

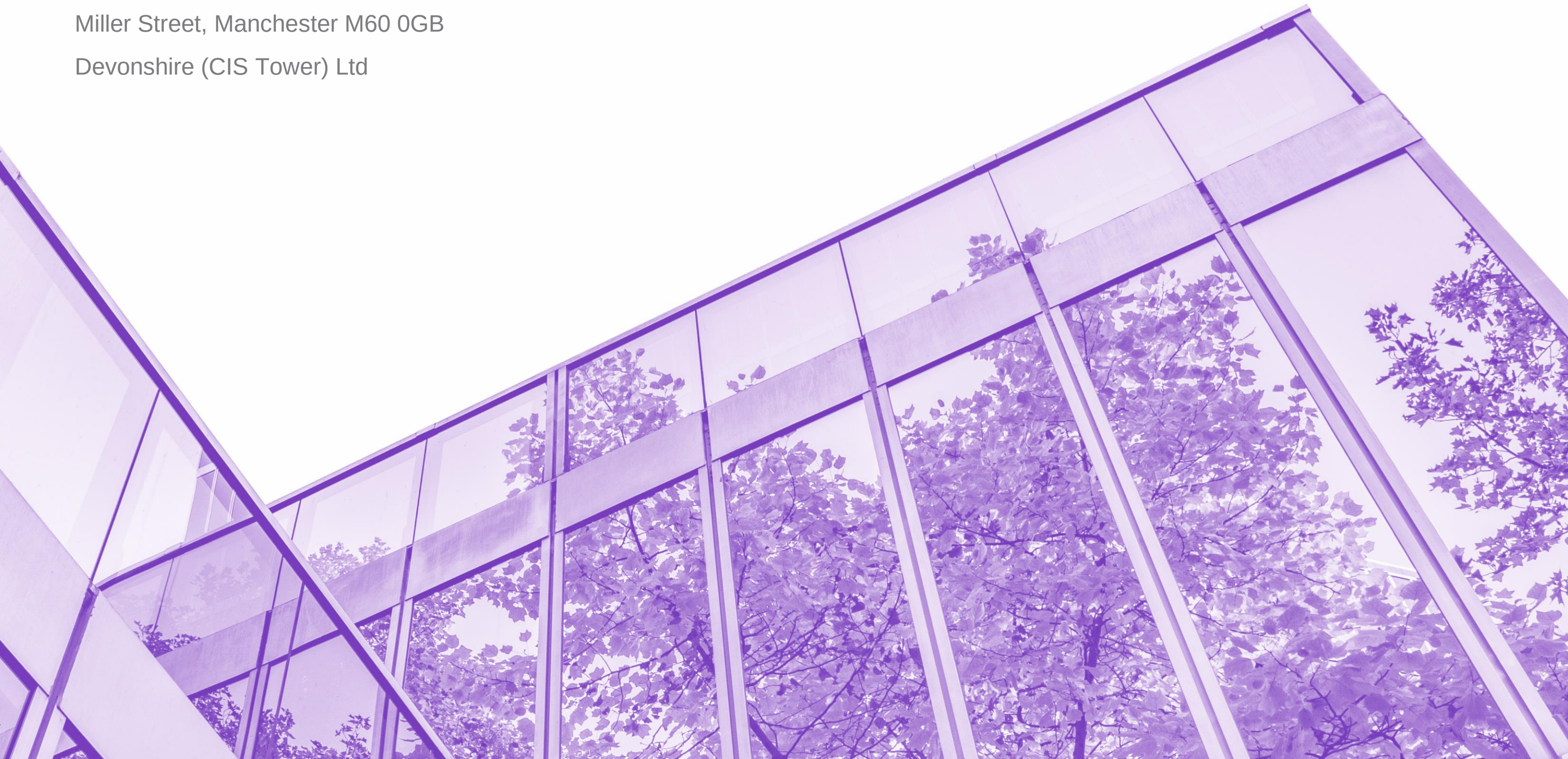


CIS Tower, Manchester

Circular Economy Statement

Miller Street, Manchester M60 0GB

Devonshire (CIS Tower) Ltd





Client	Devonshire (CIS Tower) Ltd
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1.0 Executive Summary

CIS Tower is a Grade II listed office building located in Manchester city centre, built in the 1960s and comprises twenty-eight storeys.

