2026

re:shape

Circular Economy Statement

Ashley Park



carbon.
climate.
certified.

Circular Economy Statement

Ashley House, Tottenham



About Us

Established for over 30 years, Carbon.Climate.Certified have grown into a leading UK based Sustainability Consultant, working on multiple award winning schemes in the UK and overseas.

We offer holistic sustainability and environmental impact services in the built environment, drawing on our experience in the rapidly evolving sustainability sector we help our clients to develop and implement a clear framework of service delivery, defining and achieving their sustainability goals.

We approach this in different ways to many in our field, with a strong commercial awareness, built on extensive experience which continues to expand and by attempting to steer an evolving sustainability movement in a positive direction. In recent years our core services have progressed into more strategic planning in the ESG space alongside our award winning accreditation services and we continue to offer consultancy on policy, social value and environmental performance to global brands and financial institutions across five continents. Our international client base includes some of the world's most successful organisations and the UK's most established institutions including Russell Group Universities, the National Trust, the NHS and some of the worlds largest companies including Amazon, Jaguar Land Rover, Blackstone and DHL.

We believe sustainability in the built environment at both organisational and project level must offer value and avoid where possible a 'box ticking' culture. This philosophy, when applied to environmental impact, sustainability strategies and carbon analysis has been recognised with multiple awards including BREEAM Assessor of the Year in 2013 & 2015, & highly commended in the category of Best Assessor company at the 2025 BREEAM Awards.

Our overarching aspiration is to provide our clients with ways in which they can aim to be responsible, to reduce their carbon emissions directly or indirectly and to safeguard the environment for future generations.

Author & Assessor

The report has been produced by Malik Miller, a sustainability consultant and certified professional. Malik has extensive experience conducting Life Cycle Assessments (LCAs) and Whole Life Carbon Assessments (WLCAs) from his previous role as a sustainability advisor, where he completed numerous assessments across a diverse project portfolio. His work with a tier one contractor equipped him with the skills to interpret construction documentation, including Bills of Quantities (BoQs), architectural drawings, and energy modelling reports, allowing him to effectively perform Whole Life Carbon Assessments.

The report has been reviewed by Jade Cox, Associate at Carbon.Climate.Certified, who has an MArch degree and over 8 years experience working directly in the field of Architecture, Sustainability and the built environment. Jade specialises in the field of Whole Life Carbon Assessments, Life Cycle Assessments and Circular Economy. She is also a qualified ESOS Assessor.

Issue Summary

Revision No	Status	Comment	Author	Checked	Date
01	R01	Draft Issue	MM	JC	06.08.26
02	R02	Final Draft Issue	MM	JC	19.08.26
03	R03	For Planning	MM	JC	31.08.26
04	R04	For Planning (Validation)	MM	JC	09.11.26

Executive Summary

This Circular Economy Statement has been prepared by Carbon.Climate. Certified on behalf of Re:shape T Ltd ("the Applicant") in support of the application for planning permission submitted to the London Borough of Haringey. The application relates to the following development at Former Ashley House site, Ashley Road, Tottenham Hale, London Borough of Haringey, N17 9LZ ("the Site"):

"Full planning permission for a phased mixed-use development comprising: (i) enabling works and operations; (ii) residential development (Use Class C3) including affordable housing; (iii) shared living accommodation (Sui Generis), (iv) commercial and community floorspace (Use Classes E and F2); and (v) site-wide and/or phase-specific access, servicing, public realm, blue-badge parking, cycle parking, open space, hard and soft landscaping, utilities, plant and all other associated works."

This Circular Economy Statement responds to the GLA's London Plan Guidance on Circular Economy Statements (2022). It also incorporates strategies informed by the 'UKGBC Circular Economy guidance for construction clients: How to practically apply circular economy principles at the project brief stage, 2019'.

Key Stakeholders

Key project team members which have incorporated design measures which outline the circular economy approach for the project are as follows:

Client	Architect	MEP	Structural Engineer
Re:shape T Ltd	DLA Architecture	Meinhardt	Whitby Wood

Summary of Commitments

- Reduce construction waste by extending the life of existing resources and avoiding use of virgin material where possible.
- Developing a design and construction specification that maximises energy and resource efficiency.
- Specification of recycled content within hotspot materials where viable, mostly to be sourced from off-site retained concrete and steel elements.
- Design for longevity; specification of materials which are durable and resilient.
- Designing for flexibility and future adaptability to ensure the design can meet current and future needs.
- Where possible, building layers will be accessible to allow for alterations, replacements and eventual disassembly.

Section 3 outlines the key commitments and how they will be implemented within the projects.

Contents

01	Introduction	6
02	Circular Economy	13
03	Project Commitments	18
04	Building Circularity	35
05	Conclusion	39
06	Appendix A - Meeting minutes	42
07	Appendix B - OWMP	48



01 Introduction

01.1 Introduction
Project Overview



Figure 1: Project image, DLA Architects

Project Overview

This Circular Economy Statement has been prepared by Carbon.Climate. Certified on behalf of Re:shape T Ltd ("the Applicant") in support of an application for planning permission and submitted to Haringey Council.

The application relates to "Full planning permission for a phased mixed-use development comprising: (i) enabling works and operations; (ii) residential development (Use Class C3) including affordable housing; (iii) shared living accommodation (Sui Generis), (iv) commercial and community floorspace (Use Classes E and F2); and (v) site-wide and/or phase-specific access, servicing, public realm, blue-badge parking, cycle parking, open space, hard and soft landscaping, utilities, plant and all other associated works."

The Proposed Development is located at Ashley House, Ashley Road in Tottenham within the London Borough of Haringey. The Site is rectangular in shape bordering Ashley Road on the east, Hale Road to the south and Down Lane park to the west/north west. The existing site has no existing buildings.

The Site is less than 200m to the north west of Tottenham Hale underground station on the Victoria Line, providing connections to Highbury & Islington, Kings Cross, Oxford Circus and Victoria, as well as direct trains to Stansted airport. As such, the Site benefits from a Public Transport Accessibility Level (PTAL) of 5, where on a scale of 1 – 6b, 6a is the second highest rating. The immediate surroundings also consist of The Sessile (a 12 storey residential building) to the north of the site and a row of terrace house next to West apartments (15 storeys) located to the south of the site. Beyond this, Tottenham Hale Retail park is located approximately 320m south and Walthamstow Wetlands approximately 965m west of the site.



Figure 2: Ground floor plan, DLA Architects

Project Description

In summary, the development comprises two linear blocks running east to west on a cleared 0.716 ha brownfield site: a six-storey affordable block of 87 homes (Use Class C3) and a 23-storey shared living block of 522 studios (Sui Generis), with approximately 230 m² of commercial (Class E) and 125 m² of community (Class F2) floorspace at ground floor. The total GIA is approximately 30,663 m².

Both blocks use an in-situ reinforced concrete frame with a regular grid and standardised 225 mm flat slabs, on piled foundations with pile caps and ground beams (C32/40 concrete with up to 50% GGBS). The façade is predominantly brick on a steel frame system (SFS) backing wall with stone wool insulation, with GRC and aluminium elements and aluminium-framed triple glazed windows. Prefabricated bathroom and en-suite pods are proposed, and heating and hot water are provided by a site-wide air source heat pump communal system with roof-mounted PV.

01.2 Introduction
Policies & Guidance

Policies & Guidance

This Circular Economy Statement responds to the guidance provided by the following national and regional publications:

GLA Circular Economy Statement Guidance

March 2022

The guidance document explains how to prepare a Circular Economy Statement to accompany strategic planning applications referred to the Mayor of London.

It aims to help ensure that all referable developments 'Consider strategies to facilitate the transition towards a circular built environment, report against numerical targets that will facilitate monitoring of waste and recycling, and recognise opportunities to benefit from greater efficiencies that can save resources, materials, and money'.

The Ellen Macarthur Foundation

Circular Design Guide

The Ellen Macarthur Foundation circular economy design toolkit has taken the 3 principles of circular design and translated them into a prioritised set of strategies and actions relevant to the building industry.

The toolkit highlights how building design and operation can utilise the principles through a high level framework of 'build nothing, build for long term value, build efficiently and build with the right materials'. This framework is translated into detailed actions to be applied to new construction projects.

UKGBC System Enablers for a Circular Economy

January 2023

System Enablers for a Circular Economy highlights systemic barriers and the policy and market based solutions to enable the built environment industry to shift from a linear to a circular system. It identifies eight enablers that will encourage the shift from our current linear economic system; building a foundation upon which a circular economy across the built environment can become the default way of operating as we transition to net zero.

The toolkit highlights how all level of government, industry and civil society will need to champion a common goal to shift from the current linear economy to a circular one and offers many of the solutions needed to deliver this - most of which exist in today's market and can be implemented immediately.

UKGBC Circular Economy Guidance for Construction

March 2022

The UKGBC Circular Economy Guidance provides a comprehensive framework addressing the commercial realities associated with applying circular principles to a design brief.

It provides support and evidence to assist in clear target and strategy setting that ensures budget, project time-scales and risks are all minimised and mitigated. The guidance focuses on RIBA Work Stages 1 & 2 but champions the idea that for circular principles to be successful, a whole building lifecycle approach is required.

01.2 Introduction
Policies & Guidance

The London Plan SI 7 Reducing Waste and Supporting the Circular Economy

March 2021

The London Plan highlights the importance of moving towards a circular economy to reduce waste and improve resource efficiency.

The plan sets a target of zero biodegradable or recyclable waste to landfill by 2026 and achieving a 65% municipal recycling rate by 2030.

Developments should incorporate design measures that support material reuse, recycling, and waste minimisation. Construction and excavation projects are expected to achieve a minimum 95% reuse, recycling, or beneficial use of materials.

Circular Economy Statements should demonstrate how proposals will minimise waste and retain materials in use for as long as possible.

Haringey Local Plan Strategic Policies 2013 – 2026

2013 (Consolidated with alterations 2017)

Haringey's Local Plan establishes the Council's vision for delivering sustainable development while making efficient use of natural resources. The Plan promotes the reduction of construction waste, the efficient use of materials, the reuse of existing resources where practicable, and the specification of durable, adaptable and responsibly sourced materials to minimise environmental impacts and support the transition to a more circular built environment.

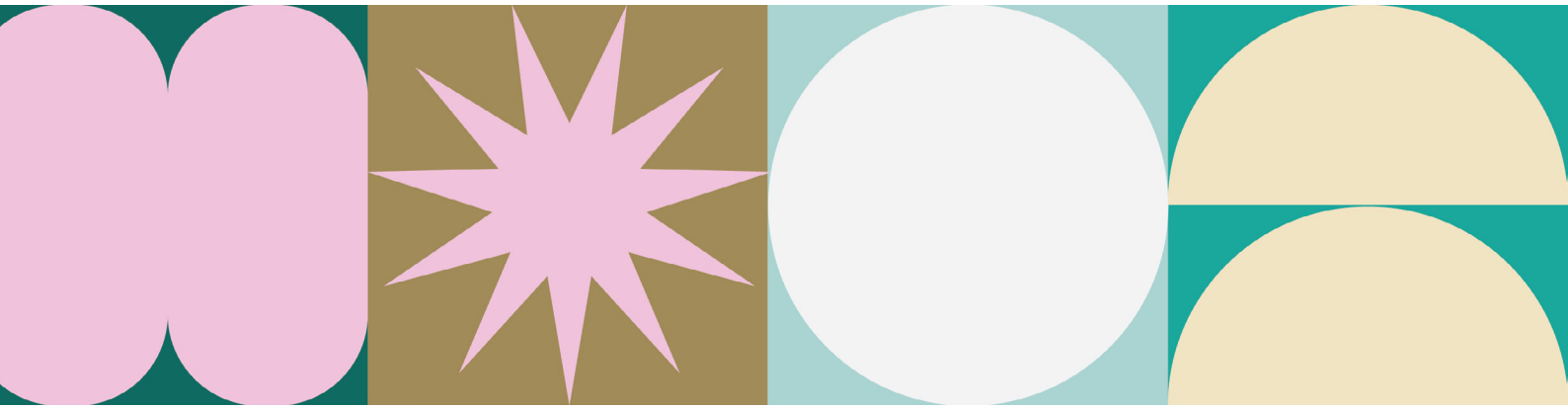
Haringey Local Plan: Sustainable Design & Construction SPD

2013

Haringey's Sustainable Design and Construction SPD provides detailed guidance on implementing sustainable design principles throughout the development process. It encourages developments to embed circular economy principles by reducing material consumption, minimising waste, designing for longevity and adaptability, and maximising opportunities for reuse and recycling throughout the building lifecycle.

The Circular Economy Statement has been prepared to demonstrate how the proposed development responds to these policy objectives by embedding circular economy principles throughout the project lifecycle. The statement outlines measures to reduce material consumption, minimise construction waste, prioritise reuse and recycling, and support the long-term adaptability and durability of the building. In doing so, the development supports Haringey's ambitions for resource efficiency, reduced environmental impacts and a more circular built environment.

01.3 Introduction
Method Statement



Method Statement

This report follows the core strategies and commitments outlined in the GLA planning guidance and associated development management policies.

Throughout the early stages of the development, there have been discussions regarding principles of the circular economy between the various disciplines to determine how they can be integrated into the design and construction of the development.

The team have worked together to ensure principles of circularity are incorporated into the project. Sustainable development objectives have been incorporated from RIBA Stage 1 as part of the Client Brief.

The waste hierarchy and the London Plan Guidance (LPG) decision tree have been used to determine the appropriate approach to the site. As no existing buildings remain on site, the Structural Engineer has quantified the existing materials to establish their material value and identify opportunities for reuse or recycling, either on or off site, in accordance with the waste hierarchy.

The Sustainability and Energy Strategy has been developed, highlighting the specific waste and recycling requirements for the project.

A Whole Life Carbon Assessment has been completed at RIBA Stage 2 with the aim of reducing the embodied carbon of materials and elements across the site.

The production of these documents required Carbon.Climate.Certified to liaise with the project and client team. This input has influenced the sustainability objectives of the project's design and construction.

The principles and objectives of the circular economy will be incorporated into reporting requirements and processes going forward through the RIBA stages.

Circular Economy Workshops

Several meetings and workshops have been held with the project team to discuss the specific requirements of the Circular Economy Policy and Guidance and identify opportunities to implement circular economy principles. These discussions have informed the development of the circular economy strategy, including opportunities relating to material efficiency, design for adaptability, material reuse, waste reduction and end-of-life recovery. Meeting notes can be found in Appendix A.

