Additionally insulation materials containing substances known to contribute to stratospheric ozone depletion or with the potential to contribute to global warming will not be used.

Occupational Waste Management

An occupational waste management strategy has been development based on the Council's bin collection services.

The Council provides a range of waste recycling options and the apartments and the apartment building will therefore provide storage spaces for non-recyclable waste and recyclable household waste.

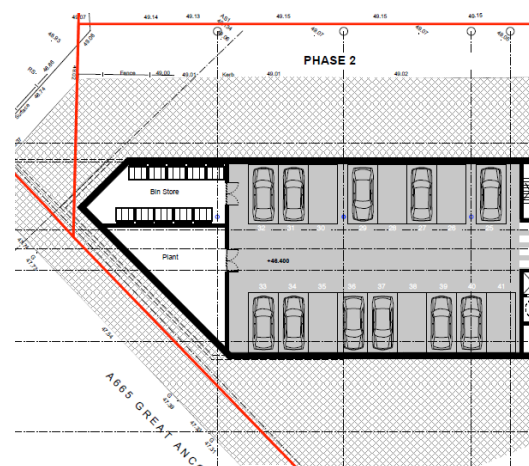


Figure 2: Refuse collection point

The building refuse collection points are located on the lower ground and ground floors and are accessible via internal corridors. The internal collection points will be clearly labelled to facilitate household recycling.

4. Conclusion

The development of Eastbank Phase 2 aims to deliver a sustainable, low carbon and resource efficient development in response to Manchester City Council's sustainability objectives.

Manchester City Council's planning policy requires new development applications to be supported by an Environmental Standards Statement and Energy Statement, demonstrating how the development responds to the Councils' sustainability requirements including the reduction of carbon emissions.

This Environmental Standards Statement for 201 new apartments at Eastbank Phase 2 supports local sustainability priorities and includes the following sustainability commitments:

- Redevelopment and **regeneration** of a **brownfield** development site, reducing the need for development of green field sites.
- Design and construction of sustainable new apartments to achieve a **15%** reduction in regulated carbon emissions over Part L 2010.
- An **energy strategy** delivering energy efficient and low carbon new apartments through a **fabric first** approach to design and construction delivering a significant reduction in the baseline energy demand through a combination of passive and active design measures.
- Design and layout to maximise the **passive solar gains** of development while minimising the risk of summer overheating.

- A commitment to meet any residual reduction carbon emissions through the installation of **low carbon renewable energy** technologies.
- Development within 1.5km of the City centre with access to a full range of services via a range of **sustainable travel** options including walking and cycling.
- Provision of **64 secure cycle spaces** and electric vehicle charging points to encourage sustainable travel.
- A commitment to **reduced water consumption** in through water efficient fittings.
- Development in an area of **low flood risk** and provision of a surface water management strategy which considers the impacts of **climate change**.
- Provision of **green open spaces** with new native planting which will provide a positive impact on the sites **ecology and biodiversity**.
- A commitment to manage waste during construction and occupation aiming to **maximise reuse and recycling** through a range of best practice measures including a **Site Waste Management Plan** and registration with the **Considerate Constructors Scheme**.

Overall the proposed development at Eastbank Phase 2 will deliver sustainable, low carbon new apartments in support of national and local sustainability policy and priorities for Manchester City Council.

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