The description of development as stated on the application form for Full Planning Permission is as follows:

Planning permission for internal and external refurbishment of the CIS Tower for office accommodation on floors 1-23 (Use Class E c)); change of use to floor 24 and 25 from Use Class E c) (office) to Use Class E b) (F&B); change of use to basement and ground floor from Class E c) (office) to mixed uses (Use Class E a) (retail)/ Use Class E d) (gym) / Use Class E b) (F&B) / Sui generis (leisure); refurbishment of the external facade including replacement of the existing single glazed façade system and replacement of strip of solar panels on the service tower; removal of existing recreational space on the fifth floor and plant to facilitate the construction of a 3-storey extension to the Podium (Use Class Ec)) external alterations to ground floor façade including an alteration to the ground floor entrance lobby; creation of new entrances on Dantzic Street and on eastern elevation; hard landscaping and planting; removal of external signage; creation of 2x DDA parking spaces; new rooftop plant and screening at level 8; and other associated works.

The description of development as stated on the application form for Listed Building Consent is as follows:

Listed Building Consent for the wholesale internal and external refurbishment, refurbishment of the external facade including replacement of the existing single glazed façade system and replacement of strip of solar panels on the service tower; removal of existing recreational space on the fifth floor and plant to facilitate the construction of a 3-storey extension to the Podium; external alterations to ground floor façade including an alteration to the ground floor entrance lobby; creation of new entrances on Dantzic Street and eastern elevation; alternations to the existing public realm; new rooftop plant and screening at level 8; hard landscaping and planting; removal of external signage; and associated works.

The proposed design is based on the building being predominantly office use, incorporating some retail, leisure, and event space. A new three-storey extension is proposed for the podium, which will also be used as office space.

The proposal to replace significant elements of the facade has undergone extensive interrogation to ensure the proposals are proportionate and appropriate. The building is therefore considered to be a refurbishment scheme by Manchester City Council. The building is to undergo extensive works to improve its thermal and energy performance.

The proposed design is based on the building being predominantly office use, incorporating some retail, leisure, and event space. A new three-storey extension is proposed for the podium, which will also be used as office space.

The applicant's vision for the proposed development is to create a highly sustainable building that addresses these and other relevant policies and to exceed minimum requirements wherever possible.

The circular economy focuses on reusing materials to prevent over-extraction of natural resources and reduce landfill waste. It aims to decouple economic activity from finite resource consumption, promoting system health by prioritising nature regeneration, carbon reduction, and sustainable resource management. Practical applications include refill hubs for groceries and retaining building structures using second-hand steel.

This circular economy statement has been prepared to demonstrate how the proposed development addresses circular economy principles in accordance with policy JP-S2. The statement summarises the strategy adopted following UKGBC's 5 key principles, which includes:

- Ensuring the efficient use of non-renewable materials.
- Reducing the lifecycle impact of materials used in construction and during their use through the careful selection of materials with low environmental impact.
- Embracing design for disassembly principles to facilitate the future re-use of materials.

Applying the UKGBC's circular economy principles and a whole life-cycle design approach has identified the following opportunities, which will be developed further as the design progresses:

- Reuse of existing superstructure and basement.
Specification of aluminium curtain walling profiles that have a high recycled content.
- Undertake a pre-works audit to identify materials for reuse and recycling.
- Adopt an hierarchical approach to waste management during construction by harvesting the materials that have been identified within the materials audit for reuse on and near site.
- Design and specification of highly efficient energy and water consuming systems, equipment and fittings.
- Refinement of the whole life cycle carbon assessment during design development and construction to reduce material use, waste and carbon emissions.
- Design out unnecessary materials, such as suspended ceilings.
- Design for longevity, disassembly and adaptability.
- Incorporate modern methods of construction and offsite fabrication.
- Consider products as a service for the lifts and lighting.