01.4 Introduction
Core Principles

Core Principles

Minimise Resource Consumption

- Consider material reuse to reduce whole life and embodied carbon emissions.
- Consider WLC emission implications of decisions, especially upfront embodied carbon.
- Maximise design efficiency and space utilisation to minimise the quantities of raw materials used.
- Minimise the quantities of other resources such as energy and water.
- Specify and source materials and other resources responsibly.
- Refuse unnecessary building components through implementation of a simple design approach.

Eliminate Waste

- Maximise the reuse, recovery and recycling of materials from existing materials on-site to minimise waste sent to landfill.
- Minimise waste in construction by designing for longevity, adaptability, or flexibility and re-usability or recoverability.
- Reduce waste & consumption of other resources by designing for efficiency.

Design for End of Life

- Design for adaptation / disassembly & deconstruction.
- Increase convertibility through massing/structural grid suitable for future uses.
- Specify products for recycle / reuse to avoid unnecessary waste going to landfill.

02 Circular Economy

02.1 Circular Economy
Design Principles

Design Principles

Circular Economy (CE) is typically defined as a closed-loop system where resources are retained for as long as possible and re-used and recycled continuously so that there is minimal or zero waste sent to landfill.

Often the by-product of one material becomes the raw material for another activity, so that there is a reduced demand for additional resource inputs, and as a result a smaller carbon footprint. It is envisaged that the development will seek to follow this pathway, and contribute to Haringey Council's ambitions of being a Net Zero borough by 2041.

A Circular Economy differs significantly from a linear one, where often resources are used inefficiently and are sent to landfill, or when resources are recycled but eventually still end up in landfill. The GLA has established Circular Economy Principals and Commitments which are considered fundamental to the building design process. The principals listed are considered relevant and accurate as of the end of RIBA Stage 2 design. It is anticipated that these may change as the design progresses and therefore will need to be confirmed by the design team during detailed design and ultimately by the principle contractor as appropriate.

P01

Building in layers

to ensure that waste reduction is planned from project inception to completion

01.1 Identify the core Circular Economy principles within each building layer

P02

Design out Waste

to ensure that waste reduction is planned from project inception to completion

02.1 Design out construction, demolition, excavation and municipal waste arising

02.2 Manage demolition waste

02.3 Manage excavation waste

02.4 Manage construction waste

02.5 Manage municipal waste

P03

Design for Longevity

03.1 Meet the fundamental long term requirements for building design

P04

Design for Adaptability

04.1 Specify how the development is intentionally designed so that adaptation for future use is feasible

P05

Design for Disassembly

05.1 Specify how materials are joined together and how they are layered in a way that is accessible, reversible and robust

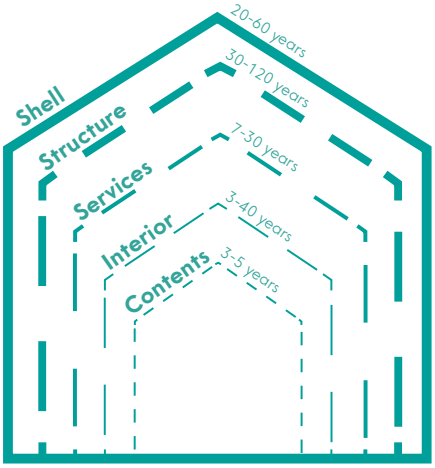


Figure 3: Building layers and lifespans

P06

Using systems, elements or materials that can be reused and recycled

06.1 Specify and source materials and other resources responsibly and sustainably

06.2 Specify and source materials that are reused or have a high recycled content

02.2 Circular Economy Principles

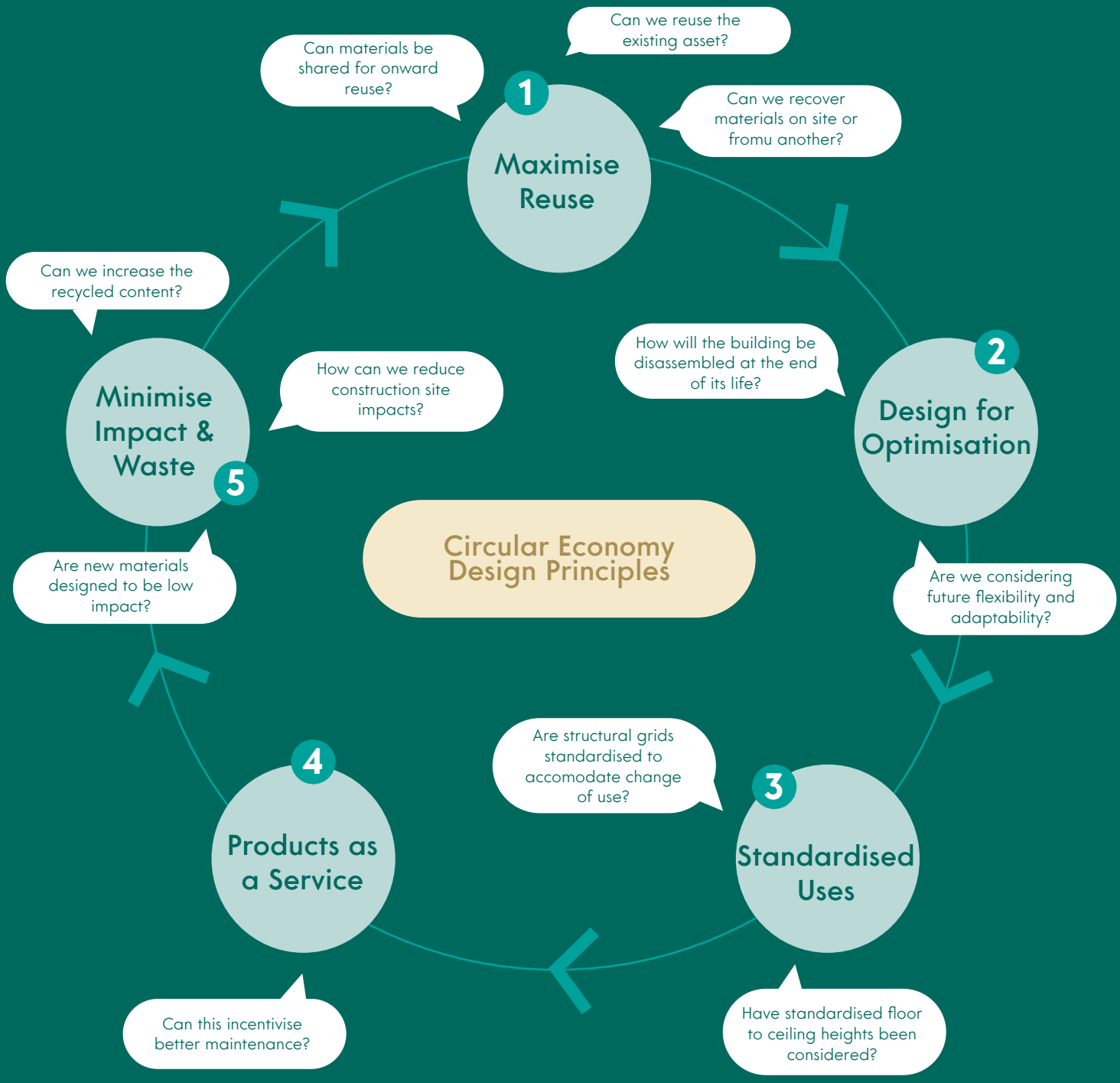


Figure 4: Circular Economy Principles

02.3 Circular Economy
The Waste Hierarchy

The Waste Hierarchy

The Department for Environment, Food and Rural Affairs (DEFRA) provides guidance on applying the waste hierarchy for any kind of business or development that generates, handles or treats waste.

The Waste Hierarchy is a tool that ranks waste management options (top to bottom) from what is the best option for the environment (prevention) to the least preferred option (landfill disposal). The principles of the waste hierarchy, along with the 6 established circular economy principles were used to steer the Circular Economy design workshop held by the design team.

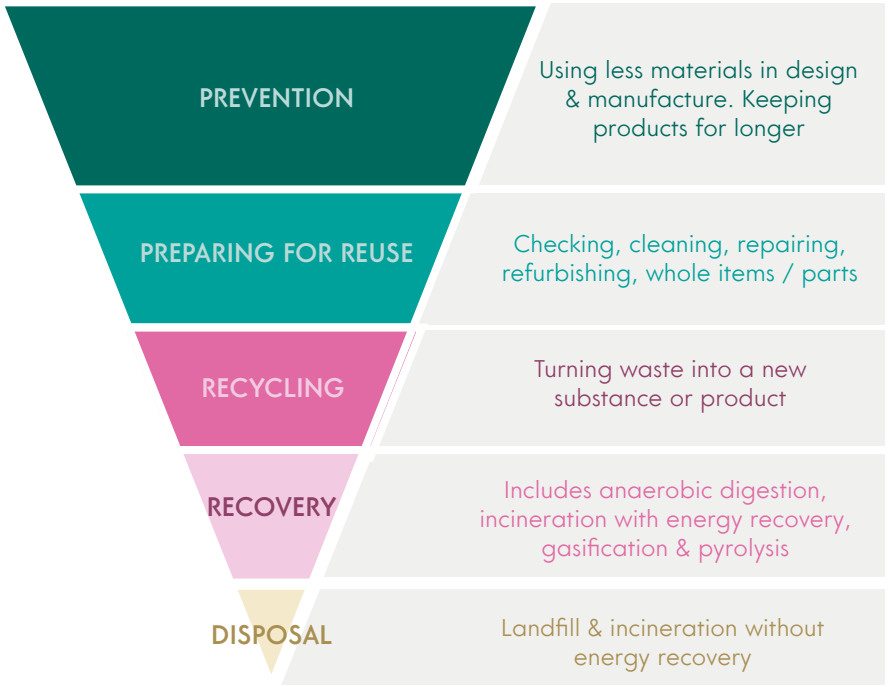


Figure 5: The DEFRA waste hierarchy

Mayor of London Circular Economy Guidance

The London Plan 2021, through its policy SI 7 Reducing Waste and Supporting the Circular Economy, requires all new developments to submit a Circular Economy Statement in their planning applications on a bid to transition to zero carbon city by 2030.

To support this requirement, a guidance document (published March 2022) has been developed to help developers outline their circular economy commitments as well as structure their circular economy statements for planning approval.

The guidance set out within this document is currently the industry best practice relating to circular economy and as such will be used to inform the circular economy commitments for this development.

02.4 Circular Economy
Strategic Approach

Strategic Approach

Circular Economy considerations have formed a key part of the project's sustainability strategy. The Applicant recognises that exploring strategic opportunities at the earliest design stages allows the project team to implement Circular Economy principles and the Building in Layers approach as effectively as possible.

The site is currently vacant following the demolition of the previous buildings prior to the Applicant's acquisition of the site. As the demolition phase has already been completed, this Circular Economy Statement focuses on embedding circular economy principles within the proposed development. Through efficient material selection, standardised construction, design for adaptability and durability, and the responsible management of construction resources, the development seeks to minimise material consumption, reduce waste generation and maximise resource efficiency throughout the building lifecycle.

Whole Building Strategies

Is the whole building designed to have a short life on it's current site? (I.e.. less than 10 years)

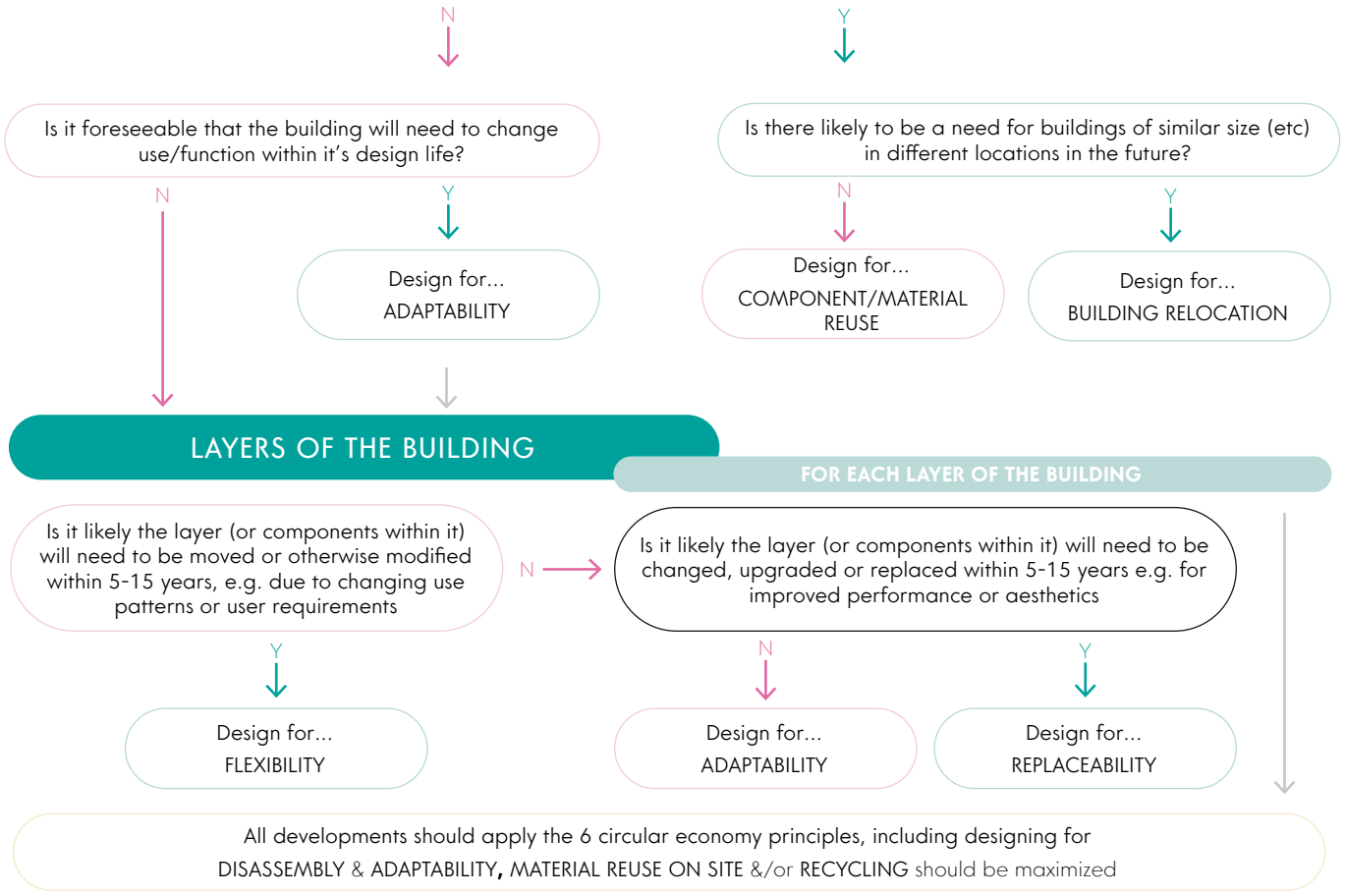


Figure 6: Circular Economy Design Approaches

03 Project Commitments

03.1 Project Commitments
Summary of Commitments



Figure 7: Project Image, DLA Architecture

Summary of Commitments

The key Circular Economy policies, guidance and principles have informed the development of the following project commitments:

- Reduce construction waste by extending the life of existing resources and avoiding use of virgin material where possible.
- Developing a design and construction specification that maximises energy and resource efficiency.
- Specification of recycled content within hotspot materials where viable, mostly to be sourced from off-site retained concrete and steel elements.
- Design for longevity; specification of materials which are durable and resilient.
- Designing for flexibility and future adaptability to ensure the design can meet current and future needs.
- Where possible, building layers will be accessible to allow for alterations, replacements and eventual disassembly.

