Temple Group Ltd

Bishopsgate Goodsyard - Sclater Street
Circular Economy Statement
March 2024

BISHOPSGATE GOODSYARD
SCLATER STREET
CIRCULAR ECONOMY STATEMENT

temple

Prepared for:

Bishopsgate Goodsyard Regeneration Limited
4th Floor 161 Marsh Wall
London E14 9SJ

Prepared by:

Maja Radivojevic
Consultant
The Clove Building
4 Maguire Street
London
SE1 2NQ

www.templegroup.co.uk

Document Control

Version No.	Date	Authors	Reviewed	Approved
1.0	06/03/2024	Maja Radivojevic	Charlie Irwin	James Sanders

Contents

1. Executive Summary

This Circular Economy Statement (CES) has been produced to respond to the new London Plan (2021) Policy SI 7 and following the Greater London Authority's CES Guidance. It has also been produced in line with planning Condition 51 (LBTH, planning reference PA/14/02011)) which states:

"Each application for reserved matters shall be accompanied by a detailed Circular Economy Statement and Operational Waste Management Strategy in line with the GLA's Circular Economy Statement Guidance, which shall be submitted to and approved in writing by the Local Planning Authority. The statement shall adhere to the principles set out in the draft Circular Economy Statement. The development shall be carried out in accordance with the details so approved."

The CES supports the reserved matters application for the restoration and extension of the Mission Hall, Victorian Building, Weavers Cottages and Boundary Wall covering approximately 1,240 m^2 commercial, retail and residential space. The Proposed Development is located within the Bishopsgate Goodsyard Masterplan Site located to the north of the boundary wall on Sclater Street (the "Sclater Street Site") in the London Borough of Tower Hamlets.

1.1. Summary of the Approach, Key Commitments and Targets

The purpose of this Circular Economy Statement is to demonstrate that the Proposed Development has applied circular economy principles, in line with London Plan Policy SI 7. Following the nine pillars of the Circular Economy, Bishopsgate Goodsyard Regeneration Ltd (the Applicant) will:

- Ensure that material and resource use is minimised as far as possible. Focus has been given to minimising the quantities of materials and other resources used, as well as ensuring materials will be sourced responsibly during construction.
- Ensure the design is flexible, adaptable, designed for longevity, reuse and recovery and by designing out construction waste arisings.
- Manage construction and municipal waste to maximise recycling and reuse and minimise waste sent to landfill, in accordance with the waste hierarchy, managing as much waste as possible on site.

It is deemed feasible, and necessary in light of the buildings' status as non-designated heritage assets and their contribution towards the Brick Lane and Fournier Street Conservation Area, to retain a substantial part of the existing buidling fabric on site. The buidlings are currently derelict - by refurbishing the existing buildings, the operational efficiency of the building can be optimised. As demonstrated in this document, the Proposed Development has been designed for flexibility, adaptability and longevity. The unsympathetic extenstions on site will be dismantled and designed for reuse in its current form elsewhere.

A number of assumptions have needed to be made to support this assessment, for example the use of indicative construction and demolition waste figures based on a Bill of Materials. This is because a Site Waste Management Plan (SWMP) has not yet been developed for the Site.

The Applicant will continue to work with all key stakeholders on an overall sustainability vision for the development. Further workshops may be held to develop and investigate Circular Economy objectives with specific metrics (design team, contractor, suppliers, and facility managers).

At RIBA Stage 6, a Post-completion Report will be produced, setting out the predicted and actual performance against all numerical targets. Updated versions of the Recycling and Waste Reporting Form and Bill of Materials will be provided (alongside supporting evidence) and should any variation have occurred this will be identified and explained.

A pre-demolition audit has not been undertaken due to the lack of safe site access for the majority of the Site (specifically the Weavers Cottages and Victorian Building). Works are proposed to make safe the structures after which a more thorough audit of material quantities and suitability for retention and re-use. Material quantities and structural suitability has been assessed based on currently observable parts of the Site.

2. Introduction

2.1. Description of the Development

Temple has undertaken a Circular Economy Statement (CES) for the proposed restoration and extension of the Mission Hall, Victorian Building, Weavers Cottages and Boundary Wall on Sclater Street (the "Sclater Street Site"). Covering an area of approximately 1,240 m2, this site encompasses a mix of commercial, retail, and residential spaces. It is primarily situated within the larger Bishopsgate Goodsyard Masterplan Site, positioned to the north of the boundary wall on Sclater Street, entirely within the London Borough of Tower Hamlets (LBTH).

This site is part of the previously assessed Plot 5 of Bishopsgate Goodsyard ("the Proposed Development") sought in the reserved matters application (RMA) submitted to the Greater London Authority (GLA) as the determining authority on behalf of Bishopsgate Goodsyard Regeneration Limited ("the Applicant"). However, the remainder of Plot 5 will be subject to a separate reserved matters application at a later date.

The Sclater Street Site is bound to the north by Sclarer Street, to the east by a car park, to the west by the Bishopsgate Goodsyard boundary wall and pedestrianised space at the junction of Sclater Street and the A1209 Bethnal Green Road, and to the south by the rest of the Bishopsgate Goodsyard Site. It is currently occupied by three buildings:

- The Mission Hall (no. 64 Sclater Street) a single storey building built in the late 19th Century by the Christian Brethren, it is screened from Sclater Street by a 20th century brick wall;
- The Victorian Building (nos. 66-68 Sclater Street) is a four storey building from the late 19th Century, with a modern extension to the south and west; and
- The Weavers Cottages (nos 70-74 Sclater Street) are the last remaining of a row of early 18th Century terraced houses on Sclater Street used for silk production. These buildings are derelict due to previous fire damage.

The Site also includes a section of the Bishopsgate Goodsyard boundary wall. There are no current access points through the boundary wall on the Sclater Street Site. None of the buildings and structures on the Sclater Street Site are listed, however the Sclater Street Site is located within the Bethnal Green Road and Fournier Street Conservation Area. All buildings are currently vacant, with the Weavers Cottages in a poor state of repair such that the stabilisation and refurbishment set out in this reserved matters application are needed urgently to ensure that the fabric can be retained.