- Specifying materials with a long service life and low environmental impact.
- Sourcing materials locally wherever it is possible to do so.
- Design and construct responsibly using materials and products with credible and verified environmental and health accreditations.



2.0 Introduction

2.1 The Applicant

The Applicant is (Devonshire (CIS Tower) Ltd) hereafter referred to as ‘The Applicant’. The Applicant has appointed Tuffin Ferraby Taylor (TFT) Ltd. to assess the sustainability performance of the proposed application against relevant sustainability planning policies.

2.2 Purpose

This Circular Economy Statement has been prepared in support of the planning application for the redevelopment of CIS Tower in Manchester. This report seeks to outline the approach taken to incorporate circular economy measures within the design to address key sustainability policies in the Manchester Core Strategy around resource efficiency and carbon reduction.

The Applicant’s vision for the development involves a holistic sustainability approach which seeks to satisfy the local and regional policies and go beyond the standards set by Building Regulations.

2.3 Proposed Development

CIS Tower is a Grade II listed building located in Manchester city centre, built in the 1960s and comprises twenty-eight storeys. It was previously used predominantly as office space, with a canteen area and an event space.

The description of development as stated on the application form for Full Planning Permission is as follows:

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the construction of a 3-storey extension to the Podium (Use Class Ec)) external alterations to ground floor façade including an alteration to the ground floor entrance lobby; creation of new entrances on Dantzic Street and on eastern elevation; hard landscaping and planting; removal of external signage; creation of 2x DDA parking spaces; new rooftop plant and screening at level 8; and other associated works.

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The proposed design is based on the building being predominantly office use, incorporating some retail, leisure, and event space. A new build three storey extension is also proposed for the podium, also to be used as office space.

The proposed scheme is described in full in the architect Simpson Haugh Architects’ drawings and design and access statement accompanying the application.



Figure 1- CIS Tower, Miller Street Manchester Redevelopment Location



3.0 Policies

3.1 Circular Economy

At its simplest, the circular economy prioritises the reuse of materials, preventing the over extraction of natural resources and the number of usable materials that end up in landfill. More widely, it's an economic model that builds overall system health by gradually decoupling economic activity from the consumption of finite resources. Its principles consider a different way of doing business, placing more importance on regenerating nature, carbon reduction and sustainable resource management rather than our current system. In practice, it can entail providing a refill hub for groceries or more significantly, like retaining a building's structure and utilising second hand steel. The principles are neatly captured in UK Green Building Council's infographic in Figure 2 and are listed below.

The UKGBC sets out the below core circular economy principles as follows:

- Maximise reuse - including refurbishing and repurposing.
- Design buildings for optimisation - design for longevity, flexibility, disassembly and recoverability.
- Use standardisation - including modularization.
- Products as a service – such as solar panels or light fittings.
- Minimise impact and waste - use recycled content and secondary materials, design out waste, reduce construction impacts.



Figure 2 UKGBC Circular Economy Principles

3.2 Manchester Core Strategy (2012-2027) & Places for Everyone Joint Development Plan Document (2022 to 2039)

Manchester City Council's Core Strategy (adopted in July 2012) covers a period of 15 years from 2012 to 2027 and outlines the Council's vision for Manchester in 2027 along with the planning policies which will be used to deliver that vision including those that cover carbon emissions, renewable energy and climate adaptation.

The Greater Manchester Combined Authority Document- Places for Everyone Joint Development Plan Document (adopted in March 2024) is an addendum to the Core Strategy. As set out in the 'Addendum to Manchester Core Strategy 2024' some Core Strategy policies have been partially replaced by Places for Everyone (PfE) policies.

