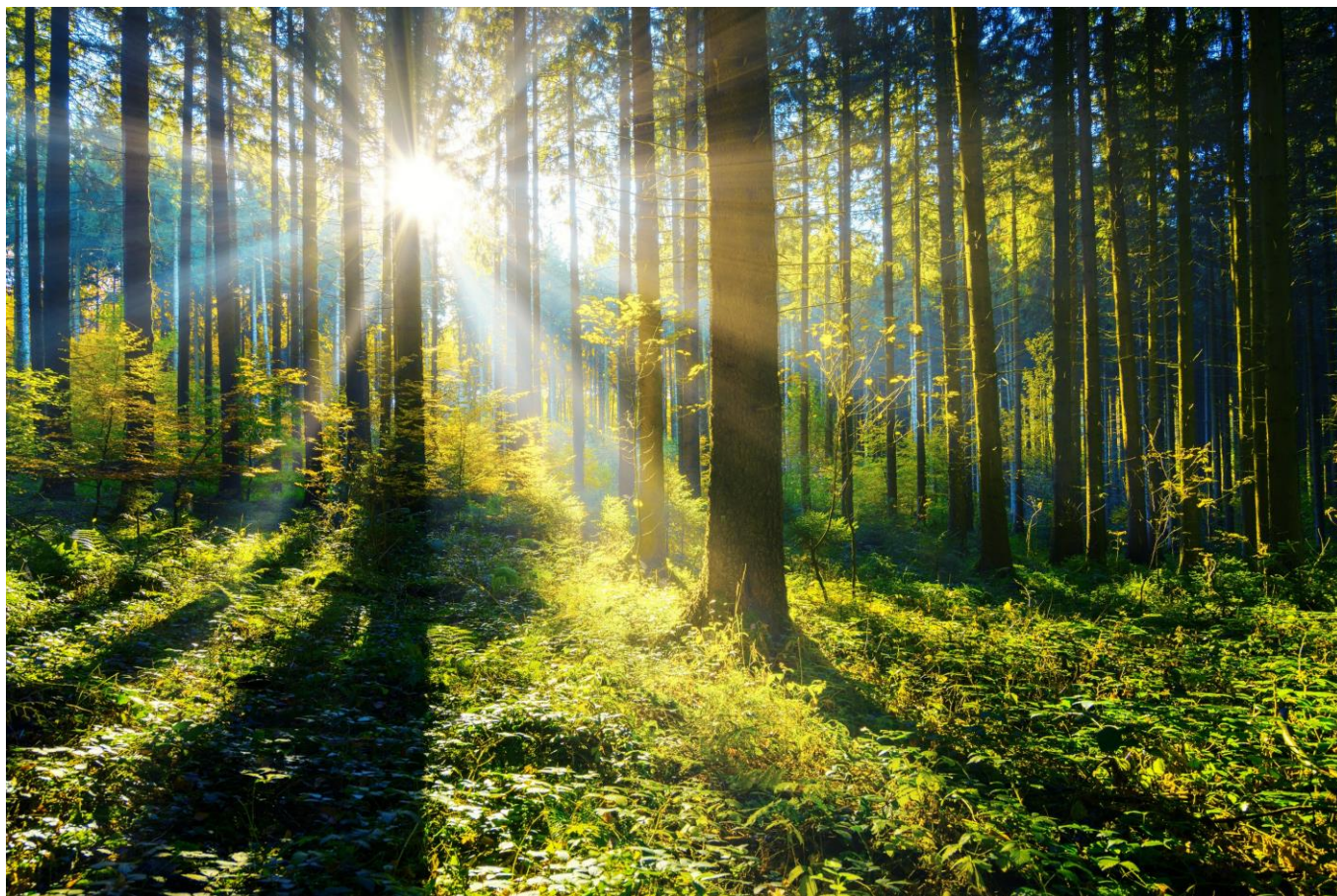




Greenheys, Manchester Science Park: Circular Economy Statement

A report from Nature Positive

Project no. 3040212



Quality review

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Executive summary

Nature Positive Limited have been instructed by Willmott Dixon Construction Limited (WDC) to prepare a Circular Economy Statement (CES) to discharge condition 3b associated with planning application 136934/FO/2023.

This strategy has been prepared at Royal Institute of British Architects (RIBA) Stage 4/5, and outlines the principles, targets and actions that have been identified across the design, construction and operation of the development.

The development comprises a new building with six occupiable floors with a further level of plant above, alongside associated cycle parking, highways access and landscaping; this replaced the existing Greenheys building, sited within the Manchester Science Park. The design proposal has been developed with a specific tenant in mind and has been refined at each stage to accommodate stakeholder input. The scheme is targeting net zero construction and operation alongside BREEAM 'Excellent' accreditation.