Figure 1 shows the wider geographical location of the Bishopsgate Goodsyard. **Figure 2** shows the location of the Site.

Figure 1: Site boundary for the wider Bishopsgate Goodsyard Site showing the approximate location of the Sclater Street Site, London Boroughs of Hackney & Tower of Hamlets, London

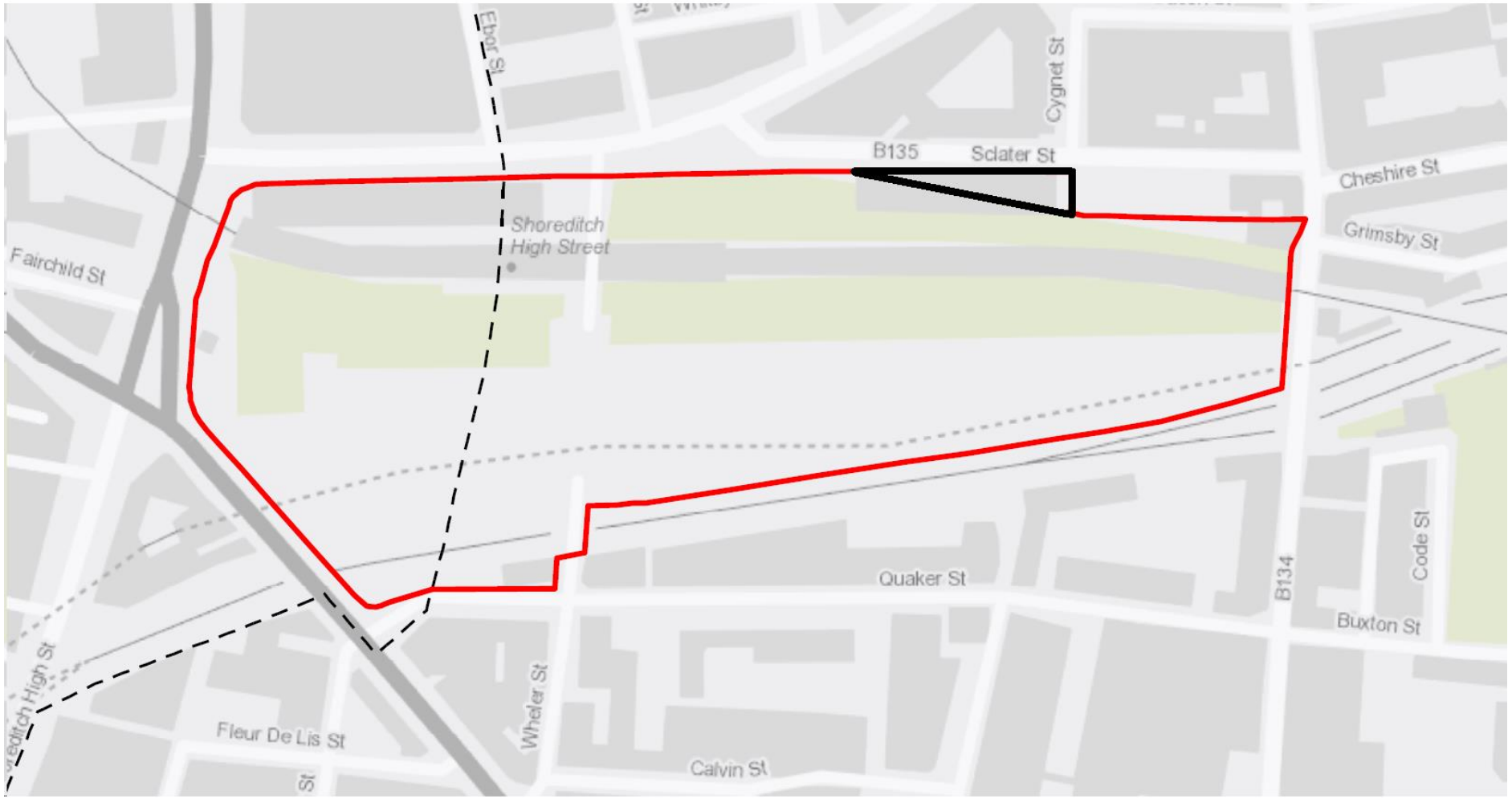
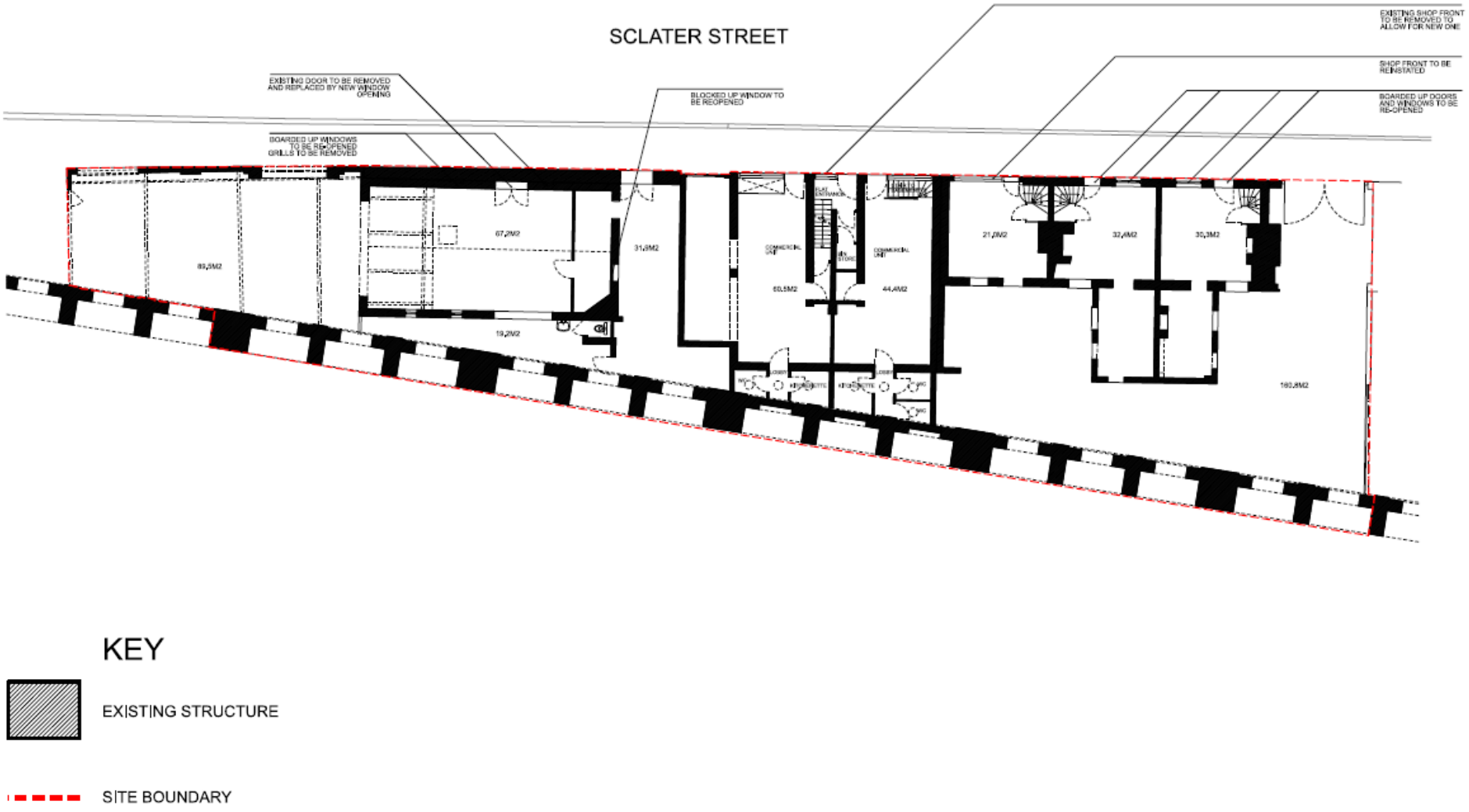