In the context of the circular economy, the following policies have been reviewed:

Manchester Core Strategy (CS) Policies

- CS Policy DM 1 - Development Management
- CS Policy EN 4 - Reducing CO2 Emissions by Enabling Low and Zero Carbon Development
- CS Policy EN 8 - Adaptation to Climate Change
- CS Policy EN 19 - Waste

Places for Everyone Replacement Policies

- JP-S2: Carbon and Energy
- JP-S6: Resource Efficiency

Specifically, this circular economy statement has been prepared to demonstrate how the proposed development addresses circular economy principles in accordance with policy JP-S2. The statement summarises the strategy adopted following UKGBC's 5 key principles, which includes:

- Ensuring the efficient use of non-renewable materials.
- Reducing the lifecycle impact of materials used in construction and during their use through the careful selection of materials with low environmental impact.
- Embracing design for disassembly principles to facilitate the future re-use of materials.

The strategy and approach are explored in more detail in sections 4 and 5 of this document.

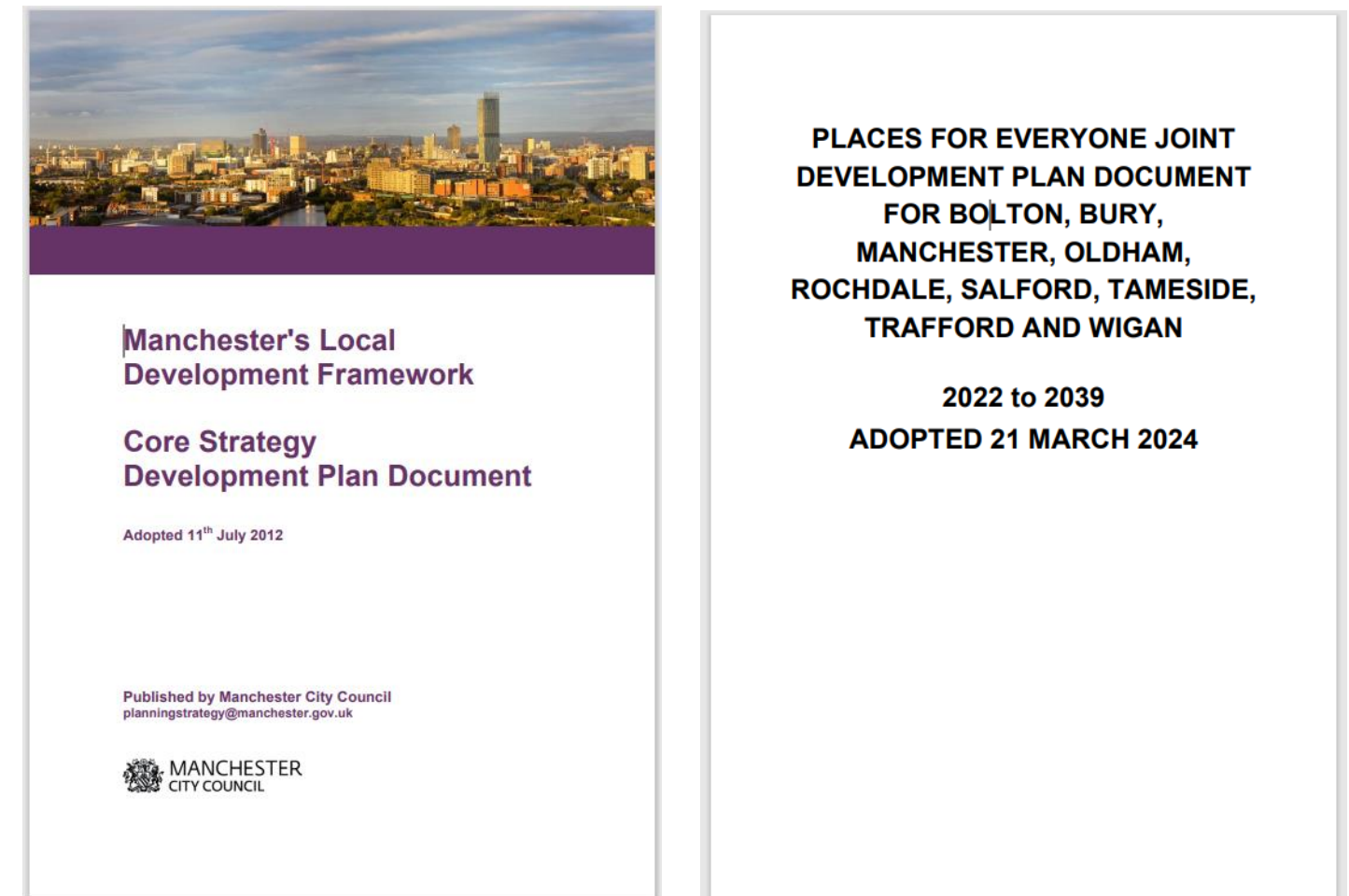


Figure 3- Manchester Core Strategy (2012-2027) & Places for Everyone Joint Development Plan Document (2022 to 2039)



4.0 Approach

A circular economy workshop was undertaken with the project team early during RIBA Stage 2. The intention of the workshop was to set the ambition and goals for the proposed development and discuss how principles of circularity could be incorporated within the design proposals including those highlighted in figure 4 opposite.

The design team advocates sustainable design and construction principles and are active in the industry to drive building performance and embed circularity within the developments on which they work.

A Whole Life-Cycle Carbon Assessment (WLCA) on the building's design has been carried out which has informed the circular economy opportunities in Section 5. Where feasible, the outcomes of the WLCA will be integrated within design decisions.

A BREEAM pre-assessment workshop was held which included exploring the following circular economy opportunities

- Mat 05: Designing for durability and resilience
- Mat 06: Material efficiency
- Wst 06: Functional adaptability

These have been included within the pre-assessment tracker and agreed design strategy issued as part of the planning submission.

The circular economy opportunities available for the proposed development are explored in more detail in Section 5.