The following section outlines the key commitments and how they will be implemented within the projects.

03.2 **Project Commitments**
Minimise Resource Consumption

Minimise Resource Consumption

The proposed development seeks to minimise resource consumption throughout its lifecycle by retaining the value of existing materials, reducing demand for virgin resources and improving resource efficiency. This principle has informed the approach to existing materials on-site, material selection, embodied carbon reduction and operational energy performance. The following sections outline the key studies and measures undertaken to support this objective.

Material Re-use Opportunities

Approximately 3,186 m³ of existing spoil is currently stockpiled on site. There is an opportunity to reuse this material within the proposed development, subject to further site investigation and testing to establish its composition, geotechnical properties and whether any contamination is present. The results of the investigation will determine the suitability of the material and the most appropriate applications for reuse.

Subject to the findings of the investigation, potential applications could include backfilling around foundations, below-ground structures and services, as well as sub-base beneath areas of external hardstanding, access roads, footpaths and other paved areas, where the material meets the relevant technical requirements. If the spoil contains suitable granular or demolition-derived materials, processing and grading could also enable these materials to be reused as recycled aggregate within the development. Other suitable construction applications will be considered following confirmation of the material's properties.

As the site levels have already been established through cut and fill and the proposed levels are broadly similar to the existing levels, the earthworks strategy is anticipated to achieve a balanced cut-and-fill arrangement, with no significant surplus excavation material requiring removal from site. The existing stockpiled spoil will therefore be assessed for suitable reuse within the development, subject to the findings of the site investigation and testing. Where suitable, its reuse will reduce the requirement for imported materials and maximise the beneficial use of existing site resources.

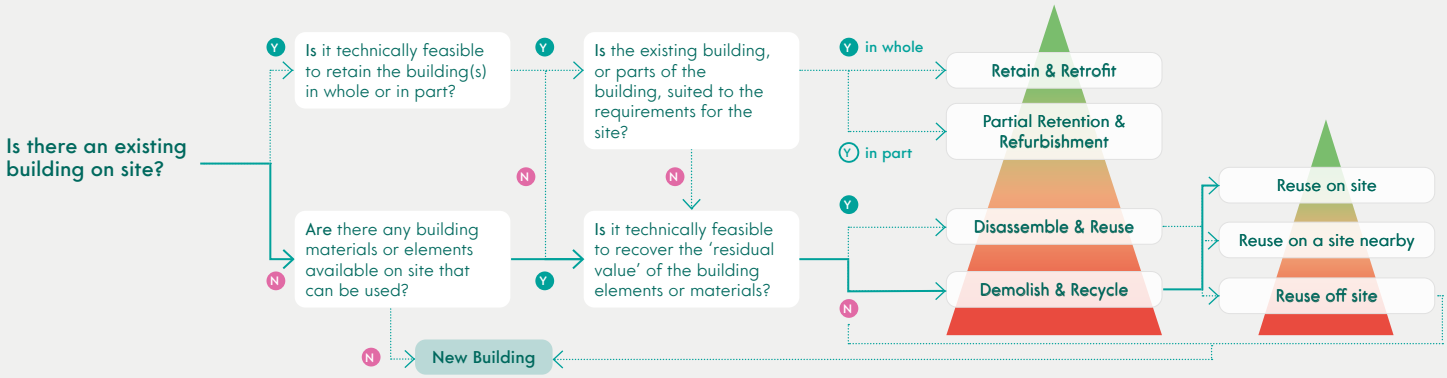


Figure 8: Decision tree for design approaches for existing structures/ buildings (of the LPG CE March 2022 Guidance)

03.2 Project Commitments
Minimise Resource Consumption

Material Efficiency

Material efficiency has been considered throughout the design development process, with the project team seeking to optimise material use, minimise waste and improve buildability across the proposed development.

The proposed superstructure adopts an in-situ reinforced concrete frame with a standardised 225mm floor slab and a regular structural approach. Internal partitions are non-structural, allowing spaces to be reconfigured without significant structural intervention and supporting the long-term adaptability of the building. Standardisation has also been considered across windows, doors and bathroom/en-suite pods, with standardised components helping to reduce material complexity and support efficient procurement and installation.

The project team has considered opportunities for off-site construction and modern methods of construction to improve material efficiency and reduce construction waste. Potential applications include prefabricated bathroom/en-suite pods, utility cupboards, furniture, fixtures and equipment packages, plantrooms and risers, with further opportunities to be explored as the design develops. While the current proposal retains an in-situ structural solution, off-site manufactured components will be considered where appropriate to improve quality control, reduce site waste and improve construction efficiency.

The design also prioritises durable materials, with the external material palette predominantly comprising brickwork, alongside materials including glazing, GRC and aluminium. The use of durable materials is intended to maximise service life and reduce the frequency of replacement and associated material consumption over the building's lifecycle.

Whole Life Carbon Assessment

A RIBA Stage 2 Whole Life Carbon Assessment has been produced by Carbon.Climate.Certified (which can be found as part of the full planning application). The Whole Life Carbon Assessment (WLCA) is an iterative process used to quantify the environmental impacts of selected materials from extraction through to end of life. The first iteration of the WLCA was undertaken at the earliest design stage, when the opportunity to influence the design is greatest. This process enabled the design team to identify opportunities to reduce carbon emissions across each life cycle stage and consider materials as resource banks rather than part of a linear economy.

At this stage, opportunities have been identified to incorporate systems and materials that can be disassembled and reused. By applying a building-in-layers approach, the project seeks to embed circular economy principles throughout the design process. The design team is also working collaboratively to minimise the risk of overdesign, particularly within the structural elements.

The first iteration of the Whole Life Carbon Assessment has been assessed against GLA benchmarks and provides the following results:

	Upfront Embodied Carbon Module A1 - A5 (excl. sequestered carbon)	**Whole Life Embodied Carbon** Module A-C (excl. B6 & B7)	**Operational Energy** Module B6
Results	*587 $kgCO_2e/m^2$*	*1009 $kgCO_2e/m^2$*	*54.38 $kWh/m^2/yr$*
Achieving	*GLA Benchmark*	*GLA Benchmark*	*N/A*

Table 1: Summary of performance - Whole Life Carbon Assessment, Carbon.Climate.Certified

03.2 Project Commitments
Minimise Resource Consumption

Sustainable Procurement

The Applicant has developed a clear and robust sustainable procurement plan to ensure considerations are made when selecting and specifying materials. The measures set out prioritise the purchasing of products with responsible sourcing certificates such as FSC, ISO 14001 etc. Interrogating supply chains of suppliers and sub-contractors and sourcing products from manufacturers that share the client's sustainability goals and agenda.

Emphasis has been placed on sourcing materials with high recycled content over virgin materials to minimise the resources associated with the extraction and manufacturing processes of raw materials. The Applicant's ESG commitments require supply chain engagement to take place throughout the development of the project, addressing issues relating to energy, water use, resource management, embodied and operational carbon emissions, social values, health and safety and material traceability.

To align with the BREEAM MAT03 Responsible Sourcing criteria, the policy outlines a procedure that:

- Sets out procurement requirements for all suppliers and trades to adhere to relating to the responsible sourcing of construction products.
- Is disseminated to all relevant internal and external personnel.
- Is included within the construction contract to ensure that they are enforceable on the assessed project.
- Encourages the specification of products with responsible sourcing certification over similar products without certification.

The principal contractor will ensure that all timber and timber-based products used in the buildings meet the definition of legally harvested and traded timber. The client, design team and principal contractor will give priority involving other parties that have similar sustainability goals such as manufacturers that have transparency and visibility throughout their supply chain, declare and actively try to reduce their embodied carbon per functional unit and use electric vehicles to distribute their products.

The design team and principal contractor will use Environmental Product Declarations (EPD) to gain clarity on the product's material content, embodied carbon for their given life stages, the proposed life span and end-of-life scenario. Comparing environmental impact of similar products through EPDs is useful and can be used as a tool to inform decision making alongside other factors such as cost.

Responsible Construction

To ensure that targets are set and consumption is reviewed periodically, the project should be registered with the Considerate Contractors Scheme. A valuable aim of this scheme is to improve the understanding of construction and impacts and resources, helping to enhance resource efficiency.

This scheme ensures that during the construction phase, efforts are made to ensure the 3 sections of the code (respecting the community, caring for the environment, valuing the workforce) are considered and standards are set in order to achieve the established targets. Monitoring of the site takes place throughout the construction phase, with reports and project benchmarks produced on a regular basis. These reports along with guidance from the scheme monitors will allow the project team to identify opportunities to improve performance, reduce construction impacts and increase resource efficiency.

03.2 Project Commitments
Minimise Resource Consumption

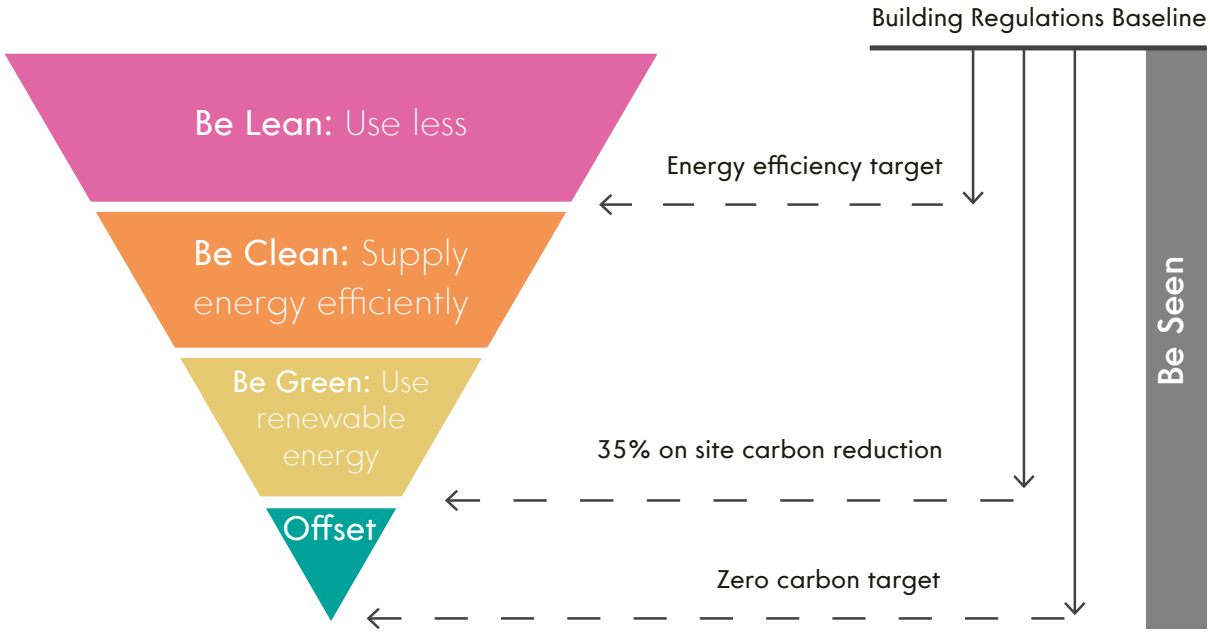


Figure 9: The London Plan Energy Hierarchy

Energy Consumption

The Energy Statement for the proposed development has been prepared by Meinhardt (and can be found as part of the full planning application). The statement has been developed in accordance with national, regional and local planning policy, including Approved Documents L1 and L2 of the Building Regulations, the London Plan 2021, and Haringey's Local Plan Policy SP4.

The statement demonstrates how the scheme will enhance the sustainability and environmental performance of the development by improving energy efficiency, reducing CO_2 emissions, delivering energy services efficiently and incorporating Low and Zero Carbon Technologies, relative to a notional equivalent scheme. It also sets out how the design has applied the principles of the London Plan Energy Hierarchy: Be Lean, Be Clean, Be Green and Be Seen.

The energy calculations have been undertaken using dynamic simulation analysis, with recognised design calculations carried out to demonstrate compliance with the relevant Building Regulations and planning policy requirements. Through its construction, design and specification, the scheme will be inherently energy efficient in operation, maximising opportunities to reduce energy demand and consumption through the design of the building envelope and key building services. Summaries of the key measures implemented under the Be Lean, Be Clean, Be Green and Be Seen principles are detailed in the following sections.

03.2 Project Commitments
Minimise Resource Consumption

Energy Consumption: Be Lean

In accordance with the first stage of the London Plan energy hierarchy (Policy SI 2) and Haringey's Local Plan Policy SP4, the proposed development adopts a fabric-first approach to minimise operational energy demand through passive design measures, enhanced building fabric performance and energy-efficient building services. By reducing energy consumption over the building's operational life, these measures support the efficient use of resources and contribute to the reduction of whole life carbon impacts, aligning with the wider objectives of the Circular Economy Statement.

A summary of the design measures proposed for the scheme is set out below:

- Fabric efficiency: The thermal performance of the building fabric will be improved beyond the minimum Part L 2021 requirements, including enhanced U-values for the external walls, floors, roofs and glazing. An air permeability target of 3 $m^3/(h \cdot m^2)$ @ 50 Pa is proposed for both residential and non-residential areas, significantly improving upon the Part L backstop value. Thermal bridging will also be minimised through improved junction detailing.

- Reducing overheating risk: Glazing areas and g-values have been optimised through SAP calculations and dynamic thermal modelling to balance winter solar gains, summer overheating risk and natural daylight. Projecting balconies will provide additional shading to residential apartments, while natural ventilation will be used to reduce overheating risk.

- Efficient ventilation: Residential apartments will be served by individual MVHR units with heat recovery efficiencies of up to 90% and specific fan powers of up to 0.52 W/(l/s). Non-residential areas will be served by local MVHR systems with heat recovery efficiencies of at least 90% and specific fan powers below 0.9 W/(l/s).

- Efficient heating and hot water: Heat pump systems will provide heating and hot water to the development. Pipework will be designed to minimise heat losses through efficient routing and high levels of insulation, with a distribution loss factor of 15% assumed for the communal heating system.