Figure 2 : Site Location and Existing Ground Floor Plan



This report is structured in accordance with the core guiding principles and commitments, as identified in the GLA's 'Circular Economy Statement: Guidance (pre-consultation draft)[1] and takes into consideration the London Plan 2021 Policy SI 7[2] to identify high level strategic opportunities early in the development process.

2.2. Method Statement

Table 1: Circular Economy Guiding Principles

Guiding Principle	Individual Circularity Principles/Commitments
To conserve resources, increase efficiency and source sustainably.	Minimise the quantities of materials used. Minimise the quantities of resources used. Specify and source materials and other resources responsibly and sustainably.
To design to eliminate waste (and for ease of maintenance).	Design for longevity, adaptability or flexibility and reusability or recoverability. Design out construction, excavation, demolition, and municipal waste arising.
To manage waste sustainably and at the highest value.	Manage demolition waste. Manage excavation waste Manage construction waste. Manage municipal waste (and industrial waste, if applicable).

Through the process undertaken so far various options available for implementing Circular Economy principles have been identified within the Proposed Development.

Table 2 Circular Economy Options for Sclater Street refurbishment

Option	Description	Feasibility Sclater Street Bishopsgate Goodsyard
Retain/ Refurbishment	Redeveloped for similar needs and uses but meeting or exceeding current regulations and standards through restoring, refinishing and future proofing while minimising	Partial retention of the external envelope of the building currently in situ has been prioritised due to its historical constraints, with the remaining part being refurbished,

[1] Mayor of London Circular Economy Statement Guidance Pre-Construction Draft

[2] Mayor of London, The London Plan March 2021. The Spatial Development Strategy for Greater London

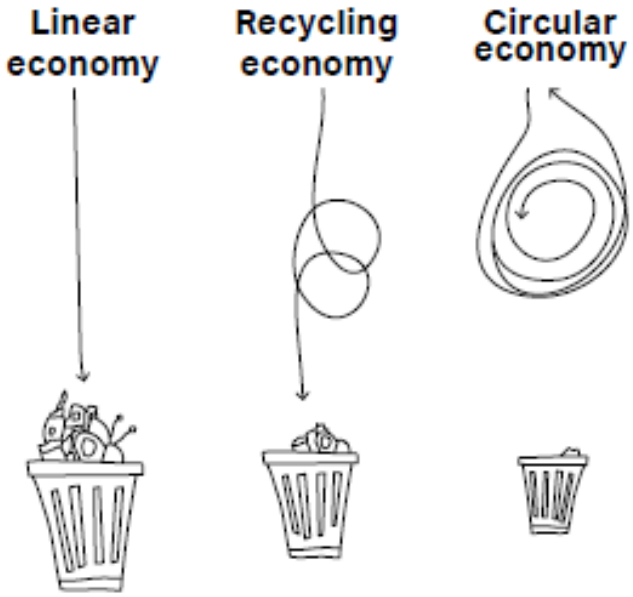
Option	Description	Feasibility Sclater Street Bishopsgate Goodsyard
	changes and avoiding replacement of any parts. Parts of historical significance are incorporated in the design and carefully preserved. Designed for longevity, adaptability, or flexibility to prolong the new life of the development.	extended and replaced. For example, timber structure and roofs will require replacement but most of the masonry walls can be retained.
Refit/Repurpose	Redeveloped to accommodate different needs and/or uses (e.g., from industrial use to mixed use) but exceeding current regulations and standards through with significant changes and replacement of shorter-life parts. Parts of historical significance are incorporated in the design and carefully preserved. Designed for longevity, adaptability, or flexibility to prolong the new life of the development.	Refurbishment and retention of the existing building was preferred to maintain the authenticity and historical character of the structure, aligning with preservation goals. However the building is currently vacant and the interior will be refit and repurposed for a mixed commercial and residential use, including removal of internal dividing walls. New extensions to the building are to be made to increase floorspace.
Deconstruct and Reuse (remanufacture)	Building/infrastructure disassembled, with the entire asset being reconstructed elsewhere, or individual components directly reused elsewhere.	Where building elements can be deconstructed, they will be reused for the refurbishment of the new buildings. For example, bricks could be reclaimed for for wall, and slate tiles for the roof.
Demolish, recycle and compost	Traditional demolition, with elements and materials converted into new elements and materials and objects for use on the site or on another site nearby.	Where materials cannot be deconstructed and reused, they will be demolished, recycled, and reused to minimise the amount of waste produced.