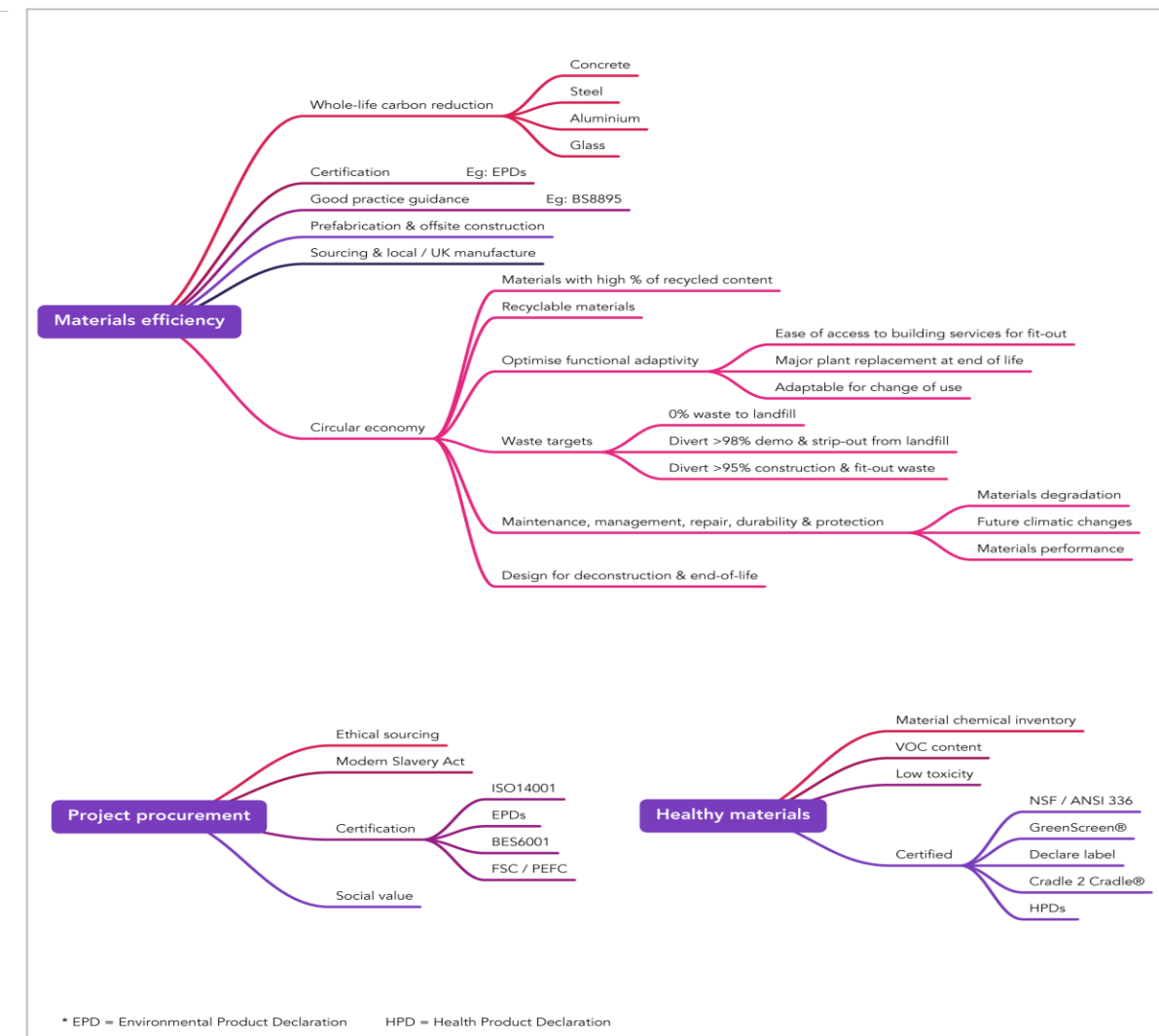


Figure 4: Early stage materials and procurement considerations



5.0 Circular Economy Opportunities

This section elaborates on the opportunities within the site's constraints and highlights specific opportunities developed in accordance with the proposed development's design approach.

This section is structured around the UKGBC core circular economy principles detailed in section 2.

5.1 Maximise reuse

Extensive studies and investigations have been undertaken to explore the feasibility of retaining the existing building including its mechanical and electrical installations. Following these investigations it has been established that the existing substructure and superstructure will be retained. However, with respect to the retention and refurbishment of the façade and services installations, it is evident that the energy, carbon and in-use performance benefits arising from replacing the façade and building services outweighs their repair and retention over the life of the new facade.

The Proposed Development will utilise a brownfield site to meet the needs of the brief, optimising use of Manchester's limited available urban land. The development will incorporate several uses including offices, retail, leisure and amenity areas, so contributing to the efficient use of land and space available on the site.

Where possible the Proposed Development will reuse or recycle materials (in line with the completed pre-demolition audit) to minimise the use of raw materials. Contractual arrangements with the demolition contractor will require a hierarchical approach to waste that seeks to promote the re-use of materials over recycling and divert materials from landfill. Opportunities to donate excess materials from demolition and construction to organisations such as Globe Chain, Cleveland steel, Collect Eco, and local community initiatives will be explored.