- Efficient cooling: Active mechanical cooling is not proposed within the residential dwellings, with natural ventilation and increased mechanical ventilation used to manage overheating risk. Where windows may be closed due to external noise, an MVHR cooling module will provide an alternative means of reducing overheating risk. Commercial areas will be served by high-efficiency VRF systems, with heat recovery allowing rejected heat to contribute towards residential heating loads.

- Efficient lighting: High-efficiency LED lighting will be used throughout the development to minimise energy consumption associated with lighting.

- Controls and monitoring: Residential apartments will incorporate individual programmable and zoned controls alongside smart energy meters, enabling occupants to monitor and manage their energy use. A central BMS will control landlord plant and systems to optimise their operation and minimise energy consumption.

- Efficient appliances: Where appliances are provided by the developer, energy-efficient appliances will be specified to minimise energy consumption and internal heat gains. Where appliances are not provided, occupants will be encouraged to select energy-efficient equipment through guidance provided in the Building User Guide.

03.2 Project Commitments
Minimise Resource Consumption

Energy Consumption: Be Clean

The second stage of the energy hierarchy considers the efficient supply of energy through decentralised energy infrastructure. In accordance with London Plan Policy SI 3 and Haringey's Local Plan Policy SP4, opportunities for connection to existing and proposed heat networks have been assessed to ensure the development remains adaptable to future low-carbon energy infrastructure and supports long-term resource efficiency.

The London Heat Map has been reviewed to identify existing and planned heat networks in the vicinity of the site. No existing heat networks have been identified nearby; however, a proposed heat network is located in the surrounding area. The site is also located within a Heat Network Priority Area, and therefore a communal heating system is proposed to facilitate connection to a wider district heat network should one become available in the future.

In accordance with the GLA heating hierarchy, connection to an existing or planned heat network has been considered but is not currently feasible. The development will therefore incorporate a site-wide communal heating network served by air source heat pumps (ASHPs), with heat distributed to each block via insulated pipework. The system will be designed to allow future connection to a wider district heat network, should one become available.

The proposed all-electric heating strategy avoids the use of on-site fossil fuel combustion and supports the transition towards a lower-carbon heat supply. The communal network also provides flexibility to incorporate future low-carbon heat sources as the local heat network infrastructure develops.

Energy Consumption: Be Green

In accordance with the next stage of the London Plan energy hierarchy, an appraisal of on-site renewable and low-carbon energy technologies has been undertaken. Biomass boilers, photovoltaics (PV), solar thermal, ground source heat pumps, air source heat pumps and wind turbines were considered based on their suitability for the development.

Air source heat pumps (ASHPs) are proposed as the primary heat source for the development, serving the communal heating network. The heat pumps are expected to provide a saving of approximately 211.034 $kgCO_2e$ per year in regulated carbon dioxide emissions. The all-electric heating strategy avoids reliance on fossil fuel combustion and supports the long-term decarbonisation of operational energy.

Approximately 63 photovoltaic (PV) panels, with a total peak output of 28.5 kWp, are proposed across the available roof areas of the two residential blocks. The panels are expected to provide a regulated carbon saving of approximately 3566 $kgCO_2e$ per year.

Solar thermal and ground source heat pumps have been discounted due to the availability of roof space for PV and the poor balance between heating and cooling demand, respectively. Biomass boilers have also been discounted due to competition with the proposed heat pump system and potential impacts on local air quality and servicing requirements. Wind turbines are not proposed due to their potential architectural, townscape and noise impacts.

Together, the proposed ASHP and PV systems will reduce reliance on fossil fuel-based energy sources and support the long-term reduction of operational carbon emissions.

03.2 Project Commitments
Minimise Resource Consumption

Energy Consumption: Be Seen

The final stage of the energy hierarchy focuses on monitoring and verifying operational energy performance in accordance with London Plan Policy SI 2. By enabling the ongoing assessment of building performance, these measures support the efficient use of resources throughout the operational life of the development and help ensure that the anticipated energy and carbon savings are realised in practice.

Key measures include the installation of heat and electricity meters throughout the development, remote monitoring of major plant serving the communal heating network, and a Building Management System (BMS) within the central energy centre. Operational energy data will be collected and reported in accordance with the GLA Be Seen guidance, with performance monitored for a minimum of five years following occupation and compared against design-stage predictions to support the continuous optimisation of building operation.

The cumulative carbon emission reductions achieved through the Be Lean, Be Clean and Be Green stages of the energy hierarchy are summarised below.

	Total regulated emissions (Tonnes CO_2/year)	**CO_2 savings (Tonnes CO_2/year)**	**Percentage saving (%)**
Part L 2021 baseline	342.9		
Be Lean	301.2	41.8	12%
Be Clean	301.2	0.0	0%
Be Green	98.2	202.9	59%
Cumulative on site savings	-	244.7	71%
		CO_2 savings off-set (Tonnes CO_2)	
Off-set		2,947.2	-

Table 2: Total regulated carbon dioxide emissions and savings for the Proposed Development - Energy Strategy, Meinhardt

03.2 **Project Commitments**
Minimise Resource Consumption

Water Consumption

The development will be designed and specified to reduce potable water consumption and improve water efficiency, achieving a consumption rate of less than 105 litres per person per day in accordance with the Haringey's Local Plan Policy SP5 which aligns with the water consumption requirements detailed in Policy SI 5 of the London Plan.

These targets align with the requirements of BREEAM WAT01 Water Efficiency, which seeks to minimise water consumption and the associated environmental impacts of water supply and treatment. Water-efficient sanitaryware and fittings will be specified throughout the development to support achievement of these targets and promote the efficient use of natural resources throughout the building lifecycle. Reducing potable water demand also decreases the resources and energy associated with water abstraction, treatment and distribution, supporting the wider circular economy objectives of the scheme.

03.3 **Project Commitments**
Eliminate Waste

Eliminate Waste

The proposed development seeks to minimise waste generation throughout excavation, construction and operation by prioritising the recovery, reuse and recycling of materials wherever feasible. Early consideration has been given to identifying opportunities to retain material value, reduce disposal to landfill and support the continued circulation of resources within the built environment.

The following sections outline the key studies, strategies and measures that have been incorporated to minimise waste and maximise resource recovery throughout the development lifecycle.

Site Waste Management Plan

An Outline Site Waste Management Plan (SWMP) has been prepared by Tetra Tech (which can be found as part of the full planning application) for the proposed development to provide estimated volumes and measures to control waste throughout the construction phase of the development.

The strategy follows the waste hierarchy, prioritising the minimisation and prevention of waste at source, followed by reuse, recycling and recovery, with disposal as the final option where no alternative is possible. The project commits to diverting at least 95% of non-hazardous construction waste from landfill, in line with the objectives of London Plan Policy SI 7. The SWMP also requires rates of reuse to be monitored and reported throughout the construction phase.

Construction waste is expected to arise mainly from off-cuts, spent materials and packaging. Key waste streams identified within the SWMP include packaging, miscellaneous construction waste, plaster and cement, insulation, timber, metals, plastics, concrete, ceramics and inert materials. Based on the BREEAM Wst 01 benchmark of 11.1 tonnes per 100 sqm GIA and a development GIA of 30,238 m², the development is estimated to generate up to 3,356 tonnes of construction waste. Of this, approximately 3,020 tonnes is expected to be recovered off site, with 336 tonnes disposed off site. The SWMP therefore estimates that approximately 90% of construction waste by mass can currently be diverted from landfill.

To minimise construction waste, the Principal Contractor will implement measures including efficient procurement and material forecasting, prefabrication where practicable, delivery of only what is required, return and recycling of excess or unused materials, and ensuring subcontractors follow the same waste minimisation principles. Materials will also be selected with consideration to embodied energy, recycled content, recyclability, ease of maintenance and avoidance of hazardous, deleterious or environmentally harmful materials.

Waste will be segregated on site where practicable, with waste containers appropriately labelled and managed. On-site segregation will be used as a form of pre-treatment where practicable. Hazardous waste will be managed separately in accordance with relevant requirements, and burning of waste and fly-tipping will not be permitted.

All waste removed from site will be recorded. The Principal Contractor will maintain details of waste carriers, disposal facilities and relevant licences, with Waste Transfer Notes and hazardous waste consignment documentation retained as required. Waste generation, reuse and disposal routes will be monitored throughout the construction phase, with the SWMP remaining a live document and updated as necessary.

The construction phase will operate on a just-in-time basis, with materials and waste removed from site as required. Where practicable, waste disposal arrangements will consider local facilities to minimise unnecessary transport distances and associated emissions. The Principal Contractor will also be responsible for auditing waste carriers and disposal facilities to ensure appropriate waste management arrangements are maintained.

03.3 Project Commitments
Eliminate Waste

The detailed Site Waste Management Plan to be produced by the appointed Principal Contractor will confirm the final construction waste management arrangements, including segregation, storage and collection arrangements prior to removal from site. The predicted waste recovery and disposal routes are summarised in the table below.

Material	Composition	On-site re-use (tonnes)	Off-site Recovery (tonnes)	Off-site disposal (tonnes)	Total (tonnes)	Suggested Waste Code	Description
Packaging	47%	0	1420	158	1577	15 01 06	Mixed packaging (alternatively, if separately collected: 15 01 01 paper and cardboard packaging; 15 01 02 plastic packaging; 15 01 03 wood packaging; 15 01 04 metallic packaging; 15 01 05 composite packaging)
Miscellaneous	11%	0	332	37	369	17 09 04	Mixed construction wastes other than those containing dangerous substances
Plaster & Cement	10%	0	302	34	336	17 08 02	Gypsum based construction materials other than those mentioned in 17 01 01* (gypsum-based construction materials contaminated with dangerous substances)
Insulation	9%	0	272	30	302	17 06 04	Insulation materials other than those mentioned in 17 06 01* (insulation materials containing asbestos) and 17 06 03* (other insulation materials consisting or containing dangerous substances)
Timber	8%	0	242	27	268	17 02 01	Wood
Metal	6%	0	181	20	201	17 04 07	Mixed metals (alternatively, if separately collected: 17 04 01 copper, bronze, brass; 17 04 02 aluminium; 17 04 03 lead; 17 04 04 zinc; 17 04 05 iron and steel; 17 04 06 tin; 17 04 11 cables)

03.3 Project Commitments
Eliminate Waste

Material	Composition	On-site re-use (tonnes)	Off-site Recovery (tonnes)	Off-site disposal (tonnes)	Total (tonnes)	Suggested Waste Code	Description
Plastic	4%	0	121	13	134	17 02 03	Plastic
Concrete	2%	0	60	7	67	17 01 01	Concrete
Ceramic	2%	0	60	7	67	17 01 03	Tiles and ceramics
Inert	1%	0	30	3	34	17 01 07	Mixtures of concrete, bricks, tiles and ceramic other than those containing dangerous substances
Total	**100%**	**0**	**3020**	**336**	**3356**	**-**	**-**

Table 3: Estimated Construction Waste Generation and Recovery Tonnages - SWMP, Tetra Tech

03.3 Project Commitments
Eliminate Waste

Operational Waste

An Operational Waste Management Plan (OWMP) has been prepared by Tetra Tech as part of the planning application for the proposed development, setting out how waste will be stored, managed and transferred safely and efficiently during the operational phase. The waste strategy has been developed to address the affordable housing and shared-living accommodation, with appropriate waste storage and collection arrangements provided for each use.

During the operational phase, waste will be managed in accordance with the principles set out in the OWMP. The strategy reflects circular economy principles by prioritising waste minimisation, recycling and the efficient management of waste streams. Building Management will promote recycling across the development and undertake routine monitoring of recycling volumes. The development targets a recycling rate of 65% by 2030, alongside a 50% reduction in food waste and associated packaging, in line with the objectives of London Plan Policy SI 7.

Waste arisings have been calculated in accordance with the London Borough of Haringey's Waste Storage Guidance and BS 5906:2005 Waste Management in Buildings – Code of Practice. The OWMP notes that these methodologies are considered conservative and are likely to overestimate waste generation, particularly for the single-occupancy shared-living accommodation proposed as part of the development.

The proposed development will provide residual waste, mixed recycling and food waste streams. Dedicated refuse storage areas will be provided for the residential uses, with collection undertaken by the London Borough of Haringey. Passenger lifts provide access between the residential floors and ground-floor refuse storage areas, supporting convenient waste disposal and effective waste segregation.

Affordable Housing (Block A)

For the 87 affordable homes, waste storage provision has been calculated in accordance with the London Borough of Haringey guidance and BS 5906:2005. Total weekly waste arisings are estimated at 28,320 litres, requiring provision of 15 × 1,100 litre residual waste bins, 9 × 1,100 litre mixed recycling bins and 8 × 240 litre food waste bins. Dedicated refuse storage will be provided at ground floor level, with residents able to use the passenger lifts to access the ground floor before following the designated route to the refuse store. The furthest distance residents would need to carry waste would not exceed 30 m.

Waste	Number of Bins	Individual Bin Volume (litres)	Total Bin Volume (litres)	Percentage of waste (%)
Residual	15	1,100	16,500	58%
Recycling	9	1,100	9,900	35%
Food	8	240	1,920	7%

Table 4: Expected waste arisings for affordable housing units - Operational Waste Management Plan, Tetra Tech

03.3 Project Commitments
Eliminate Waste

Shared-Living Accommodation (Block B)

The 552 shared-living units have been assessed using BS 5906:2005, resulting in projected weekly waste arisings of 53,680 litres. Waste storage provision comprises 22 × 1,100 litre residual waste bins, 22 × 1,100 litre mixed recycling bins and 22 × 240 litre food waste bins. Dedicated refuse storage will be provided at ground floor level, with residents accessing the refuse store via passenger lifts. Building Management will supervise the use of the bin store, ensuring front-facing bins have capacity and moving full bins to the rear. On the evening before or day of collection, Building Management will transfer bins around the north of the block to the loading bay on Ashley Road for collection. The majority of shared-living rooms would be within 30 m lateral internal distance of the waste store, accessed using passenger lifts. A system will be in place for Building Management to assist residents who require support to transfer waste. As all shared-living rooms will be furnished, bulky waste is not anticipated and any such waste would be managed directly by Building Management.

Waste	Number of Bins	Individual Bin Volume (litres)	Total Bin Volume (litres)	Percentage of waste (%)
Residual	22	1,100	24,200	45
Recycling	22	1,100	24,200	45
Food	22	240	5,280	10

Table 5: Expected waste arisings for shared-living units - Operational Waste Management Plan, Tetra Tech

03.4 **Project Commitments**
Design for End of Life

Design for End of Life

The proposed development has been designed to support longevity, adaptability and future resource recovery. By considering how the building and its components may be maintained, adapted, refurbished and ultimately deconstructed, the design seeks to extend the useful life of materials and reduce waste arising at the end of life.