The key circular economy principles of designing out waste, designing for longevity, adaptability and flexibility and regenerate nature have been incorporated into the design. The application of these will increase the sustainability of the building and limit wider environmental impacts on the surrounding area. The development considered each of the principles at a building layer level, considering how they interact, and recognising that different layers will have different lifespans and present different circularity opportunities.

The project has committed to the following circular economy principles:

- Minimise the use of materials
- Re-use components and materials with minimal processing (where possible)
- Reduce lifecycle carbon impact of materials through specification
- Design out construction, demolition, excavation and municipal waste
- Design for longevity
- Design for adaptability and flexibility
- Design for replaceability and deconstruction
- Enhance biodiversity through material choices

The project will use responsible sourcing policies for key materials. These include procuring concrete and steel elements which meet the BES 6001 standard, obtaining verified information confirming the percentage of recycled content in concrete, steel and aluminium products. Insulation specified will have a GWP of less than 5 and all timber used on site will be of verified origin and will comply with relevant UK timber legislation.

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1 Introduction

Nature Positive Limited have been instructed by Willmott Dixon Construction Limited (WDC) to prepare a Circular Economy Statement (CES) to discharge condition 3b associated with planning application 136934/FO/2023. The development comprises a new office and laboratory building Greenheys, sited within the Manchester Science Park.

This document has been prepared in line with the guidance published in Policy D3 of the New London Plan (March 2022)¹, *Optimising Site Capacity Through the Design-led Approach*, and Policy SI 7² *Reducing Waste and Supporting the Circular Economy*.

This statement has been prepared at RIBA Stage 5 and outlines the principles, targets and actions that have been identified for adoption across the evolution of the design: from the outline stage and across the remainder of the development's lifecycle. It is anticipated that measures set out in this statement will require review as the project nears completion, and should be updated to reflect agreed operational waste targets and additional measures implemented during the scheme's construction.

1.1 Circular Economy Statement Objectives

The purpose of this statement is to demonstrate how circular economy measures have been identified and incorporated in the project's design stage, and how these will continue into construction and the operational lifespan of the finished building.

The statement aligns itself to publicly available guidance and best practise planning policies for the implementation of circular economy values in development projects such as the GLA. The statement is structured as follows:

- **Proposed development** – information on the development including its location, planning considerations and design philosophy
- **Policy context** – the relevant planning policies at a local and national level which influence how developments should consider circular economy principles
- **Circular economy principles** – defines the key principles considered in this statement and how a development might be assessed against them
- **Greenheys circular economy statement** – outlines which principles have been implemented within this development, including a breakdown by building layer
- **Material sourcing targets** – defines material sourcing requirements for key materials to be used

¹ Greater London Authority (2021) [New London Plan – Chapter 3 Design](#)

² Greater London Authority (2021) [New London Plan – Chapter 9 Sustainable Infrastructure](#)



2 Proposed development

2.1 Development description

The redevelopment of the Greenheys building is on a site of 0.67 ha within the Manchester Science Park (MSP), a strategic employment location in Oxford Road Corridor. The site occupies land located bounded by Greenheys Lane to the west, Pencroft Way to the east, the Base building to the south, and the McDougall Centre to the north.

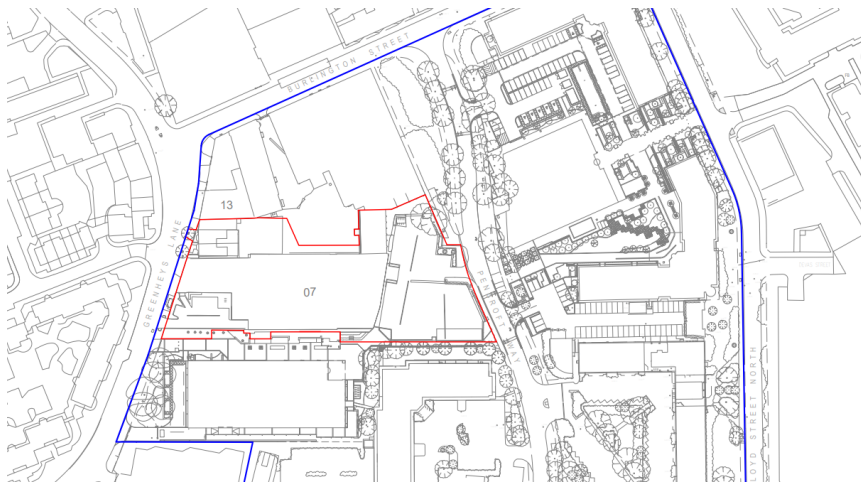


Figure 1 Site Location Plan (application boundary edged in red) (Source: BDP):

The project will involve the demolition of the existing Greenheys building, a storage building and two terraced houses, replacing these with a new 17,249 m² of flexible office and laboratory space to meets the specified requirements of occupiers in the science and technology sectors. This space will be spread across 6 occupied floors with a roof-mounted plant room.