A detailed description of how the targets will be achieved are presented in the Strategic Approach Table (**Appendix B**), The Key Commitments Table (**Appendix C**), the Bill of Materials (**Appendix D**), and the Waste Metrics reporting form (**Appendix E**).

2.3. Circular Economy Aspirations

The Ellen MacArthur Foundation defines the circular economy as one that is "restorative and regenerative by design, and which aims to keep products, components and materials at their highest utility and value at all times, distinguishing between technical and biological cycles"[3].

Figure 3: Linear, Recycling and Circular Economies (GLA, 2019)



FROM TAKE • MAKE • USE • DISCARD TO RE-MAKE • USE-AGAIN

Diagram courtesy of Circular Flanders

Current and future trends point toward the need for a fundamental shift in the way resources are consumed. A shift to a circular economy will provide considerable economic opportunities as the Circular Economy stands in contrast to the current linear system, where materials are mined, manufactured, used, and thrown away (**Figure 3**). The 'Take, Make, Dispose' model, or 'linear' economy, has fuelled rapid growth but is inherently unsustainable in the long term where resources are finite. Widespread adoption of Circular Economy principles would dramatically reduce the quantity of new material imported into the city, and the amount of waste needing to be managed including that exported.

The aim of this CES is to support the creation of a building that is high quality, flexible and pays attention to its lifespan, through appropriate construction methods and the procurement of robust materials. This is achieved by improving resource efficiency and keeping products and materials at their highest value for as long as possible and promoting waste avoidance and minimisation, in line with the waste hierarchy.

[3] Ellen MacArthur Foundation

3. Circular Economy Commitments

This section provides a summary of the specific commitments by the Applicant which are either embodied within the design already or will be investigated during the remaining design stages.

Appendix C provides a description of how each of the nine principles of circularity (Table 1) has been or will be applicable to each of the building 'layers' as described in the GLA guidance and RICS New Rules of Measurement (2012):

- Site; Substructure; Superstructure; Shell/skin; Services; Space; Stuff; Construction stuff.

3.1. Commitment 1.1 – Minimise the Quantities of Materials Used

The Proposed Development will ensure that material is minimised as far as possible. This is achived through the use of reclaimed bricks for all external facing masonry (specifically London Stock and reds as needed) use of long-lasting materials like Accoya engineered timber for windows, and through a flexible internal design which allow for easy adaptation and help avoid use of new material. The selection of environmentally friendly roofing materials, adherence to a heritage-led approach, and selective reconstruction in historic areas further contribute to minimizing material usage while preserving the project's historical and environmental sustainability.

3.2. Commitment 1.2 – Minimise the Quantities of Resources Used

The Site is previously developed land which has permanent buildings on site, thereby its refurbisment makes the best use of the land resource avoiding the redevelopment of greenfield land.

With regards to building operation, services and appliances offer the greatest opportunity to reduce resource use. The proposed Energy Strategy[4] developed for wider development is used, and is in line with the GLA energy hierarchy, as outlined below:

Be Lean: Use Less Energy – Passive design measures will reduce the demand for energy within buildings, without consuming energy in the process. The Proposed Development will include passive solar heating to limit the need for space heating in winter and limiting summertime solar gains; mechanical ventilation and heat recovery units to reduce uncontrolled ventilation in winter periods; an air source heat pump led cooling system to reduce energy demands; and water efficient fixtures and fittings including WCs with low flush volumes and flow restrictors on wash hand basin taps as well as a cascade water source heat pump system to generate hot water. Measures will achieve a 14% reduction over baseline for the new build components and a 34.6% reduction over baseline for the refurbished components.

Be Clean: Supply Energy Efficiently – A District Heat Network will be delivered for the wider Bishopsgate Goodsyard Site, the Proposed Development looks to take advantage of a site-

[4] Bishopsgate Goodsyard, Sclater Street Energy Strategy 2024.

wide community heat network. The loop will connect all plots on the Bishopsgate Goodsyard site, allowing energy to be shared across the building, reducing the primary energy needed to meet the site-wide heating and cooling demands at any given time.

Be Green: Use Renewable Energy – High efficiency air source heat pumps are proposed to meet the thermal loads of the Proposed Development.

Be Seen: Monitor, verify, and report on energy performance – Effective metering will be enabled by the provision of suitable infrastructure within the building services systems. Furthermore, the Applicant is committed to monitoring and reporting sustainability performance and data every year. The Proposed Development will fall under the Applicant's energy and carbon monitoring and reporting regime, which includes both landlord and occupier usage and encourages engagement with occupiers to optimise operational performance.

In terms of carbon emissions, engagement with the design team has been undertaken to address the end-of-life strategy for the material. The aim of this is to identify and minimise the carbon emissions, in accordance with new London Plan Policy SI 2.

Fossil fuel consumption will be reduced (in the 'construction stuff' layer) by a number of aspects set out in the supporting Construction Logistics Plan but could include using alternatives to diesel / petrol powered equipment where possible.

Consideration will be given to offsite modular construction where possible to reduce construction programme and therefore associated resources.