From the earliest design stages, consideration has been given to minimising material consumption while ensuring the responsible and sustainable specification and sourcing of materials. The development has been designed to accommodate future change, reconfiguration and refurbishment, with consideration given to material durability, maintenance requirements and replacement cycles to avoid the premature end of life of building components.

This approach supports the retention of material value throughout the life of the development and can facilitate future reuse, recycling and manufacturer take-back schemes where available.

The following considerations have been addressed by the design team to support future deconstruction and material recovery:

- Design fixings that can easily be disassembled for adaptation, maintenance or replacement
- Consider panellised construction for easier disassembly and reuse
- Use standardised sizes of components for ease of reuse as these may have a wider range of applications
- Design MEP for ease of deconstruction and recycling
- When MEP systems reach the end of life, consider whether individual products can be reused in situ or elsewhere
- Flat-pack ductwork can reduce environmental impact of transportation and packaging at end of life
- Recoverability of plastics should inform ductwork design
- Consider the use of removable insulation rather than composite materials
- End of life waste can be reduced by specifying materials that reuse or contain recycled material and are recyclable

Future Adaptability

The proposed development incorporates flexibility and future adaptability measures to accommodate changes in use and operational requirements and support the long-term life of the buildings.

The reinforced concrete structural frame and non-structural internal partitions allow internal layouts to be reconfigured without significant intervention to the primary structure. The structural loading strategy also allows for potential changes to apartment layouts, including the combination of cluster units to accommodate larger spaces or alternative future uses.

The building services strategy supports future adaptation through flexible core risers and plant spaces, with plantrooms sized to accommodate potential future district heating connections and associated increases in capacity.

The external shell has also been designed with future modification in mind, with the 225mm structural slab allowing for potential future façade fixings. The concrete frame also provides potential for future horizontal or vertical extension, with the foundations generally assumed to accommodate an additional 10% load, subject to assessment of any proposed extension at the time.

03.4 Project Commitments
Design for End of Life

Design for Disassembly

Design for disassembly (DfD) is a fundamental principle within the circular economy framework. It focuses on creating structures that can be easily deconstructed at the end of their lifecycle, with the aim of recovering valuable materials and components for reuse in new construction projects.

The client has strong sustainability ambitions including a commitment to design components that can be easily separated on disassembly/deconstruction into material types suitable for recycling or reuse. An additional study has therefore been conducted to assess the percentage of building elements that have been designed for disassembly and adaptability.

Table 6 provides a summary of the key DfD principles that have been applied from the earliest design stages and their application within the buildings design.

DfD Principle	Description	Application
Modularity & Standardisation	Implementing standardised and modular components that can be easily separated, disassembled, and reassembled, allowing for flexibility in adapting and reconfiguring spaces, and simplified recovery of materials during deconstruction.	**Structure** – Standardised 225mm reinforced concrete floor slabs are proposed, with concrete capable of recovery/recycling at end of life. **Façade** – Predominantly brickwork, with mechanically fixed systems facilitating the repair, replacement and recovery of individual façade components. **Bathrooms / En-suites** – Prefabricated/modular bathroom and en-suite pods are proposed to support standardisation and reduce material waste. **BIM** – BIM will be used from Stage 3 to record information on building elements and components to support future maintenance, replacement and reuse.
Material Identification & Separation	Choosing materials that can be easily identified, separated, and sorted during deconstruction. This involves avoiding complex material combinations and using materials that have established recycling processes.	
Fasteners & Connections	Opting for mechanical fasteners, such as bolts and screws, instead of adhesives or welded connections. This ensures that components can be removed without causing damage to the materials, increasing their potential for reuse.	**Façade** – Traditional mechanical fixing systems will facilitate the independent repair, replacement and recovery of façade components. **Roof Structures** – Connections will be designed to be demountable and as consistent as practicable as the design develops. **Services** – Access hatches and accessible service routes will allow maintenance and replacement without disrupting adjacent building layers.
Planning for Future Adaptations	Designing buildings with the flexibility to accommodate future changes in use, technology, or regulations. This reduces the need for complete demolition and reconstruction.	**Internal Layouts** – Non-structural partitions can be removed or reconfigured to allow apartment layouts to adapt to future requirements. **Building Services** – Flexible risers and plant spaces support future technologies and upgrades, including potential future district heating connections. **External Shell** – The 225mm structural slab can accommodate potential future façade fixings to facilitate modification of the external envelope.

Table 6: Design for Disassembly principles and their application

04 Building Circularity

04.1 Building Circularity
Design Summary

Design Summary

A RIBA Stage 2 Whole Life Carbon Assessment has been conducted for the proposed development by Carbon.Climate.Certified (which can be found as part of the full planning application). The table below provides a summary list of the 'most contributing materials' identified within the study. The elements within this table account for 79.9% of the total cradle to gate embodied carbon emissions.

Where possible the design team will look to implement the circular economy principles outlined within this document across all areas of the design. Particular focus will be placed on the materials listed below, where there is opportunity to significantly reduce the projects carbon emissions through specification of recycled content and designing for disassembly and adaptability.

Element	Product	Cradle to gate impacts TCO_2e	Of cradle to gate (A1-A3)	Global warming potential (A1-A3) before local compensation
Structure	C32/40 ready-mix concrete, 50% GGBS	2304	13.9%	332.0 kg CO2e / m3
Structure	C32/40 ready-mix concrete, 25% GGBS	2022	12.2%	432.0 kg CO2e / m3
Structure	C40/50 ready-mix concrete, 25% GGBS	2001	12.1%	452.0 kg CO2e / m3
Structure	C50/60 ready-mix concrete, 25% GGBS	1408	8.5%	610.0 kg CO2e / m3
Structure	Reinforcement steel bar (rebar), 97% recycled content	1325	8.0%	0.62 kg CO2e / kg
Internal Finishes	Suspended metal ceiling system	616	3.7%	22.4 kg CO2e / m2
External Walls	SFS	602	3.6%	2.76 kg CO2e / kg
Services	Composite Bathroom System	551	3.3%	904.0 kg CO2e / unit
Services	Electricity Distribution System	463	2.8%	15.1 kg CO2e / m2
External Walls	Clay Bricks	426	2.6%	0.21 kg CO2e / kg
Windows	Aluminium Frame Triple Glazed Window	364	2.2%	107.0 kg CO2e / m2
Lifts	Elevator	361	2.2%	40100.0 kg CO2e / unit
External Wall	XPS Insulation	316	1.9%	129.21 kg CO2e / m3
External Walls	Steel Brackets	252	1.5%	6.57 kg CO2e / kg
External Walls	Calcium Silicate Board	237	1.4%	12.3 kg CO2e / m2

Table 7: Most contributing elements towards total cradle to gate emissions - Whole Life Carbon Assessment, Carbon.Climate.Certified

04.2 Building Circularity
Building Circularity Study

Building Circularity Study

The One Click LCA GLA Building Circularity Tool has been used to estimate the potential for material recovery at the end of the building's life. The results below have been generated using the data prepared for the whole life carbon assessment and are aligned with the project cost plan. As construction processes and recycling rates cannot be accurately predicted 60 years into the future, the results are based on current industry practices and benchmarks, with default circularity weighting factors applied within the One Click LCA tool.

This study compares the mass of recovered materials with the virgin materials likely to be used within the development and assesses the proportion of materials that can be returned to productive use at the end of life. It is estimated that around 9.3% of the materials used will comprise recovered materials. End-of-life scenarios are set out within the RIBA Stage 2 Whole Life Cycle Carbon Assessment, with approximately 56.3% of materials expected to be returned to circular material flows. The overall circularity score is presented in Figure 10, whilst Table 8 provides a breakdown of the key material groups contributing to this score and their respective recovery, recycling and return potential.

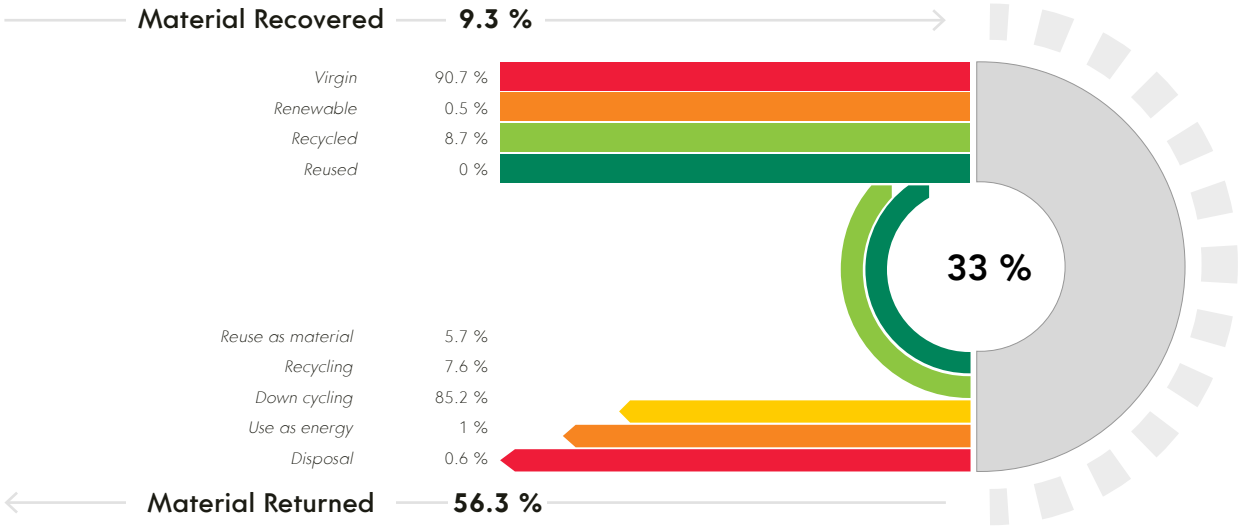


Figure 10: Building Circularity OneClick GLA Circular Economy tool

Key Material Groups

Result Category	Tonnes	Virgin %	Recovered %	Disposal %	Downcycling & use as energy %	Recycling & reuse as material %	Returned %	Circularity %
Concrete	**51,152**	95.24	4.76	-	100	-	50	27.38
Metals	**3,395**	16.03	83.97	-	-	100	100	91.99
Bricks & Ceramics	**2,105**	100	-	-	100	-	50	25
Gypsum based	**838**	95.84	4.16	-	13.73	86.27	93.13	48.65
Insulation	**216**	67.86	32.14	46.24	53.76	-	26.88	29.51
Glass	**11**	98.95	1.05	-	-	100	100	50.52
Wood & Biogenic	**200**	4.93	95.07	-	100	-	50	72.53
Earth & Asphalt	**3784**	100	-	3.71	2	94.29	95.29	47.64
Other materials	**1049**	77.9	22.1	13.57	27.32	59.11	72.77	47.44

Table 8: Key material groups contributing towards the circularity score

03.3 Project Commitments
Minimise Resource Consumption

Recycled Content by Value

Recycled content* by value has been calculated using the material quantity information from the Whole Life Carbon Assessment model, combined with the cost information in the KS4 RIBA Stage 2 Cost Plan (Revision 4, August 2026). The calculation covers both the Affordable and Co-Living buildings. As far as possible, this exercise has been completed in line with the methodology set out in Appendix 3 of the GLA Circular Economy Statement Guidance, through integration of the relevant International Cost Management Standard (ICMS).

The cost plan uses all-in installed rates, and many line items cover more than one material, for example concrete and reinforcement within reinforced concrete rates. Where this is the case, the cost has been apportioned between the materials in proportion to their typical material costs.

In lieu of cost information being available for detailed specifications (which will later be known when specification and procurement are underway) the costs provided by One Click LCA have been used for this calculation. These costs may not accurately reflect the true material or project costs, but provide an educated assumption using information available at this stage. One Click LCA does not assign costs to building services, so these are excluded from the calculation and from the total project material cost calculated in OneClick LCA. There are also a number of materials where recycled content is proposed, but a cost has not been assigned by One Click LCA; these have also been omitted.

Based on the information available at this stage, the overall recycled content by value is **20.2%** (£11,534,780 of a total material value of £56,971,359). Recycled content percentages are taken from the generic and product-specific datasets used in the Whole Life Carbon Assessment. They will be verified against specified products and supplier data at Stage 4, with updated calculations by value provided at post completion.

*Recycled content refers to both recycling prior to material production (such as recycled steel being used to make rebar) and reused materials, such as the reuse of bricks on site.

Resource	Total (kg)	Total cost (£)	Cost per kg (£)	Recycled Content by Mass (%)	Recycled Content by Value (£)
Material Category	Total (kg)	Total Cost (£)	Cost per kg (£)	Recycled Content by Mass (%)	Recycled Content by Value (£)
Other materials - no cost assigned	475,486	£0.00	£0.00	0.0%	£0.00
Concrete	50,902,428	£10,875,584.54	£0.21	4.8%	£509,182.24
Reinforcement steel	2,813,169	£6,141,543.23	£2.18	97.0%	£5,957,296.89
Structural steel	219,728	£1,101,492.71	£5.01	13.2%	£141,823.81
Other steel products	98,976	£2,300,246.79	£23.24	46.9%	£992,921.13
Aluminium products	255,189	£6,168,608.09	£24.17	4.9%	£325,093.07
Insulation products	215,175	£2,843,033.30	£13.21	32.2%	£1,391,863.85
Interior finishes	583,109	£5,217,398.00	£8.95	13.4%	£706,232.55
Plasterboard & doors	858,373	£5,461,840.18	£6.36	5.4%	£340,145.66
Brickwork	2,000,224	£7,679,787.00	£3.84	0.0%	£0.00
Calcium silicate board	240,663	£2,225,138.32	£9.25	0.0%	£0.00
Timber products	28,150	£488,320.86	£17.35	0.0%	£0.00
Cavity trays	700	£762,189.00	£1,088.84	100.0%	£762,189.00
Roofing and waterproofing	222,077	£437,892.57	£1.97	3.6%	£6,156.49
Fixed furniture (kitchens, wardrobes, vanity units)	149,254	£4,137,400.00	£27.72	22.0%	£397,840.22
Paving and external works	3,677,528	£1,100,251.19	£0.30	0.0%	£4,034.84
Other materials	10,150	£30,633.21	£3.02	0.0%	£0.00
TOTAL	62,750,379	£56,971,359.00	£0.91	8.7%	£11,534,779.75

Table 9: Recycled content by value

05 Conclusion

05.1 Conclusion
Conclusion

Conclusion

The proposed development has embedded circular economy principles throughout the design and construction process, with the aim of minimising resource consumption, reducing waste and retaining materials and resources at their highest possible value for as long as practicable. The approach considers the whole lifecycle of the development, including material selection, construction, occupation, future adaptation and eventual end-of-life.