The development will include cycle parking, highway access and landscaping. The building is targeting net zero construction and operation in its shared spaces. The project is targeting a BREEAM 'Excellent' rating. Development parameters are shown in Table 1.

Table 1 Development parameters

Parameter	Proposed development
Commercial Floor space Class E (GIA)	17,249m ² (GIA) commercial floorspace within Use Class E
Height	6 occupiable floors, plus a plant level above approximately 65 metres above ground level



Car and Cycle Parking Spaces	The development will result in the net removal of 58 on-site parking spaces 60 additional cycle spaces will be provided as part of the development
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2.2 Design development

Design consultants working on behalf of Bruntwood Sci-Tech developed the design from RIBA stage 2 through to end of RIBA stage 4. We understand there has been a detailed design process undertaken with consultants throughout. This has involved design team meetings, workshops to progress the design and ensure proposals have been appropriately tested, reworked, and agreed. Relevant stakeholders have been included in the development of the design and needs of the spaces.

WDC were brought on board at the end of RIBA Stage 4 to add value around buildability, planning and cost. Elements such as the roof layout and MEP services have been simplified without losing the customer aspirations. The team at Willmott Dixon used good supply chain relationships to run focused workshops to gain supplier input. Design has continuing to progress into Stage 5 to ensure all client aspirations are achievable.



3 Policy Context

The following provides relevant context to key circular economy definitions, design principles and how these underpin circular economy measures implemented for this development, as outlined in the GLA Guidance.³

3.1 National Policy

The London Plan 2021

The London Plan is the overall strategic plan for London which sets out an economic, environmental, transport and social framework for the development in London over the next 20-25 years. Key relevant policies detailed within the London Plan have been included below:

Policy D3 optimising site capacity through the design-led approach

Policy D3 of the London Plan states that developments should optimise site capacity and design the most appropriate form of development, such as through considering site context and capacity for growth. Inclusivity and accessibility must be considered, while following circular economy principles.

Policy SI 7 Reducing waste and supporting the circular economy

Resource conservation, waste reduction, material re-use/recycling and reduction in waste sent for disposal should be achieved through several key actions:

1. Promote a circular economy that improves resource efficiency and innovation
2. Encourage waste minimisation and prevention
3. Ensure there is zero biodegradable or recyclable waste sent to landfill by 2026
4. Meet or exceed the municipal waste recycling target of 65%
5. Meet or exceed targets to achieve 95% reuse/recycling/recovery and 95% beneficial use for excavation materials
6. Design developments with adequate, flexible and easily accessible storage space and collection systems

A circular economy statement should specifically demonstrate:

1. How materials from demolition/remediation works will be reused and/or recycled
2. How material demands will be reduced and enable materials, components, and products to be disassembled and re-use at end of life

³ Greater London Authority (2022) London Plan Guidance: Circular Economy Statements



3. Opportunities to manage as much waste on site as possible
4. Adequate and easily accessible storage space and collection systems to support recycling and re-use
5. How much waste the development will generate and how and where it will be managed
6. How performance will be monitored and reported

3.2 Local Policy

Manchester has stated its goal to be in the top flight of world-class cities by 2025⁴. The city has published a new Manchester Local Plan 'Core Strategy 2021 to 2027'⁵ which establishes long-term policies for development in the Manchester city area.

Policy EN 9 Green Infrastructure

New development will be expected to maintain existing green infrastructure by quantity, quality, and multiple function. Where the opportunity arises and in accordance with current Green Infrastructure Strategies the Council will encourage developers to enhance the quality and quantity of green infrastructure, improve the performance of its functions and create and improve linkages to and between areas of green infrastructure. Where the benefits of a proposed development are considered to outweigh the loss of an existing element of green infrastructure, the developer will be required to demonstrate how this loss will be mitigated in terms of quantity, quality, function, and future management.

Policy EN 19 Waste

- Require all developers, including those of new waste management facilities within the district, to demonstrate the proposal's consistency with the principles of the waste 209 Objective 6 Environment 12 Manchester City Council | Manchester Core Strategy 2012 to 2027 hierarchy (prevention, reduction, re-use, recycling/composting, energy recovery, final disposal)
- Require all developers of new waste management facilities within the district to plan for and where appropriate use sustainable modes for waste transport, including modes such as rail and canal. Require all developers to submit a waste management plan to demonstrate how construction and demolition waste will be minimised and recycled on site where possible, and how the sustainable waste management needs of the end user will be met.
- Consider the economic and environmental benefits that well-designed and run waste management facilities can bring to the district, subject to any conditions required to protect the amenity of existing adjacent users

⁴ Manchester City Council (2022) [State of the City report](#)

⁵ Manchester City Council (2012) [Core Strategy](#)



- Promote the development of innovation and technological advancement in the sustainable waste management industry, aiming to achieve a closed-loop waste management system
- Require waste management practices to consider the environmental, social, and economic impacts of such development and encourage long-term benefits in improving environment, regeneration of areas in need of investment, and co-location with other uses where viable
- Encourage communities to take responsibility for the waste they create through the provision of accessible facilities.