Consideration will be given to conserve water during all project phases and will include measures such as[5]:

- Installing smart water meters and using water efficient goods.
- Prioritising design and construction materials with a lower water footprint (e.g., altering a manufacturing process to use less water or coatings that prevent water leakage).
- Rainwater collection and harvesting and Greywater recycling.
- Ensuring pipes and services are maintained regularly to prevent leaks.
- Preferentially source sustainable products and materials:

3.3. Commitment 1.3 - Specify and Source Materials and Other Resources Responsibly and Sustainably

Any new material specified in the Proposed Development will aim to be low impact materials with little or no adverse effect on either the environment or on human health throughout its lifecycle. Anticipated construction material quantities are shown in **Appendix D**. The Contractor will be required to source materials sustainably and procurement will be guided throughout the project and include the following:

[5] Water Efficiency - The Contribution of Construction Products. 2015

- Preference will be given to the use of local sources and suppliers whenever possible and commercially viable to reduce 'transport miles. For example, bricks will be sourced from brick farms in southern England, in order to minimise transportation-related environmental impact.
- 100 % of timber will be Forest Stewardship Council (FSC), Programme for the Endorsement of Forest Certification (PEFC) or Forest Law Enforcement, Governance and Trade (FLEGT). Certified.
- 100 % concrete will be BES 6001 certified (Responsible Sourcing of Construction Products) and Ground Granulated Blast-furnace Slag (GGBS) content will be optimised for its lower embodied carbon content.
- Where possible steel will be sourced from suppliers rated under the CARES Sustainable Constructional Steel Scheme.
- Where feasible other major construction materials will be certified under an Environmental Management System (EMS) such as ISO 14001.
- Chemicals on the Cradle-to-Cradle Red list will be eliminated from the materials inventory.
- Where available the Principal Contractor will obtain an inventory of all ingredients used within each product. Some example labels for material transparency include Health Product Declaration (HPD), Declare Label and Cradle to Cradle Material Health Certification.

The use of recycled content and secondary aggregates will be encouraged and given priority, reducing the demand for virgin material and optimising material efficiency in construction. The design has taken into account the reuse of reprocessed material from the site, e.g., recycled aggregates, timber, or masonry. As a minimum:

- Brickwork in the first instance will be reclaimed from Site – including from the demolition of the Mission Hall boundary wall and the rear wall of the Victorian Building. All additional necessary brickwork will be resourced from brick farms in southern England, which are most likely to have stocks of bricks which will match the existing.
- Handmade roof tiles will be made using weald clay which can be recycled at the end of it's life.
- Slates roof tiles can be reclaimed if practical and affordable, or if new can be salvaged and reused at the end of their life as a roof.

Commitments to recycled content are as follows:

- Engineered fill (up to 100% recycled content).
- Concrete (recycled aggregate content, cement replacement with Ground Granulated Blast-furnace Slag).
- Reinforced steel (up to 40 % recycled content).

- Blockwork and concrete paving (at least 50 % recycled content).
- Insulation (at least 50 % recycled content).
- Plasterboard (at least 95 % recycled content).
- Carpet tiles (at least 50 % recycled content).

3.4. Commitment 2.1 - Design for Longevity, Adaptability, Flexibility, Reuse and Recoverability

Over the course of the Proposed Development's lifespan, changes could be required because of evolving functional demands. The project will seek to avoid any unnecessary materials use, cost and disruption arising from any future works by designing for adaptability and flexibility.

In terms of longevity, the Proposed Development will be durable, resilient, and able to cope with societal and environmental change. It will require little modification or replacement of parts, due to its 'loose fit', proportions and readiness for alternative technologies. This will result in long-term operational cost and whole life carbon savings, as well as avoidable weathering and changes to climatic conditions over time.

To be adaptable, the Proposed Development will be designed to meet the needs of the present, but with consideration of how those needs might change in the future. Elements which are known to require replacement within the life of the building will be removable without undue waste or damage. Furthermore, MEP plant can be accessed and maintained from basement level to facilitate easy replacement and upgrades as necessary.

Flexibility will be achieved through the design of commercial spaces which will be designed as "white box" commercial space which can be adapted to suit an end user needs. In the Weavers Cottages all new spaces are open plan, so that they can be subdivided as and when needed. The retained historic rooms inside the cottages will be incorporated into design so that the whole building can be used flexibly. The ground floor particularly has 3 doors, so can be divided up into smaller units if needed.

Spaces will be designed without excessive finishes, avoiding excess waste during reconfigurations.

Climate change adaptation will be incorporated within the design, with durability and longevity in mind, to ensure the scheme allows for challenging climatic conditions. The basement will be waterproofed to allow for use as a commercial store area. Passive design strategies, the reduction in water usage, the fabric first approach to energy efficiency, retention and maintenance of landscaping and trees, and the ventilation strategy will enable the Proposed Development to cope with future climate scenarios, reflecting risks from high temperatures and high rainfall.

Reusing and/or recovery of any elements of the existing structure at the site is considered feasible and construction materials will be shared between sites. The Contractor will sign up to an industry approved measure, such as BRE's Smart Waste[6] to support this.

3.5. Commitment 2.2 - Design Out Construction, Demolition, and Municipal Waste Arisings

Standardisation and modularisation will be considered to enable the Applicant to design out the need for components or materials and to ensure that waste reduction is planned in from project inception to completion. Material dimensions will use standard design shapes and sizes to enable future reuse, e.g., minimal bespoke cutting of materials as this can make replacements difficult to obtain. The Applicant will work towards <5 % 'special' components across standardised and/or modular designs. If feasible, the Proposed Development will use products and services designed to be assembled, deconstructed, and reused or recycled on a part-by-part basis. This will have benefits like enabling easier future recovery, incorporation in new designs, and reuse, and will result in less waste in manufacture and construction.

Offsite fabrication and DfMA (Design for Manufacture and Assembly) approaches will be adopted where practical to improve efficiencies, reducing both carbon emissions and the creation of waste.

Packaging will be minimised through design and contractors will be obliged to make use of supplier take-back schemes.

At the end of life (given to be 60 years), the strategy has been, where practical, designed for repurpose and replacement of individual elements, based on their design life periods. The external metal cladding, designed in a panelised manner, facilitates disassembly at the end of the building's lifecycle, allowing for recycling. In contrast, the brick buildings, destined for future listing, are unlikely to undergo disassembly due to the preservation of their integral masonry walls. In pursuit of sustainability, all roof materials are naturally sourced, enabling breakdown for repurposing as aggregate. Additionally, the timber windows are easily adaptable for reuse or recycling.

This will be developed in more detail as the design progresses but could be done through planning future of disassembled materials through a contractual agreement, making information available via a material passport and apply Building Information Modelling (BIM) to understand future life and creating a materials inventory detailing all the building elements and their reuse/recycled potential.