Contractors will be encouraged to sign up for providing material passports, which are key to unlocking circularity and material reuse. A common challenge when retrofitting or looking at material reuse from demolition is understanding which materials are currently in a building. If a building comes with a material passport which has been kept up to date, many of these challenges of materials reuse can be addressed.

5.2 Design buildings for optimisation

The scheme will be designed to address efficient use of energy and water during construction and operation. The specification and design of energy efficient building solutions, systems and equipment that support the sustainable use and management of energy during the building's operation has been integral part of the building services strategy. Site energy and water consumption targets will be set to ensure beyond best practice is met. The contractor will be expected to reduce consumption against these targets, monitor and record data for both energy and water consumption. Operational energy (regulated and unregulated energy) demands will be minimised to meet Manchester Energy policy and whole life carbon reduction requirements. Water efficient sanitary fittings will be specified for use on site thus reducing potable water consumption (internal and external) over the lifetime of the building and minimising losses through water leakage.

A whole life-cycle approach was taken during the early stages of the design process encouraging consideration of impacts during manufacture, design, procurement, installation, in-use and end-of-life. The findings from TFT's Whole Life-Cycle Carbon Assessment (WLCA) assisted the design team when making decisions with respect to the façade and by identifying the most carbon intensive materials provided focus for the team as the design develops to reduce carbon and optimise performance (please see table 1 below).