Guide to Development in Manchester⁶

The “Environmental Standards” section of the document outlines key principles for sustainable development in Manchester, emphasizing energy efficiency, renewable energy, and waste management.

⁶ Manchester City Council (2007) [Guide to Development in Manchester](#)



4 Circular Economy Principles

This report uses the following definition of circular economy taken from the Ellen MacArthur Foundation. The foundation defines circular economy as⁷

'System where materials never become waste and nature is regenerated.... The circular economy tackles climate change and other global challenges, like biodiversity loss, waste, and pollution, by decoupling economic activity from the consumption of finite resources.'

The circular economy is based on three principles, driven by design:

- Eliminate waste and pollution
- Circulate products and materials (at their highest value)
- Regenerate nature

These principles must be underpinned by a transition to renewable energy and materials and will create a resilient system good for business, people, and the environment.

This section sets out the key principles and approaches that should underpin a circularity statement. This draws on guidance published by the GLA. The built environment should design buildings for adaptability and durability, enhancing opportunities to extend building lifespan, while ensuring that materials and systems can be recovered as 'high value' and re-used or deconstructed and recycled as efficiently as possible. Design teams should challenge the 'take-make-waste' philosophy.

4.1 Circular economy principles

This assessment has considered the following six circular economy principles, as per Greater London Authority guidance:

1. Building in layers – for example, by enabling the various part of the building to be easily accessed to allow efficient and easy replacement and maintenance
2. Designing out waste – such as by adopting modular building techniques, reuse of site won materials and use of standardised components.
3. Designing for longevity – considering material durability and maintenance requirements.
4. Designing for adaptability or flexibility – allowing easy alteration of components to prolong building service life or to adapt to new uses and allow easy rearrangement of internal fit out.
5. Designing for disassembly – to ensure building elements can be easily dismantled to allow reuse and/or recycling.

⁷ Ellen MacArthur Foundation (2024) [Circular economy introduction](#)



6. Using system elements or materials that can be reused and recycled – such as by opting for materials that can be reused with minimal processing or use of easily and widely recycled materials.

4.2 Building in layers

To facilitate the application of circular economy principles, the GLA guidance recommends a building should be split into layers. The application of this approach takes into account the varying lifecycle of each layer and ensures the correct circular economy approaches are applied to individual layers considering its lifespan and expected function.

To support reuse and recycling each building layer should be designed to be independently accessible and removable. This will ensure that building elements can be reused and recycled, maintaining the highest material value possible, throughout a building's lifecycle. The building layers include site, façade, structure, substructure, building services, interior space, contents, and construction materials. Each has a unique lifespan, as depicted in Figure 2. The building's layered design allows for the layers to be upgraded or replaced independently. The building's adaptability to various functions, typologies, volumes, and layouts is enhanced by considering the different lifespans of the building components during the design phase. The strict separation of building materials facilitates the implementation of end-of-life strategies such as repurposing (reuse of building and componentry), upcycling and recycling of materials, and energy recovery. These strategies are in line with the principles of Design for Disassembly and the goals of the circular economy.

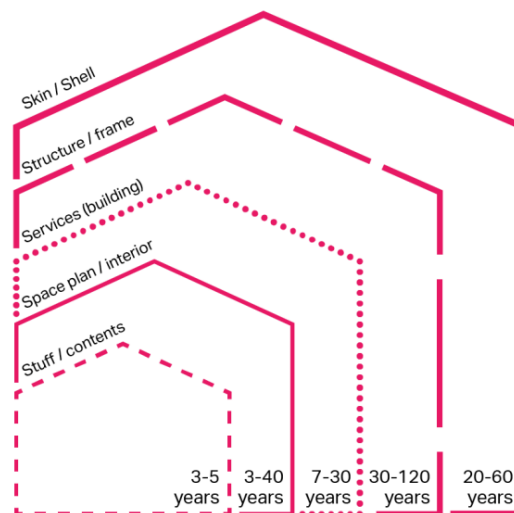
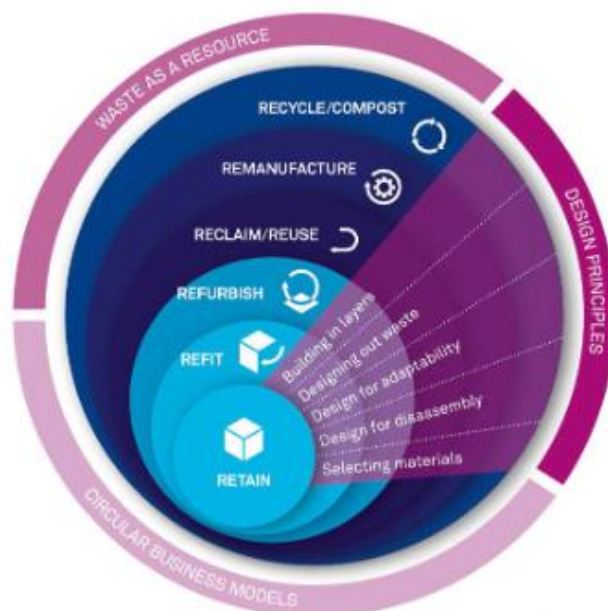