The development seeks to minimise material consumption through efficient design and specification, while prioritising responsibly sourced, reused and recycled materials where feasible. Opportunities to retain or reuse existing resources have also been considered, including the potential reuse of the existing 3,186m³ of spoil on site, subject to further investigation and testing. Where reuse on site is not practicable, opportunities for beneficial reuse or recycling off site will be considered in accordance with the waste hierarchy. The design also allows for the consideration of salvaged materials from other projects where appropriate and compliant with relevant performance and regulatory requirements.

Measures have been incorporated to support longevity, adaptability and future use. The reinforced concrete structural frame and non-structural internal partitions provide flexibility for future reconfiguration and alternative uses, while plant and riser spaces provide capacity for future technologies and potential district heating or cooling connections. Durable materials, including the predominantly brickwork external material palette, have also been selected to support the long-term performance of the building. Consideration has additionally been given to disassembly and future recovery through accessible building layers, mechanically fixed façade systems and access to services to facilitate maintenance, repair, replacement and, where practicable, future reuse.

The construction phase will be managed in accordance with the principles set out within the Site Waste Management Plan, with waste prevention, reuse, recycling and recovery prioritised over disposal. The current waste strategy estimates that approximately 90% of construction waste by mass can be diverted from landfill, alongside a project commitment to divert at least 95% of non-hazardous construction waste from landfill. Waste generation, reuse and disposal routes will be monitored throughout construction. During operation, the Operational Waste Management Plan provides separate arrangements for the different uses within the development and supports waste segregation, recycling and waste reduction, including a target for a 65% recycling rate by 2030.

Overall, the measures set out within this Circular Economy Statement demonstrate a commitment to reducing the environmental impacts associated with material consumption and waste throughout the development's lifecycle. Resource-efficient design, opportunities for material reuse, durable and adaptable construction, consideration of disassembly and recovery, and measures to minimise and manage waste collectively provide a framework for delivering a more circular development. These principles and commitments will be carried forward and refined through detailed design, procurement and construction, with the project team and Principal Contractor responsible for confirming the final specifications, construction processes and waste management arrangements as the development progresses.

05.2 Conclusion
Reporting & Next Steps

Reporting

Carbon.Climate.Certified will develop an excel tracker that will be used throughout the design and construction stages of the project to track progress of the reports required and demonstrate the alignment with the established circular economy principals.

At practical completion, a final circular economy statement will be produced. The following reports will be included within the Post Completion report:

- Site Waste Management Plan
- Bill of Quantities
- Whole Life Carbon Assessments (Reports produced at various stages)
- Sustainable Procurement Plan
- Considerate Contractors Scheme Certification
- Sanitaryware Schedules
- Operational Waste Management Plan/s
- Access & Maintenance Strategies

Next Steps

1.

Submission of the Circular Economy statement and LPG CE reporting spreadsheet as part of full planning application.

2.

Certified will develop an excel tracker that will be used throughout the design and construction stages of the project to track progress.

3.

Outcomes and objectives will be reviewed at various stages throughout project design and construction.

4.

The Circular Economy statement will be reviewed and updated within 3 months of practical completion to include post completion updates, confirming the achieved targets and implementation of the established CE principles.

06

Appendix A

WLC / CE Meeting Minutes

Ashley Park, Tottenham
Sustainability Workshop

Job Number	561.2604
Date of Meeting	10th June 2026
Location	Teams
Minutes Prepared by	Malik Miller
Date of Issue	11th June 2026
File Reference	(561)2604-MM-MM-Ashley_Park_110626

Present	Action Reference
Shauna Buckley, Carbon.Climate.Certified	CCC
Jade Cox, Carbon.Climate.Certified	CCC
Isobel Casey, Carbon.Climate.Certified	CCC
Matthew Lloyd-Ruck, Re:shape	RSHP
Charles Jabre, DLA Architecture	DLA
Teresa Skalny, DLA Architecture	DLA
Ashley Wells, Whitby Wood	WW
Duncan Woods, Meinhardt	MH
Richard Denteh, Meinhardt	MH
Carey Gorgees, KS4	KS4
Peter Yarushin, KS4	KS4
Gamze Goksungur, KS4	KS4

Sustainability Workshop

Action

1.0 Purpose of Meeting

The agenda was as follows:

Whole Life Carbon Assessment

- Confirm assessment scope, programme and reporting requirements.
- Review project carbon targets and relevant benchmarks.
- Identify opportunities for whole life carbon reductions by building element.
- Confirm key information requirements and input deadlines.

Circular Economy

- Review circular economy principles and opportunities within the design.
- Discuss material reuse, material efficiency, adaptability and disassembly.
- Review the existing crushed material on site and requirements for quantifying reuse opportunities.
- Confirm requirements for the Circular Economy Statement and RIBA Stage 2 responses.

UK Net Zero Carbon Building Standard

- Review the project's UKNZCBS targets and verification approach.
- Discuss embodied carbon, operational energy, renewable energy and energy demand targets.
- Confirm the proposed approach to verification for the shared-living and affordable blocks.

Energy Strategy and District Heat Network

- Review the current energy strategy and district heat network position.
- Discuss future district heat network connection requirements and spatial allowances.
- Confirm outstanding energy strategy information and actions arising from GLA pre-application comments.

BREEAM Strategy - Shared-living Block

- Review the proposed BREEAM rating and current score.
- Confirm assessment scope and applicability to different use types.
- Review key BREEAM v7 requirements and design actions.
- Confirm outstanding templates, assessments and consultant inputs.

Actions and Next Steps

- Confirm responsibilities and deadlines.
- Agree outstanding information requirements.
- Confirm follow-up meetings and workshops.

2.0 Whole Life Carbon Assessment

2.1 WLCA CCC to confirm the Whole Life Carbon Assessment programme and reporting requirements. Key points were as follows:

- Separate assessments will be produced for the shared-living and affordable blocks, each with individual net zero carbon targets.
- Submission of the WLC assessment is targeted for 31st August. Key input deadlines are: structural quantities (Whitby Wood) by the end of June; energy strategy / TM54 results (Riccardo) by 17th August; and cost plan (KS4) by 3rd August.
- Whitby Wood to provide full building material volumes (not just a typical bay), broken down by element: substructure, frame, upper floors and roof. High-level accuracy is acceptable at this stage; Riccardo to scale from PDFs. CCC to issue the materials tab template with RICS categories for quantities. — WW
- A sustainability workshop with Haringey is planned for mid-to-late July (16th July discussed). The pre-workshop presentation will need benchmark carbon data.
- The GLA whole life carbon tool submission requires an options appraisal tab covering structure, façade, landscape and material studies.
- A build adaptability study is required. DLA to provide mark-ups showing how shared-living layouts support future adaptation. — DLA

3.0 Circular Economy

3.1 CE Circular economy and materials points were discussed as follows:

- The site was already cleared prior to Re:shape's purchase, and crushed material from the previous demolition is confirmed to be on site. A full pre-demolition audit is therefore not required. CCC to carry out a high-level volume calculation of the rubble on site, with cut-and-fill calculations to be quantified by CCC. — CCC
- CCC to issue the circular economy template; the design team to provide strategic responses on adaptability and disassembly at RIBA Stage 2. — CCC
- An elemental lifecycle cost options appraisal will be carried out by an external consultant, as used on other Re:shape schemes for consistency. CCC to share contact details with Carey. — CCC / KS4

4.0 UK Net Zero Carbon Building Standard

4.1 NZC Re:shape confirmed the ESG framework and target verification approach against the UK Net Zero Carbon Building Standard (in-use, post-12-month occupancy). Key points were as follows:

- Shared-living block: the standard sets an upfront embodied carbon limit of 595 kg/m²; the Re:shape ESG framework targets 400 kg/m². The team will decide whether to work to the standard or the more stringent ESG target, pending benchmark assessment.
- Affordable block: the standard sets 405 kg/m², which aligns closely with the Re:shape ESG target.
- Whole life embodied carbon (A to D) target: less than 625 kg/m².
- Energy use intensity limits (based on a 2027 commencement on site): shared-living less than 72 kWh/m²; affordable block less than 50 kWh/m².
- On-site renewable energy target: 45 kWh/m² of building footprint per year.
- Space heating and cooling demand limit: 15 kWh/m².
- Refrigerant GWP limit: less than 677 (aligns with R32). This is a hard pass/fail requirement for verification.
- The building must be fossil fuel free.
- Operational verification is not considered practical for the affordable block. The standard will steer targets, but formal verification is likely to be limited to the shared-living block.
- Carbon offsetting is optional; two verification tiers are available: aligned, or aligned plus offsetting.

5.0 District Heat Network & Energy Strategy

5.1 DHN Energy strategy and district heat network options were discussed. Key points were as follows:

- No district heat network is currently available; Riccardo is in communication with Energetik regarding future proposals.
- The MEP design will allow space for a future connection within the planning. — MH
- Riccardo to liaise with Duncan Woods to confirm the spatial allowance for this within the current plans. — MH
- Pre-app comments from the GLA requested detailed energy information; Riccardo has reviewed this and spoken with Georgia.
- The only actionable item at this stage is a letter confirming ongoing dialogue with Energetik. — MH

6.0 BREEAM Strategy (Version 7, Shared-living Block Only)

6.1 BRE CCC outlined the BREEAM strategy. Key discussion points were as follows:

- Targeting BREEAM Excellent (70+); the current modelled score is 76.51%, approximately 8.5% below Outstanding (85%).
- BREEAM v7 allows multiple use types within one assessment: ground-floor commercial (~80 m²) and community space (~50–60 m²) can be captured within the shared-living assessment.
- Affordable block commercial/community spaces are excluded as they are too small to assess in isolation; Matthew to check with Georgia whether the GLA will push on this. BREEAM New Construction (commercial) is not applicable to the affordable block and is therefore excluded from the assessment. — RSHP
- Mat 05 (material efficiency target-setting brief): CCC to send the template to Matthew; the design team to report against it at each RIBA stage.
- HA1 (new v7 minimum for Outstanding): DLA to review room depths and glazing against the template and flag any spaces at risk. — CCC
- Ecologist input: BNG and UPA are already in scope; early reports will satisfy BREEAM requirements. — DLA
- Energy 2 and Energy 4: passive design credits (5% reduction = 1 credit; 10% = 2 credits); Riccardo to engage once SBEM progresses. PV reporting requires a BREEAM-specific reference panel comparison; CCC to send the requirements to Riccardo.
- Indoor air quality plan is likely within Trium's scope, who hold an air quality credit; Carey to confirm.
- Security needs assessment: Cap Sec has been appointed and confirmed in scope. — KS4

- Elemental lifecycle cost options appraisal: an external consultant used on other Re:shape schemes; Carey to receive contact details from CCC for consistency.	CCC / KS4
- Climate change adaptation strategy: CCC to send the Excel template; DLA and Whitby Wood to provide input.	DLA / WW
- Circular economy template to be sent; strategic responses on adaptability and disassembly are required at Stage 2.	CCC
- Meeting minutes responsibility confirmed: the organiser sets the agenda and issues the notes; DTMs by DLA, PTMs by the buyer, and individual workshops by whoever calls them.	
- Shauna to schedule a follow-up session to walk through the remaining new BREEAM v7 design requirements.	CCC

7.0 Next Steps

The next steps were confirmed as follows:

- Issue the early-stage cost plan to CCC.	KS4
- Produce a high-level rubble volume calculation; a pre-demolition audit is not required as the site was already cleared.	WW
- Establish and model the WLC baseline.	CCC
- Draft the CE statement.	CCC
- Issue all documents shared today, including the whole life carbon RFI and materials tab template.	CCC
- Provide full building material volumes by 30th June, broken down by RICS element.	WW
- Confirm the spatial allowance for a district heat network connection within the current plans.	MH
- Confirm whether the indoor air quality plan and BREEAM air quality credit are within Trium's scope.	KS4
- Send contact details for the elemental lifecycle cost consultant to Carey.	CCC
- Send BREEAM Energy 4 PV scoping requirements to Riccardo.	CCC
- Send the climate change adaptation strategy Excel template to DLA and Whitby Wood.	CCC
- Send the HA1 template to DLA; DLA to flag any at-risk spaces.	DLA
- Check with Robbie on the provenance of the crushed material on site and confirm whether the previous owners completed any pre-demolition audit or hold any relevant records.	RSHP
- Check with Georgia whether the GLA will require a BREEAM assessment for the small affordable block commercial/community spaces.	RSHP
- Schedule a follow-up session to walk through the remaining BREEAM v7 design requirements.	CCC / DLA

07

Appendix B

Operational Waste Management Plan

Ashley House

Operational Waste Management Plan

Tetra Tech London, 20 Farringdon Street, London, EC4A 4AB

Tetra Tech Consulting Limited. Registered in England: No.01470149
Registered Office: 101 Park Drive, Milton Park, Abingdon, Oxfordshire, England, OX14 4RY

Document status

Document status					
Version	**Purpose of document**	**Authored by**	**Reviewed by**	**Approved by**	**Date**
01	Issue	TM	CR	JC	18/08/2026

Approval for issue		
Clare Russell	TT	18 August 2026

This report was prepared by Tetra Tech within the terms of Tetra Tech engagement with its client and in direct response to a scope of services. This report is supplied for the sole and specific purpose for use by Tetra Tech's client. The report does not account for any changes relating the subject matter of the report, or any legislative or regulatory changes that have occurred since the report was produced and that may affect the report. Tetra Tech does not accept any responsibility or liability for loss whatsoever to any third party caused by, related to or arising out of any use or reliance on the report.

Prepared by	Prepared for
Tetra Tech	Re:Shape T LTD
Taher Maimoon Principal Consultant	
2nd Floor, 11 York Street Manchester M2 2AW	
T: 0161 874 1564	
E: taher.maimoon@tetratech.com	

Table of contents

1.0 INTRODUCTION 1
2.0 PROPOSED DEVELOPMENT 2
3.0 RELEVANT GUIDANCE 5
4.0 WASTE STORAGE PROVISION 7
5.0 ACCESSIBILITY AND TRANSFER 13
6.0 SUMMARY AND CONCLUSIONS 14

1.0 INTRODUCTION

1.1.1 Tetra Tech has been instructed by Re:Shape T Ltd (hereafter referred to as “the Applicant”) to provide an Operational Waste Management Plan (OWMP) as part of the planning application to redevelop the Former Ashley House site, Ashley Road, Tottenham Hale, Haringey, N17 9LZ.

1.1.2 The proposed development provides residential accommodation (Class C3) and shared living accommodation alongside commercial and community uses.