3.6. Commitment 3.1 – Manage Construction Waste

In accordance with government targets, the demolition and construction contractor will be required to maximise the proportion of recyclable materials, including reclaimed

[6] https://www.bresmartsite.com/products/smartwaste/

aggregates from the demolition works. As part of this, the Proposed Development will aim to achieve a 95 % diversion from landfill rate for all construction waste.

All waste or other materials removed from the site will be in accordance with the requirements of the Environment Agency (EA), Control of Pollution Act 1974 (COPA), Environment Act 1995, Special Waste Regulations 1996 and the Duty of Care Regulations 2003. Where materials cannot be recycled or re-used on site, the Principal Contractor will identify opportunities for potential re-use of materials off-site. To reduce potential risks throughout the demolition and construction phases of the Proposed Development, the following measures will be implemented:

- All waste shall be stored in appropriate colour-coded containers or bays prior to consignment. Containers and bays shall be sufficiently allocated to maximise waste segregation wherever space allows.
- The containers/bays will be designed appropriately to prevent waste escaping. This includes any secondary containment to comply with the site requirements for pollution prevention.
- Burning of waste or unwanted materials will not be permitted on-site.
- All containers and bays will be clearly labelled with the waste contents. Labelling will include any specific handling instructions (e.g., hazardous labelling), shall include colour coding and will be sufficiently clear to minimise cross contamination of waste streams.

3.7. Commitment 3.2 – Manage Municipal Waste

Waste reduction during the operational phase has also been considered. Appropriate levels of waste storage will be provided within the residential dwellings and with the bin storage areas. Storage bins will facilitate the separation of refuse, recycling an food waste at source, to potentially lead to improved recycling rates.

Appropriate levels of waste storage will be provided within the commercial areas as well, with suitably sized waste storage area within tenanted space as part of their fitout. The individual commercial tenants will be responsible for managing their own wastes, for cleaning their waste storage areas and for appointing a suitably licenced commercial waste management contractor who will collect the bins directly from the waste storage area and will return them once they have been emptied.

High profile signage will be provided, where feasible, in communal waste storage facilities to encourage correct use of the recycling service. New residential occupants will be encouraged to reduce and prevent waste through good practice measures such as providing information packs about how the waste segregation and recycling scheme operates. The information will also include details on waste prevention schemes within the London Borough of Tower Hamlets.

4. End of Life Strategy

In line with Circular Economy Principles, an end-of-life strategy is important to prevent unintended waste creation upon deconstruction of the building. The below table makes reference to the building in layers principle, outlining the appropriate strategies which vary depending on the built element.

Table 3: Building Layers End of Life Strategy

Element	Building in layers principle	End of Life Strategy / Opportunity
Structure	Design for Deconstruction	Enable major structural components to be deconstructed at end of life without causing undue waste by enacting a design for disassembly plan. For example, elements such as brickwork with be designed with the intention of salvaging and reusing bricks in future projects.
Skin	Design for ease of refurbishment	The building is designed to be robust and expected to last. Notwithstanding, elements such as windows are expected to require replacement during the lifespan of the building. Design will allow for their repair and replacement without creating excessive waste. Windows will be designed to be removeable with minimal impact to surrounding materials and replaceable from the inside to avoid the need for extensive scaffolding. The external metal cladding is designed to be panelised, enabling disassembly at the end of the building's life for recycling. This panelized approach facilitates the refurbishment of cladding materials without extensive deconstruction.
Services	Design for long life, loose fit	Services will be designed to cater for present and future needs. Service replacements will be designed into the Proposed Development to avoid the creation of unnecessary waste.
Space	Design for flexibility & adaptability	Internal partitions shall be designed to be non-structural to allow internal reconfiguration of spaces.

Element	Building in layers principle	End of Life Strategy / Opportunity
Stuff	Design for service and sharing	Consideration will be given to partnership contracts with companies, incentivising longer lasting products and those that allow for reuse and refurbishment as occupants requirements change.
Site	Design for remediation, integrated infrastructure and longevity	The design elements considered for remediation involve potential reuse of existing structures and longevity is supported by the use of durable materials and a heritage lead approach to repair and reinstatement.