Figure 2 Building layers and their indicative lifespans (GLA 2021)



4.3 Circular economy design approaches

There are various circular economy approaches which support the application of the 6 principles. It is understood that several approaches should be adopted and applied to the development as a whole. The circular economy hierarchy of building approaches is presented in Figure below, extracted from the London Plan 2021. The Figure shows that retaining materials for re-use should be the starting point for building redevelopment, with fewer returns achieved by moving outward through the hierarchy.



Source: Building Revolutions (2016), David Cheshire, RIBA Publishing ©

Figure 3 Circular Economy hierarchy for building approaches

4.3.1 Design approaches for existing buildings

The project will involve the demolition of existing buildings, in line with the GLA framework for circular economy statements the decision tree in Figure 4 has been used to develop an appropriate design approach. The figure presents four suggested approaches for sites with existing structures:

- **Retain and Retrofit** – preserving the majority of a building’s structure and refurbishing it for the same or new uses, while incorporating new technologies to enhance efficiency and reduce environmental impacts.
- **Partial retention and refurbishment** – This approach involves keeping significant portions of a building’s structure, such as floors and substructure, while replacing some elements like walls or roofing.
- **Disassemble and reuse** – This approach involves disassembling sections of a building for direct reuse, ideally on-site or off-site if necessary, and includes careful deconstruction of the



building and its materials to minimize damage, maintain value, and facilitate the reuse of these elements and materials

- **Demolish and recycle** – Traditional demolition, with elements and materials processed into new elements, materials and objects for use on the site or on another site.