1.1.3 The OWMP sets out the predicted types and quantities of waste that would be generated during the occupation of the proposed buildings and how this waste would be stored and collected. The OWMP is based on the description of the development within the planning application and is in accordance with waste management guidance including from the local planning authority (i.e. London Borough of Haringey (LBH)) Waste Storage Guidance[1]) and British Standards.

[1] Waste storage guidance note | Haringey Council Part of: Supplementary planning documents and guidance. Last accessed August 2026

2.0 PROPOSED DEVELOPMENT

2.1.1 The Site is located on Ashley Road, Tottenham Hale, N17 9LZ. It extends to 0.716 hectares and is rectangular in shape.

2.1.2 The Site is located approximately 150m north west of Tottenham Hale underground and railway station, which provides connections to Walthamstow Central and Brixton. Surrounding land uses are predominantly residential comprising multiple apartment buildings with commercial units on the ground/lower floors. There are also areas of open space and recreational facilities. The Site Application boundary is shown in Figure 1.

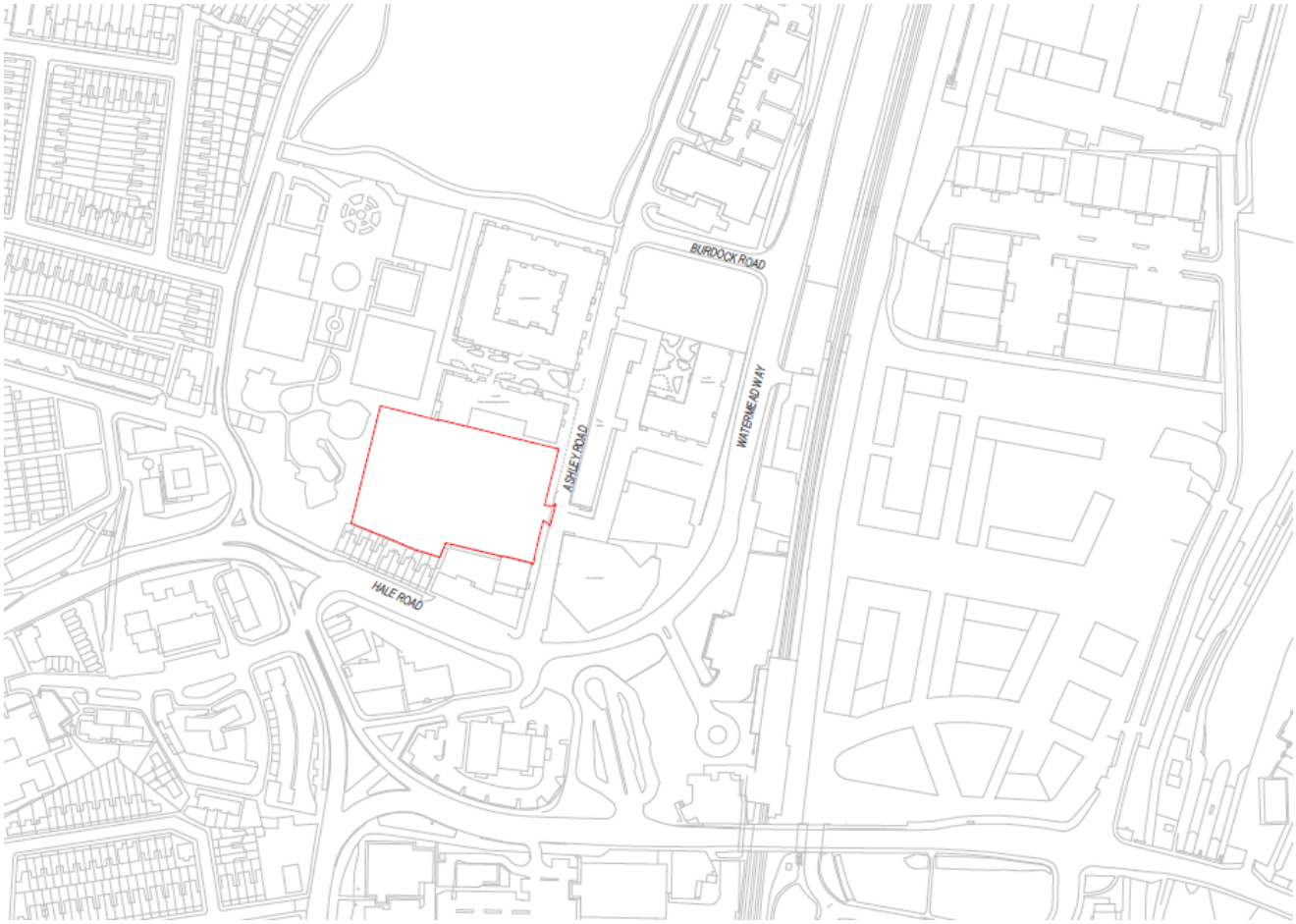


Figure 2.1 – Site Location

2.1.3 The Site currently comprises vacant brownfield land: the former buildings of Ashley House were demolished in August 2023.

2.1.4 The proposed development comprises two linear buildings running east to west, located to the north (Block A) and south (Block B) of the site, with a central route through the site. The buildings will provide:

'Full planning permission for a phased mixed-use development comprising: (i) enabling works and operations; (ii) residential development (Use Class C3) including affordable housing; (iii) shared living accommodation (Sui Generis), (iv) commercial and community floorspace (Use Classes E and F2); and (v) site-wide and/or phase-specific access, servicing, public realm, blue-badge parking, cycle parking, open space, hard and soft landscaping, utilities, plant and all other associated works.'

2.1.5 The two proposed residential blocks (including communal amenities, circulation and plant) would have a total floorspace of 9,258 square metres.

2.1.6 Block A would six storeys and provide 87 affordable homes (C3) over six storeys based on the following unit mix:

- 14 1-bed (26%);
- 51 2-bed (59%);
- 12 3-bed (14%);
- 10 4-bed maisonettes (18%).

2.1.7 Block B would be 23 storeys and would provide shared living accommodation (Sui Generis) comprising 552 studios. Alongside the residential units, the proposed development would provide commercial/community floorspace (class E/F2) public realm, blue-badge and cycle parking, open space, hard and soft landscaping and all other associated works referred to as Block B.

2.1.8 The proposed development would also include non-residential floorspace including commercial (Class E) (230sqm GIA across two units) and community (F2) (125.5sqm GIA within one unit within the shared living building).

2.1.9 Figure 2.2.shows the ground floor layouts of the proposed development.



Figure 2.2: Proposed Ground Floor Layout

2.1.10 For all aspects of the proposed development, passenger lifts will run between all residential floors to ground level where the refuse stores are located.

3.0 RELEVANT GUIDANCE

Waste Management in Buildings Code of Practice (BS 5906:2005)

3.1.1 The Waste Management in Buildings Code of Practice, referred to as BS 5906:2005 is a code of practice for methods of storage, collection, segregation for recycling and recovery as well as the treatment of waste. It makes use of and promotes the hierarchy for waste management as a means for sustainable waste management.

3.1.2 Table 1 of BS 5906: provides an equation for calculating the typical weekly waste arisings from various building categories and the number of waste storage containers required. This calculation is used to infer the number of collections that would be required from a facility in a given week. The list is high-level and does not provide sub-categories for secondary building uses and as a result, the predicted waste arisings may be conservative. Professional judgement has therefore been used to identify the most appropriate category in the derivation of waste streams and volumes.

London Borough of Haringey: Waste management guidance note for residential and mixed-use

3.1.3 The London Borough of Haringey's Waste Management Guide Note for Residential and Mixed Use Development was published in 2019 and is supplementary to that given within the Haringey Local Plan document 'Sustainable Design & Construction, Supplementary Planning Document' (2013).

3.1.4 The waste management guidance is intended for architects to use when planning a new development, modernisation or change of use. The guidance indicates methods of waste storage and the criteria used by the LBH to estimate waste production.

3.1.5 LBH assesses new developments, extensions or changes of use to make sure they provide adequate storage facilities for waste and recyclable material, and that consideration of this requirement should occur at the earliest stages of the design process and include details on drawings submitted for planning permission.

3.1.6 The waste management guidance states the below and this has been implemented in the bin calculations for this site. '*The standard collection frequency of all three standard residential waste collection streams (residual, dry mixed recycling and food waste) is weekly for all high rise and communal collections; the council will not collect waste more frequently. Standard waste and recycling capacity for flatted developments is assessed by the following formula:*

Table 3.1: Formula used for refuse allocation for London Borough of Haringey.

Refuse allocation	Capacity	Approximate bin dimensions
per 6 dwellings	1100 litres	985mm D x 1260mm W x 1370mm H
Dry mixed recycling allocation		
per 10 dwellings	1100 litres	985mm D x 1260mm W x 1370mm H
Food waste allocation		
Per dwelling	20 litres	140 litre wheeled bins
Any proposal to incorporate rubbish chutes must submit an 'Innovation and residential waste management plan', see section 2.4		

3.1.7 *Any development of six flats or more must be provided a bin store and use bulk bins for refuse and recycling. The capacity must be made up of the largest bin sizes available within the council's prevailing specification or bin hire offer. For example, a required capacity of 3000L for any one waste stream must consist of 3x 1100L. Bulk bins cannot be stored or presented on the public highway unless expressly agreed with the authority'*.

4.0 WASTE STORAGE PROVISION

Preamble

4.1.1 Projected waste arisings within this OWMP have been calculated based on LBH's Waste Storage Guidance and using British Standard BS5906:2005. For the calculations of shared-living waste arisings BS5906:2005 has been used as it is considered conservative and has been accepted for other consented shared-living developments within LBH.

4.1.2 For the calculation of waste arising from C3 affordable housing, references have been made to LBH's Waste Storage Guidance and also using British Standard BS5906:2005.

4.1.3 LBH's Waste Storage Guidance bases waste storage volume on Building Regulations. This is considered conservative and is generally regarded as providing an over-estimation of residential waste generation volumes for single-occupancy shared-living units. Similarly, albeit less so than LBH's guidance, the use of BS5906:2005 is also considered conservative for share-living units and calculates for each unit a volume requirement of 100l/week is provided for.

4.1.4 Through periodic and routine monitoring, Building Management commits to meeting and exceeding Policy SI7 of the London Plan. Site management will promote recycling across the development and undertake monitoring of recycling volumes. The development targets a recycling weight of 65% by 2030 and includes a 50% reduction in food waste and associated packaging. Where appropriate, Building Management will engage with LBH's initiatives and requirements, including community schemes, for reducing overall waste volumes and increasing the percentage of recyclables.

C3 Affordable Housing – Block A

Affordable Housing– Bin Provision and Waste Arisings

4.1.5 The required total weekly waste storage provision for the affordable accommodation is 28,320 litres. Therefore, the total number of required bins equates to 24 x 1,100l Eurobins bins and 8 x 240l food waste bins.

4.1.6 The split of bins for residual, recyclable, and food waste is:

- 15 x 1,100l black residual waste;
- 9 x 1,100l mixed recycling waste;
- 8 x 240l food waste;

4.1.7 Expected waste arisings of waste streams associated with affordable housing units are shown in Table 4.1.

Table 4.1: Expected Waste Arisings of Waste Streams for affordable housing units

Waste	Number of Bins	Individual Bin Volume (litres)	Total Bin Volume (litres)	Percentage of waste (%)
Residual	15	1,100	16,500	58%
Recycling	9	1,100	9,900	35%
Food	8	240	1,920	7%

4.1.8 Multiplying the weekly arising total of affordable units over the period of a year provides a total maximum annual waste volume of 1473m^3. Applying a conversion factor of 0.27 for household waste (as taken from Draft 16 UK Waste Classification Scheme (previously DETR, now DEFRA)), this volume equates to approximately 398 tonnes per annum for the Block A.

Affordable Housing– Refuse Store Layout and Management

4.1.9 For the affordable housing units, dedicated refuse storage areas are provided at Ground floor level. The proposed layout of the Ground Level for Block A is shown in Figure 4.1, with the refuse store highlighted in red.

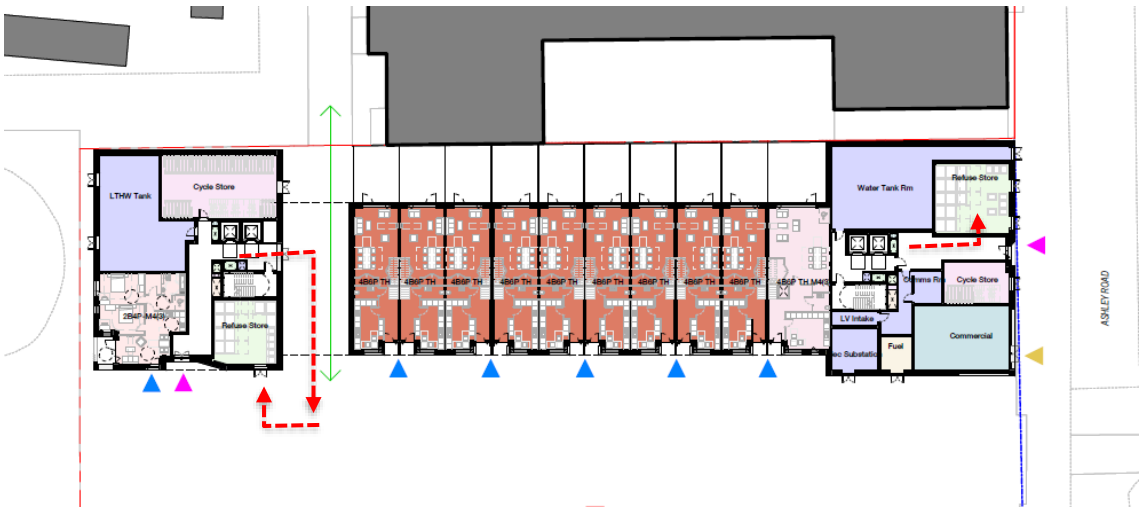


Figure 4-1– Proposed Ground Floor Layout for Block A with Refuse Stores Highlighted in Red.

4.1.10 The affordable housing block includes passenger lifts on either side of the Block A and all floors containing residential units. Building users will use the passenger lifts to access the Ground Floor and will take the route marked in red on Figure 4.2to access the refuse store. There is a requirement for the building user to exit the building to

gain entry into the refuse store. The furthest distance residents would have to carry waste would not exceed 30m.

4.1.11 The area provided for refuse storage allows for sufficient space to accommodate 24 Eurobins and 13 food waste bins (an extra capacity of eight bins).

4.1.12 The bin store is located close to a loading bay on Ashley Road. LBH refuse operatives will be responsible for transporting wheeled Eurobins from the refuse store to the collection vehicle and then returning emptied bins back to the waste store. LBH refuse operatives will have direct access to the waste store and not be required to enter the main residential areas of the building.