5. Conclusion

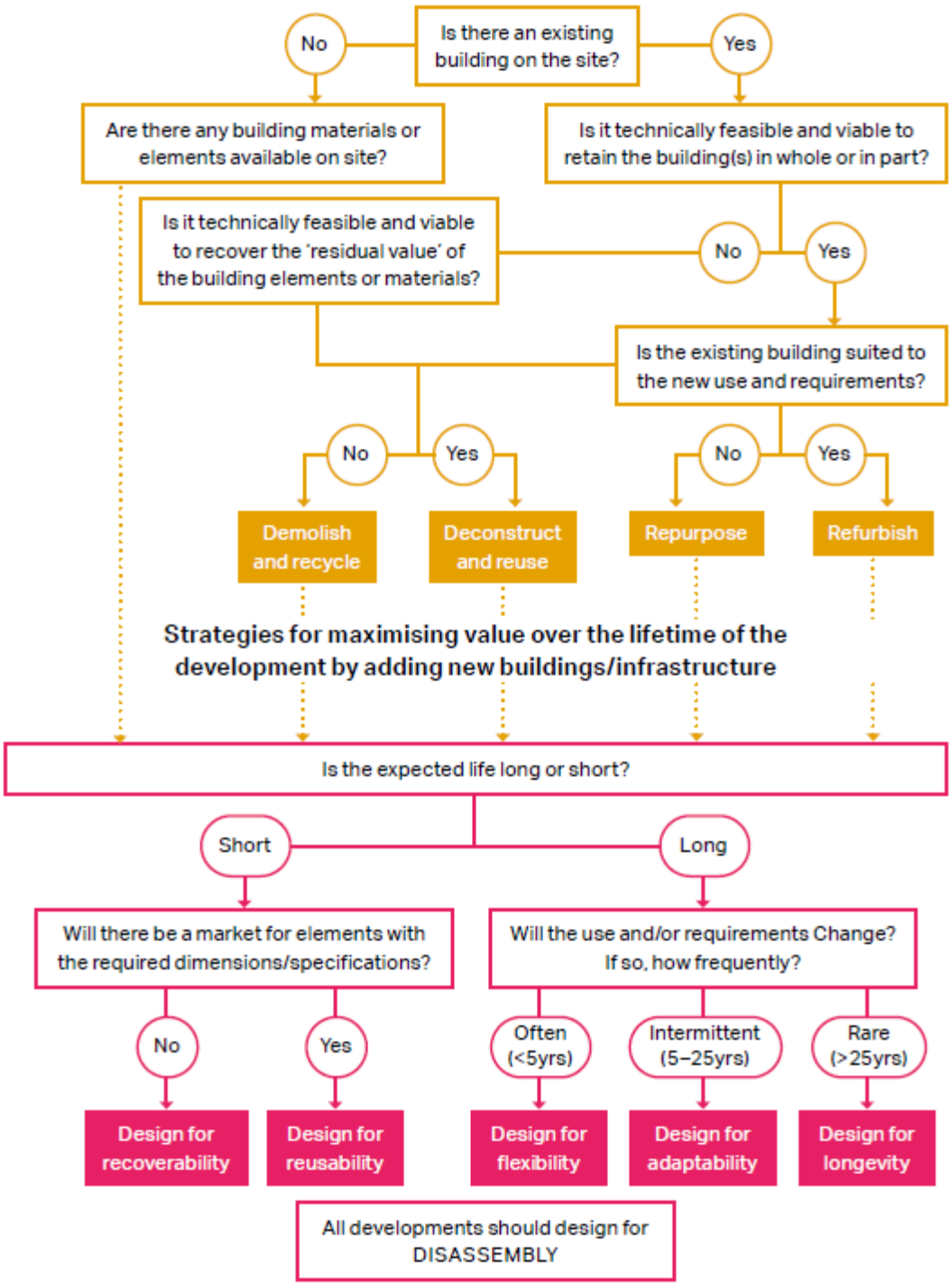
The purpose of this Circular Economy statement is to demonstrate that the Proposed refurbishment of Sclater Street Bishopsgate Goodsyard in the London Borough of Tower Hamlets has considered the circular economy principles to minimise embodied carbon, maximising the value extracted from materials and prioritising the reuse and recycling of materials.With regard to Circular Economy principals, the Applicant has demonstrated:

- How demand for materials will be minimised.
- How demand for quantities of resources will be reduced. Including, land, carbon dioxide, water, and energy.
- How materials and resources will be sourced sustainably considering low impact materials and recycled content.
- How the Proposed Development is designed for longevity, adaptability, flexibility, reuse and recoverability.
- How the Proposed Development will design out waste through, standardisation of components, building in layers, reuse of materials and through an end-of-life strategy (including design for disassembly).
- How demolition, construction and municipal waste will be reduced and handled at the Proposed Development in accordance with the waste hierarchy.

In addition:

- The Applicant will continue to work with all key stakeholders on an overall sustainability vision for the Proposed Development.
- The Applicant will minimise the embodied carbon of the project as demonstrated in the Whole Life Carbon Assessment, and;
- On completion, success against objectives will be reviewed and an analysis will be undertaken on lessons learnt (whole design team, contractor and relevant supply chains).

Appendix A Circular Economy Decision Tree



Mayor of London Circular Economy Statement Guidance

Appendix B Strategic Approach Template

Demonstrates the strategic approach to focus on conserving materials and resources, and to source materials responsibly.

Aspect	Phase / Building / Area	Steering Approach	Explanation	Target	Supporting Analysis / studies/ survey/ audits
Circular Economy Approach for the repair and restoration of the historic buildings	Whole Development	Sustainable Sourcing	Contractor to operate a Sustainable Procurement Plan. Materials to be sustainable sourced. Local suppliers to be preferred where possible to reduce material transport distances.	100% FSC/PEFC certified timber 100% concrete BES 6001 certified (Responsible Sourcing of Construction Products). Where possible steel to be sourced from suppliers rated under the CARES Sustainable Constructional Steel Scheme. Other materials to be certified under an Environmental Management System (EMS) such as ISO 14001.	Unavailable at time of writing report
		Manage Construction Waste	Contractor to record total construction waste generated and how this waste will be disposed of. Measures to be implemented to manage	95% diversion from landfill at end of life.	Unavailable at time of writing report

Aspect	Phase / Building / Area	Steering Approach	Explanation	Target	Supporting Analysis / studies/ survey/ audits
			and reduce construction waste.		
		Design for Durability	Durable, long-lasting materials will be utilised.	Durable external materials to be used to limit effects of environmental degradation. Measures to be implemented to protect finishes internally and externally.	Unavailable at time of writing report
		Optimise Material Use	Materials to be used efficiently to reduce wastage on site.		Unavailable at time of writing report
		Functional Adaptability	Design for adaptability and flexibility - to increase building lifespan.		Unavailable at time of writing report
		Reuse and recycling at end of life	Design for disassembly and deconstruction – to ensure materials are retained in a high value state.		Unavailable at time of writing report

Aspect	Phase / Building / Area	Steering Approach	Explanation	Target	Supporting Analysis / studies/ survey/ audits
Circular Economy Approach from Municipal waste during operation	Whole Development	Storage and segregation of operational waste	On-site bin store to accommodate sufficient storage for both recyclable and landfill waste.	95% diversion from landfill	Unavailable at time of writing report

Appendix C Key Commitments for the Proposed Development

As required by the GLA Guidance, this section demonstrates how each of the 9 circularity commitments (under the 3 core principles) have been considered in terms of the life cycles for each of the 8 building layers. The contents of this table has been completed as far as practical at this stage, and the key challenges to the assessment are identified. It is expected that this will evolve, be refined, and updated as the designs progress and new members join the project team. This table also highlights details (as far as can be specified now) as to who will be responsible for developing circularity measure and monitor the success to allow the post-construction stage of the CES to be completed.