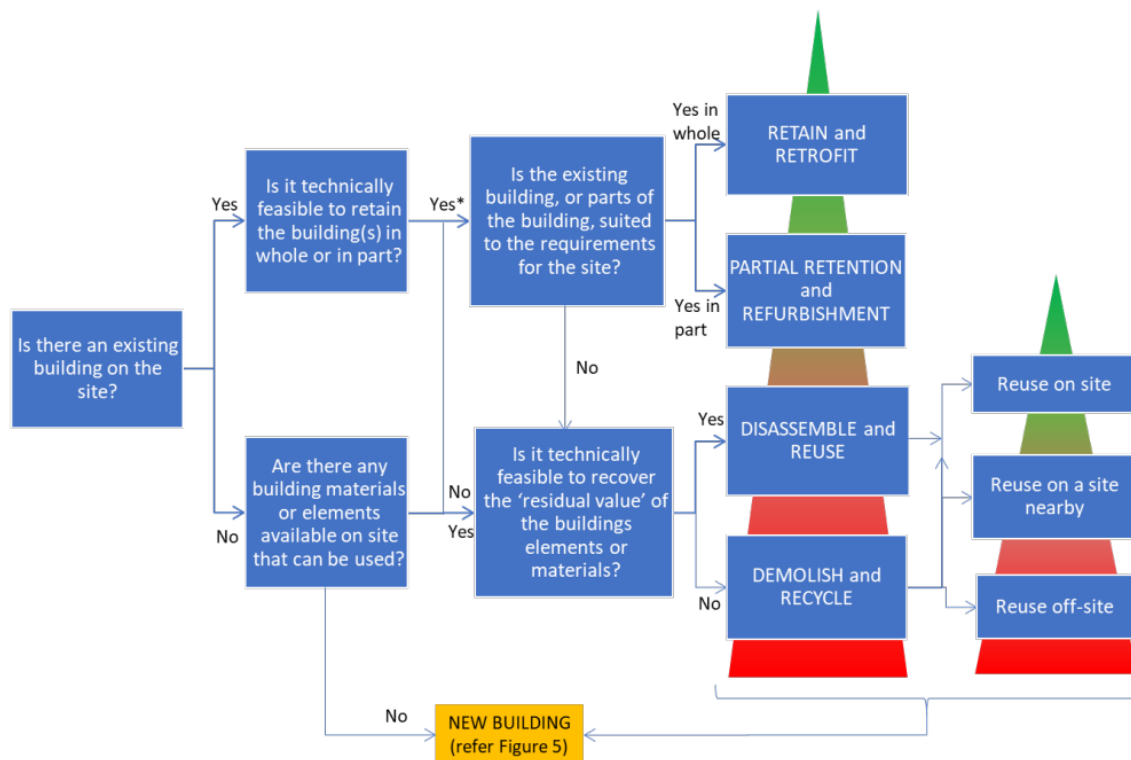


Figure 3 Decision tree for design approaches for existing structures/buildings⁸

4.3.2 Design approaches for new buildings

To ensure the replacement of the existing structures has the lowest carbon and material impact the proposed development will consider the following approaches .

- **Building relocation** - design allowing a building to be used in its entirety or as modules in a different location
- **Component reuse** – reusing products in their original form without the need for extensive reprocessing
- **Adaptability** – designing the building for ease of alteration, addition or contraction to suit the changing needs of its occupants, with consideration to the buildings frame

⁸ Sourced from Greater London Authority (2022) [London Plan Guidance – Circular Economy Statements](#)



- **Flexibility** – considered design of the internal fit out to allow for easy rearrangement based on occupant demand, with a focus on floor plates
- **Replaceability** – designing to allow for elements to easily removed, replaced or upgraded without devaluing the removed item
- **Disassembly** – designing to allow the building and its contents to be taken apart with minimal damage, facilitating reuse or recycling
- **Longevity** – designing to avoid a premature end-of-life for all components by considering maintenance and durability.



5 Greenheys circular economy strategy

5.1 Adopted principles

This section outlines the circular economy principles the project team has adopted the following for the proposed development.

5.1.1 *Designing out waste*

The existing buildings which sit upon the development site will be demolished. Each building will be subject to asbestos surveys prior to an intensive soft strip process to “include the removal and disposal of decommissioned building service media and associated appliances, ceiling finishes, floor finishes, loose and fixed furniture, residual equipment from the use of the building and internal/external joinery items (i.e. doors, windows, skirting, etc.) Outcoming strip-out materials will be sorted and segregated through material-specific waste skips for the benefit of recycling”⁹ or reuse in the local area.

Where possible building fabric materials will be reclaimed and made available locally. Low-value bricks, floor slabs and other crushable materials from the existing building will be processed on site for re-use in the new development’s ground works for piling mats and other fill materials. Outcoming strip-out materials will be sorted and segregated through material-specific waste skips to ensure the highest possible recycling rate.

A Site Waste Management Plan will be developed to apply the principles of the waste hierarchy, and assess how waste generated during demolition, excavation, and construction is disposed of, prioritising local disposal locations and low-carbon disposal vehicles. Bruntwood Sci-Tech the building landlord will develop an operational waste plan in line with their targets of zero waste to landfill and recycling 60% of operational waste by 2025. Operational waste collection has been considered as part of the design process, ensuring building users have maximum potential to recycle waste. The building will be serviced by one waste collection agency with an established reporting procedure.

The construction of the new building will use modular systems where practical, to ensure material waste is kept to a minimum. The design team have adopted lean design principles throughout each RIBA stage to challenge over specification of key structural elements. Changes to the roof structure and M&E at RIBA stage 4/5 have simplified the construction of these elements and reducing material usage, improving buildability whilst maintaining the required performance levels.

A smart building management system will be installed to monitor the operational performance of the building, to reduce operational energy and water consumption. Building management will work with

⁹ Taken from Bruntwood Sci-Tech - [00168434-002-MSPGH-XX-GD-Z-0004 Greenheys Development Demolition Management Plan](#)



tenants to decrease the quantity of operational waste created, and ensure that waste is diverted away from landfill.

5.1.2 *Designing for longevity, adaptability and flexibility*

The circular economy principles of longevity, adaptability and flexibility have been incorporated into the proposed development's design throughout the project's lifecycle. Future use scenarios have informed the grid layout to ensure the buildings structure remains flexible to accommodate future changes in use. The use of a curtain walling system on allows for future flexibility in the position of external openings and all internal walling is modular plasterboard to allow for layout changes.

With ease of maintenance and longevity in mind, services have been routed in efficiently with no destructive access to connectivity, power and water distribution as well as ventilation systems. The mechanical and electrical systems are designed to be removable should they become redundant through change of use, whilst enabling upgrades if required. The development has been designed to provide heating without use of natural gas, and will generate electricity through solar PV panels extending the initial life of the power systems without the need for near term upgrades.

5.1.3 *Regenerate nurture*

The proposed design incorporates regeneration of nature through extensive landscaping and vertical greening. Many new trees will be planted to increase the greenery surrounding the building, along with the relocation four young trees. The planting strategy focuses on biodiverse species, proposing seasonal bulbs to extend the flowering season, and promoting habitat opportunities.