Building component	Contribution (%) of cradle to gate (A1-A3)	Cradle to gate (A1-A3) impacts (tCO ₂ e)
Curtain walling	40%	7300
Steel ducting	13%	2300
Low voltage cabling	9%	1600
Heating system	7%	1300
Pipework	6%	1000
Medium voltage cabling	5%	820
Insulation for MEP installations	4%	670
Ceiling finish	3%	570
Steel sections	1%	250
Flooring finish	1%	220

Table 1: Top 10 material contributors of upfront embodied carbon (modules A1-A3)

As highlighted in the table above, the greatest potential to make meaningful reductions in the building's carbon emissions lies with the aluminium and mechanical and electrical systems. The scheme currently assumes aluminium with 70% recycled content (within the curtain walling) thus contributing to material efficiency and waste reduction. In the technical design stage, when MEP data is more readily available steps will be taken to ensure that the best materials are chosen in terms of durability, and material efficiency, reuse, and recyclability.

In addition to reducing its embodied impact as discussed above, the design will also look at reducing the quantity of materials. For example, procuring materials with higher levels of recycled content. It may also include the adoption of alternative means of design and construction that result in lower materials usage and wastage levels including off-site manufacturer and/or use of pre-assembled service pods. Some of the opportunities explored during the early design development included:

- Optimising the façade performance over its whole life cycle
- Tenants will determine their own need for suspended ceiling
- Reusing the existing floor trunking where possible.

Optimised design methods, which consider current and future needs, and respond to functional requirements and climate change adaptation have been discussed. It includes recognition of measures to reduce future waste as a result of the need to alter the building in the light of future changes to climate. Some of the design opportunities for functional adaptability and disassembly include a variety of floor plate types offer a range of spaces for incoming tenants and flexibility for their fit out requirements.

Guidance will be developed for future occupiers to encourage adaptability, disassembly and reuse with respect to their fitting-out of the spaces to reduce waste and carbon. In addition, a climate change adaptation strategy will inform the design with mitigation opportunities implemented that will reduce material and waste due to the impact of extreme weather events such as flooding, overheating and high winds.

5.3 Use standardisation

Modern methods of construction (MMC) are being encouraged such as using prefabricated and offsite assembly especially for the new curtain walling and building services systems in collaboration with contractors and specialist suppliers.

A standardised and modular approach to design, manufacture and installation improves material efficiency, reduces waste and makes it easier to recover materials and components for future reuse.

5.4 Products as a service

Product as a service is a crucial business model for facilitating the transition to a circular economy helping to optimise performance and reduce waste and therefore, provides companies with a tangible opportunity to reduce reliance on new resources and achieve sustainability goals. Examples include:

- Mitsubishi – a scheme whereby it retains ownership of the lift and maintains it, which can extend service up to 40 years.
- Whitecroft Lighting – a lighting supplier that offers a service that enables the disassembly of light fittings for future reuse.
- SunPower – leasing solar panels.

Opportunities such as the above will be explored where feasible and will be developed further as the design progresses.

5.5 Design and construct responsibly

New materials specified with low or no environmental impact throughout their lifecycle will be prioritised, which will also contribute towards sustainability certification including BREEAM and WELL (which are being targeted for this development). Potential opportunities include:

- Specifying products with third party verified environmental product declarations (EPD's).
- Avoiding any toxic and/or polluting materials (such as VOCs) such as those with health product declarations (HPD) or Cradle to Cradle Certified.
- Materials will be sourced in accordance with the project's sustainable procurement plan and procured locally, wherever possible.
- All timber and timber-based products will be procured from third party verified sustainable sources such as those that are FSC or PEFC certified.
- Using materials that incorporate a high recycled content such as the aluminium used for the new curtain walling or plasterboard for internal partitions and fire protection.

The WLCA will inform the design and construction process to optimise material efficiency.