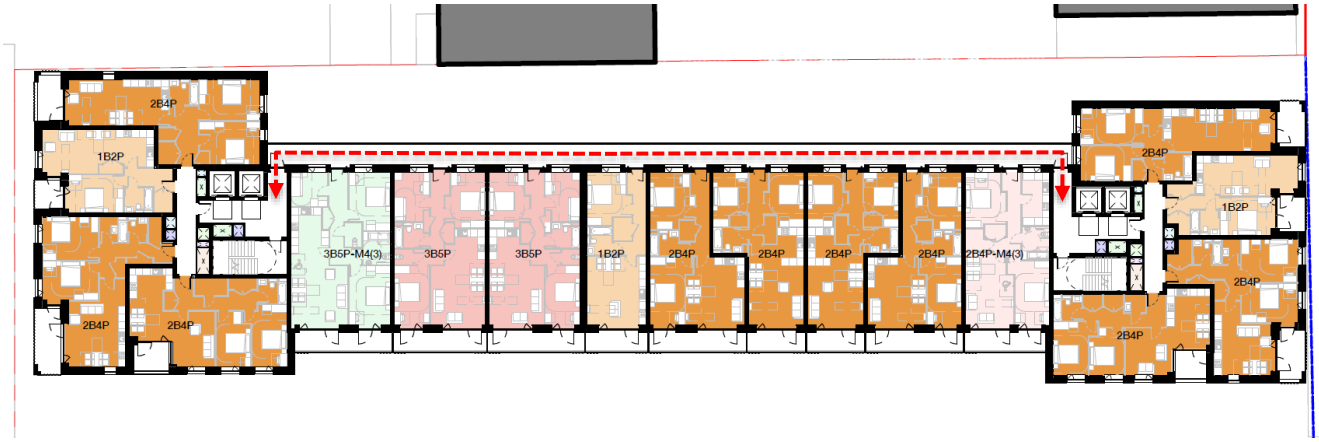


Figure 4.2: Typical residential floor layout. Route to lifts for furthest resident (red)

Shared-Living –Block B

Shared-Living – Bin Provision and Waste Arisings

4.1.13 The use of BS5906:2005 is also considered conservative and calculates for each unit a volume requirement of 100l/week is provided for. The total weekly waste arisings from all shared-living units equates to 53,680 litres.

4.1.14 Whilst it is noted that BS5906 is considered conservative, Building Management will supervise the refuse storage space and, where necessary, make arrangement for a second weekly collection by private waste contractor additional to the weekly local authority collection. No waste will be compacted.

4.1.15 The communal waste storage requirement sufficient for weekly collection are:

- 22 x 1100l black residual waste;
- 22 x 1100l mixed recycling waste;
- 22 x 240l food waste;

4.1.16 Expected waste arisings of waste streams associated with shared-living units are shown in Table 4.1.

Table 4.2: Expected Waste Arisings of Waste Streams for shared-living units

Waste	Number of Bins	Individual Bin Volume (litres)	Total Bin Volume (litres)	Percentage of waste (%)
Residual	22	1,100	24,200	45
Recycling	22	1,100	24,200	45
Food	22	240	5,280	10

4.1.17 Multiplying the weekly arising total of shared-living accommodation over the period of a year provides a total maximum annual waste volume of 2,791m^3. Applying a conversion factor of 0.27 for household waste (as taken from Draft 16 UK Waste Classification Scheme (previously DETR, now DEFRA)), this volume equates to approximately 754 tonnes per annum for share-living spaces.

Shared-Living – Refuse Store Layout and Management

4.1.18 For Shared-Living, a dedicated refuse store is provided at Ground floor level as shown in

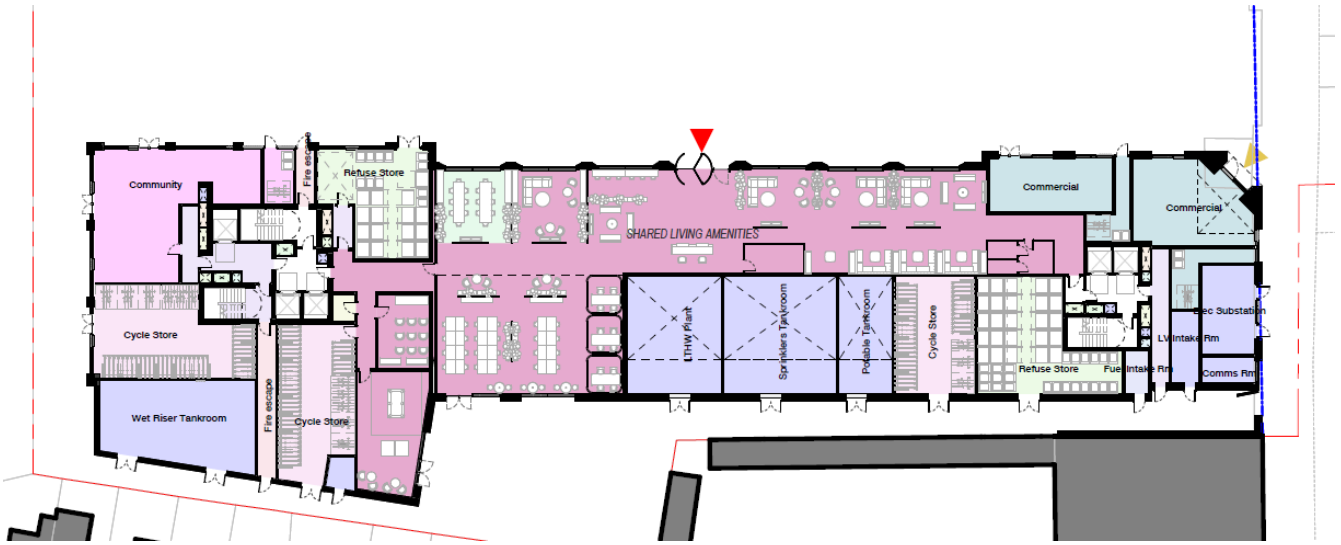


Figure 4.3, with the refuse stores outlined in red. The bin store can accommodate 41 x 1,100l Eurobins and 34 x 240l food bins. Although it is mentioned above that 44 1,100l Eurobins are required, as there is a provision of 34 240l bins as opposed to a requirement of 22 therefore it would be possible to swap out the number of bins and ensure there are enough bins.

4.1.19 The red arrow shows the route residents would have to walk from the passenger lifts and the blue arrow shows the route that building Management would convey bins around the outside of the building to the loading bay on Ashley Road on the day (or

evening before) for collection by LBH. Figure 4.4 shows the route on a typical residential floor.

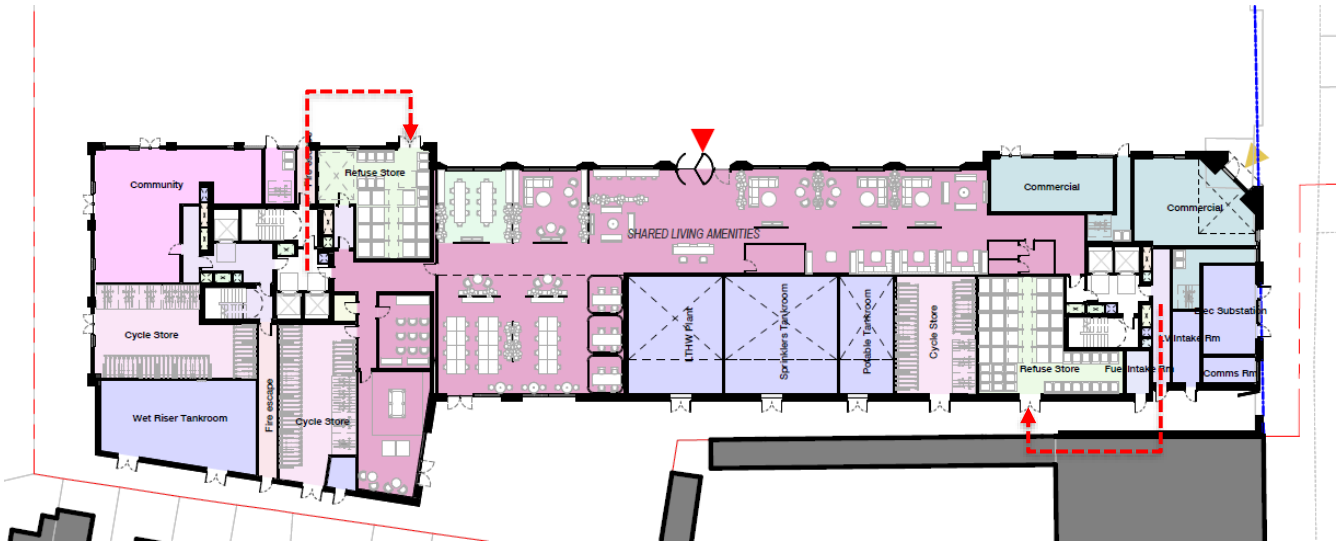


Figure 4.3– Proposed Ground Floor Layout for Block B with Refuse Stores Highlighted in Red.

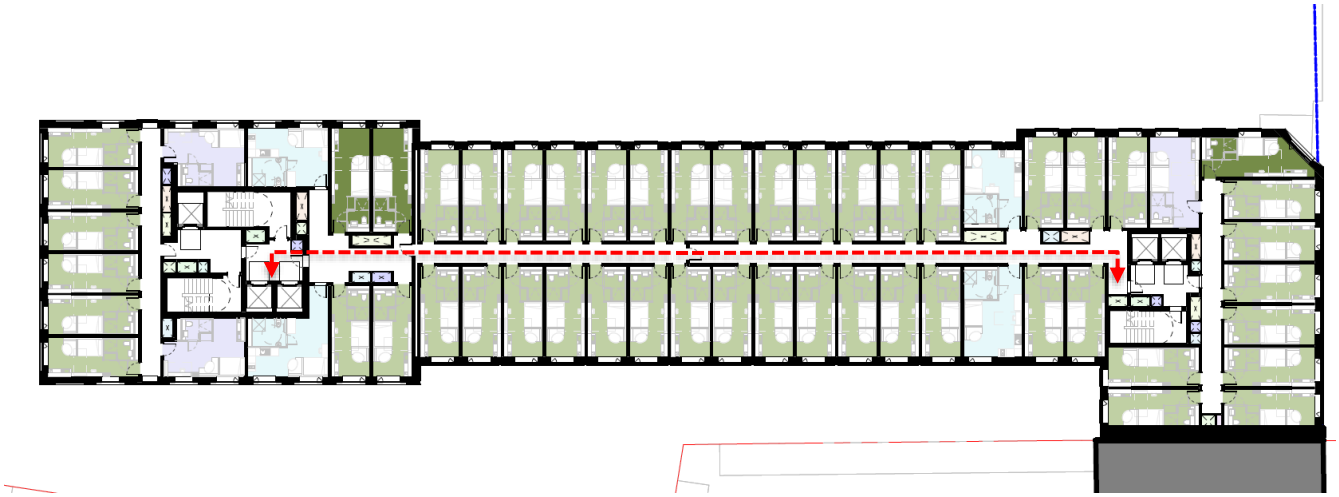


Figure 4.4: Route to refuse store for furthest top floor resident (red)

4.1.20 Block B provides four passenger lifts that run between all residential floors.

4.1.21 Building Management would supervise the use of the bin store and ensure that all times the front facing bins have capacity whilst moving full bins to the rear. On the evening before or day of collection, Management would transfer bins from the waste store around the north (right) of the block and to the loading bay on Ashley Road.

4.1.22 The majority of shared-living rooms would be within 30m lateral internal distance of the waste store accessed using passenger lifts. A system would be in place for Building Management to aid residents that require support to transfer waste.

4.1.23 As all shared living rooms would be provided as furnished, bulky waste is not anticipated and any would be managed directly by Building Management.

Non-residential floorspace

4.1.24 The development would also provide 230 sqm of commercial space and 125.5 sqm of community space. The non-residential waste would be managed separately to the residential waste and the future tenants will organise appropriate private weekly waste collections as appropriate.

Durability and Resilience

4.1.25 The building will incorporate durability and protection measures to prevent damage to the walls, flooring and doors in all rooms used for waste storage. Measures include corridor protection rails, door kick plates and hard wearing and washable floor finishes within waste rooms and the service corridor. The bin storage areas would have a suitable floor finish which can be cleaned easily and the slope of the floor would be designed to enable it to drain properly and completely.

5.0 ACCESSIBILITY AND TRANSFER

5.1.1 Refuse storage areas are accessible to all building users including wheelchair users and can be accessed using passenger lifts running between all floors. Access is also available to building users from stairwells.

5.1.2 Loading bays are provided to the front of both Blocks A and B on Ashley Road. The Application is supported by a Delivery and Servicing Plan.

5.1.3 Refuse collection will be undertaken during out of peak hours to minimise the impact on the local highway network.

6.0 SUMMARY AND CONCLUSIONS

6.1.1 This OWMP has been produced by Tetra Tech for Re:Shape T Ltd for the redevelopment of Former Ashley House site, Ashley Road, Tottenham Hale, London Borough of Haringey, N17 9LZ.

6.1.2 This OWMP details the waste and refuse collection requirements and procedures associated with the Site and concludes the following:

- A total of 522 shared-living rooms and 87 social-rented units are proposed. All shared-living rooms are single-occupancy and are provided fully furnished. The development would also provide 230 sqm of commercial space and 125.5 sqm of community space.
- 41 x 1,100l Eurobins are provided for shared-living residents. Large bulky waste volumes are not expected to be generated as the shared-living units are provided as furnished. Building Management will supervise the refuse storage space and, where necessary, make arrangement for a second weekly collection by private waste contractor additional to the weekly local authority collection if required. No waste will be compacted. Although it is mentioned above that 44 1,100l Eurobins are required, as there is a provision of 34 240l bins as opposed to a requirement of 22 therefore it would be possible to swap out the number of bins and ensure there are enough bins.
- 24 x 1,100l Eurobins are provided for C3 affordable homes residents.
- The development targets a recycling weight of 65% by 2030 and includes a 50% reduction in food waste and associated packaging. Through periodic and routine monitoring, Building Management commits to meeting and exceeding Policy SI7 of the London Plan.
- All bin stores included in the proposal will be accessible by passenger lifts and running from all floors containing residential units.
- A Delivery and Servicing Plan is submitted separately with the planning application.
- For Block A providing the Social-Rented units, waste operatives would enter the waste stores directly and are not required to enter main communal areas. For Block B, Building Management would move bins the loading bay on Ashley Road for collection by LBH operatives.

carbon.
climate.
certified.

team@certified.uk

www.certified.uk