The majority of the proposed development is encased in green walling. This will increase biodiversity, with a wide variety of plants, generally leafy evergreens and ornamental grasses on the south and east side, where the use of both planted and wired systems ensures these plants will stay healthy and full to maximise the benefits to nature. The north and south walls will use climbing plants with a wired system. Plants on the north wall will be shade tolerant to ensure survival. Evergreen flowering species are intended for the south wall to increase biodiversity value. There will be various planting on the roof, including multi-stemmed native and ornamental trees, as well as shrubs.



5.2 Building layer assessment

Table 2 contains the results of the circularity assessment detailing actions the project has taken to apply the chosen circularity principles to individual building layers.

Table 2 Circularity principles assessed by building layer.

Principle	Actions	Design Layer				
		Skin/shell	Structure/ Frame	Services	Space / Interior	Contents
Designing out waste	Minimise the use of materials	The design avoids the use of over specification of materials to meet end-user requirements. Upper floors 2-7 sit within the plinth and have been designed to reduce overall building mass; ceiling heights are the minimum value possible whilst allowing installation of M&E systems Green walling used at lower levels, reducing mass of energy intensive materials used, operates as a regenerative system. Roof structure has been refined during RIBA stage 4 to simplify it, reducing material usage without compromising performance		Services are routed in an efficient manner	Ground and first floor of the building include double height open plan collaboration area, reducing the quantity of materials used.	Anticipated onsite coffee and food offering reduces the need for extensive kitchen facilities on upper floors.
	Reuse and retrofit of Existing buildings	Existing buildings were inefficient and unsuitable for retention given the intended occupancy of the new building.				



	Reuse of components and materials with minimal processing	No opportunities for reuse identified due to design of existing building	High value items such as facing bricks to be retained and offered as a reclaimed material within the local area. Low value structural materials will be crushed onsite and reused in ground works application such as levelling and pilling mats.	Building services in existing structures to be decommissioned and removed in a soft strip process, enable the reuse of these elements. This will facility system and component level reuse, where possible.	Internal doors, partitions, ceiling finishes and joinery to be removed in a soft strip process and can in some instances be reused rather than recycled.	Contents have been removed prior to demolition.
	Reducing lifecycle carbon impact of materials through specification	The external façade of the building utilises a SFS which will be procured in line with WDC and BREEAM excellent procurement standards. Nature based products are used in lieu of cladding at lower levels reducing the amount of energy intensive materials procured	The concrete frame will be subject to WDC's Sustainable Procurement Policy and will have a verified low carbon content, reducing upfront emissions.	Smart building systems will monitor systems both in terms of maintenance requirements and building energy performance	Low carbon finishes will be used where possible. The flooring used throughout is resilient to improve cope with the high level of use and potential interactions with contaminants, this will reduce the amount of maintenance required and improve longevity. BREEAM credits Mat 05 and 06 have been targeted relating to material resilience and responsible resourcing, demonstrating a commitment to lowering the impact of the building.	
	Design out construction, demolition, excavation and municipal waste arising	Design does not require significant earthworks to be undertaken. SFS system is modular and arrives onsite in	Use of crushed and graded demolition material, subject to further suitability analysis, but will be used in the temporary	M&E systems have been simplified as part of the RIBA 4 design reducing potential waste arisings.	Not applicable	Laboratory and kitchen spaces to include segregate waste disposal to encourage recycling.



		precut sections, reducing the quantity of waste generated	piling mat during construction. Plant room incorporated into simplified roof structure reducing need for additional external buildings to be constructed			
Designing for longevity, adaptability and flexibility	Designing for longevity	Façade is a modular curtain walling system allowing for ease of maintenance through the building's lifespan.	Superstructure elements are well protected from potential corrosion. BREEAM Credit MAT o6 sort pertaining to material resilience. Concrete floor slabs are of increased thickness to accommodate containment level 2 lab requirements and increase the reliance of the building.	Smart building systems installed to continually assess building performance allowing for preventative maintenance to occur. Services	BREEAM Credit MAT o6 sort pertaining to material resilience which will apply to interior specifications.	



	Designing for adaptability and flexibility	Not applicable	The upper floors above the plinth have a standard floor to floor height which is flexible to other uses.	Access to power has been provided throughout the floor plate, which allows tenants flexibility with office and workspace layouts.	The project has targeted BREEAM credit Wst 05 which adaptation to climate change and designing for disassembly and flexibility
	Designing for replaceability and deconstruction	The SFS curtain walling and green walling systems used are assembled in sections and can be removed individually, allowing for reuse as a high value material	The specialist nature of the building necessitates cast <i>in situ</i> slabs of greater thickness than would be necessary in a standard building limiting options for replaceability and deconstruction	The project has targeted BREEAM credit Wst 06 designing for disassembly and flexibility	Internal finishes are resilient and durable and can be replaced in small areas where maintenance is required. Lab fitout is modular and will allow for work areas to be removed or altered where need arises
Regenerate nature	Enhancing biodiversity through material choices	The façade of the proposed design includes a green wall, combining planting with wired systems to ensure the variety of plants are healthy and biodiversity value is maximised	The structure of the proposed design facilitates a roof terrace on the first floor where trees and shrubs can be planted	Not applicable	



6 Material sourcing targets

Targets have been developed to support the procurement of specific materials, contributing to the circular economy approach of designing out waste and encouraging use of recycled and/or reused materials where practically feasible. The targets are presented in Table 3 below.

Table 3 Sustainable procurement of materials – targets

Material type	Target and specification
Concrete and cement	Obtain concrete which complies with responsible sourcing standards such as BES 6001 or BS 8902. Obtain low-carbon concrete where applicable, through maximising recycled content and opting for concrete which uses secondary cementitious material in place of traditional Portland cement, for example: - Ground Granulated Blast Furnace Slag (GGBS) cement replacement which is a by-product of iron and steel manufacturing. - Fly Ash (FA) cement replacement which is a by-product of coal burning power stations. It should be noted that up to 85% cement replacement is possible for both GGBS and FA replacements¹⁰. This could potentially impact curing times. Evidence of recycled content as a percentage to be provided by site contractors.
Steel	Reinforcement and structural steel to be sourced in line with BES 6001, CARES, Eco-reinforcement or equivalent, for responsible sourcing where possible. Demonstrate that a robust carbon footprinting exercise has been carried out to quantify the carbon impacts across each lifecycle stage of key products. Where feasible, maximise use of steel with recycled/scrap steel content to limit use of virgin content. Evidence of recycled content as a percentage to be provided by site contractors.

¹⁰ LETI (2023). LETI Low Embodied Carbon Specification and Procurement Guide. Available from: <https://www.leti.uk/specification> Accessed on: 14/03/2024



Material type	Target and specification
Aluminium	Ensure responsible sourcing of aluminium, such as through the Aluminium Stewardship Initiative. Where feasible, maximise use of aluminium with recycled/scrap content. For example, aluminium materials are available on the market with up to 75% recycled content¹¹. Evidence of recycled content as a percentage to be provided by site contractors.
MEP	Obtain equipment from manufacturers which offer a managed asset service to take back and recycle equipment where applicable and feasible. This will reduce operational waste through reduced maintenance and replacement requirements, as parts rather than whole systems can be replaced.
Timber	All fixed timber & temporary timber must be from legal and sustainable sources (PEFC or FSC), or grown in Britain, and accompanied by Chain of Custody information and evidence of this issued to WDC. All supply chain members providing timber must be able to evidence compliance with obligations of the UK Timber Regulation (UKTR) when required. Avoid products with added urea formaldehyde where possible.
Insulation	The Global Warming Potential (GWP) of insulants to be less than 5, or less than 8 if aerosol based.

¹¹ LETI (2023). LETI Low Embodied Carbon Specification and Procurement Guide. Available from: <https://www.leti.uk/specification> Accessed on: 14/03/2024



Appendix A: Waste forecasts

The following information has been extracted from the [Waste Management Strategy](#) submitted as part of planning application 136934/FO/2023.

Curtins were appointed by Bruntwood Sci-Tech Ltd to create a waste management strategy to consider the potential refuse and recyclable waste volumes of the proposed development.

The Figure below shows the anticipated weekly waste volumes to be generated by the development.

Proposed Development	
Laboratory Use	
Waste Stream	Refuse Volume
Yellow Bagged Waste	1,024kg
Sharp Safes Waste	200kg
Waste Contaminated Glass	38kg
Laboratory Use Total	1,262kg
Office Use	
Waste Stream	Refuse Volume (3,000m ²)
Non-recyclable Waste	3,900l
Dry Mixed Recycling	2,925l
Glass Recycling	975l
Office Use Total	7,800l

Appendix A Figure 1 Greenheys building waste forecast calculated by Curtins

Based on the above forecast non-infected waste as a result of regular activities of a lab or office will be separated to increase recycling rates, the most suitable containers for the general waste and recycling streams would be 1,100l Eurobins.

Waste arising from laboratory work was classified into three streams:

- Yellow bagged waste: Contains infected waste such as: Soiled, anatomical, cytotoxic and laboratory waste in genera -to be bagged and stored in 240l containers
- Sharp safes waste: Contains needles and cut glasses to be stored in small sharps safes
- Waste contaminated glass to be stored in 30l boxes.