Principle 1: Conserve resources, increase efficiency and source sustainably	
Minimise the quantities of materials used	
Site	Incorporate material on site where possible; will be informed by Structural report.
Sub-structure	-
Superstructure	Minimise the quantities of concrete. Lean design principles adopted. Material efficiency review at detailed design stage.
Shell/Skin	Lean design principles implemented for façade to reduce overall weight. Investigate opportunities for offsite modular construction. Use of reclaimed materials from site for brickwork and long-lasting materials for windows.
Services	TBC

Space	No speculative finishing of retails spaces if there isn't a known tenant, avoiding the risk unnecessary waste of materials. Involve known tenants in finishing decisions.
Stuff	No speculative finishing of retails spaces if there isn't a known tenant, avoiding the risk unnecessary waste of materials. Involve known tenants in finishing decisions.
Construction Stuff	Aspects to be set out in the SWMP, to be reviewed with contractor during preconstruction supply chain engagement.
Summary	Lean design principles adopted. Design out material use and ensure adaptability to reduce operational waste.
Challenges	Limited existing site materials available for reuse.
Counter Actions +Who + When	Ensure structural design is optimised. The Structural Report will help investigate how reuse of demolition material can be maximised. Preconstruction contractor engagement required to determine Modular construction opportunities.
Plan to prove and quality	Material efficiency review exercise.
Minimising the quantities of other resources used (energy, water, land)	

Site	Measures set out in Sustainability Statement. The New Build parts of the development are estimated to achieve a 58.4% reduction against the building Part L 2021 Target Emission Rate (TER), while refurbished parts are estimated to achieve 69% reduction, therefore meeting and exceeding the 35% reduction required by The London Plan.
Sub-structure	-
Superstructure	Use of material replacements such as GGBS to reduce energy demands.
Shell/Skin	Follow the Energy Hierarchy. Repetition of design may provide the opportunity to consider DfMA and modular design to reduce construction programme therefore associated resources (energy, water, etc).
Services	Achieve GLA Be Lean targets of 14% reduction for the new built part fo the building , and 34.6% for the refurbished part, against the notional gas boiler baseline for regulated emissions. This will ensure low operational energy demand of spaces. Exceed the GLA recommended 35% reduction against the notional gas boiler baseline for regulated emissions. Efficient air source heat pump network will ensure low thermal operational energy consumption. Installation of flow restrictors in bathroom appliances and dishwasher/washing machines with low water consumption. Meet water targets 105 l/p/d (litres/person/day) for residential and 10 l/p/d for non-residential buildings.
Space	TBC
Stuff	TBC

Construction Stuff	Contractor to implement Construction Environmental Management Plan (CEMP) to reduce use of energy and water during construction phase.
Summary	Consideration of offsite modular construction where possible. Measures to reduce energy and water consumption. Produce energy needs renewably onsite as far as possible.
Challenges	Maturity of the market /design solutions.
Counter Actions +Who + When	Preconstruction contractor engagement required to determine modular construction opportunities.
Plan to prove and quality	Energy and Water monitoring installed and measured.
Specifying and sourcing materials responsibility and sustainability	
Site	Sustainable procurement plan to be implemented across the development. Incorporate material on site where possible; will be informed by pre-construction Structural Report.

Sub-structure	-
Superstructure	Prioritise certified products / materials, i.e.: - EPDs - BES6001 - FSC - PEFC - CARES - ISO14001 Report on percentage materials with EPDs. Prioritise locally sourced materials where possible. Prioritised materials that can be reused at end of life.
Shell/Skin	Report on percentage materials with EPDs. Prioritise certified products / materials i.e.: - EPDs - BES6001 - FSC

	- PEFC - CARES - ISO14001 Recycled content of Concrete and Brickwork to be maximised as part of reducing Whole Life Carbon. Concrete GGBS content to be optimised.
Services	Report on percentage materials with EPDs. Maximise recycling opportunities of services, pipes and cables.
Space	Prioritise certified products /materials, i.e.: - EPDs - BES6001 - FSC - PEFC - CARES - ISO14001
Stuff	TBC
Construction Stuff	Create sustainable procurement plan and review with Contractor prior to commencement. To be reviewed with contractor during preconstruction supply chain engagement.

Summary	Sustainable procurement plan to be established across the development. Materials to be responsibly sourced, and locally sourced where possible. Structural elements to have recycled content or cement or replacement levels.
Challenges	Potential cost premium. Higher recycled content targets may limit supply chain. Structural constraints for higher GGBS content.
Counter Actions +Who + When	Ensure structural design is optimised (Structural engineer). Preconstruction supply chain engagement.
Plan to prove and quality	Report on percentage materials with Environmental Product Declarations (EPDs).
Principle 2: Design to eliminate waste (and for ease of maintenance)	
Designing for reusability / recoverability / longevity / adaptability / flexibility	
Site	-
Sub-structure	-
Superstructure	Non-load bearing internal partitions may be dismantled to accommodate the needs of the future tenants and adaptability without damaging the building structure. Materials specified for durability and longevity.

Shell/Skin	The following aspects have been considered: - Modular assembly - Off-site fabrication - Disassembly strategy - Standardised components Elements which are known to require replacement within the life of the building to be removable without undue waste or damage.
Services	MEP plant can be accessed and maintained from basement level. Elements which are known to require replacement within the life of the building to be removable without undue waste or damage.
Space	Design flexible commercial spaces with no excessive finishes. Adequate space for appropriate operational waste storage.
Stuff	Minimise the amount of appliances and furnishings, to enable new occupants the fit out.
Construction Stuff	Sustainable Procurement Plan to be developed and reviewed with contractor.
Summary	Design spaces for flexibility whilst enabling access to all elements that will need to be reused/replaced.
Challenges	Designing for longevity can be a compromise with recoverability.

Counter Actions +Who + When	Structural engineer, architect, contractor inputs during design finalisation and pre-construction contractor onboarding.
Plan to prove and quality	Construction and operational site waste management plan/strategy document.
Designing out construction demolition, excavation, industrial and municipal waste arising	
Site	- There will be no excavation waste on site
Sub-structure	-
Superstructure	The following have been considered as methods of reducing construction waste: - Modular construction - Off-site fabrication - DfMA approaches
Shell/Skin	The following have been considered as methods of reducing construction waste: - Modular construction - DfMA approaches - Off-site fabrication
Services	Consider supplier take back schemes.

Space	The following have been considered: - Minimising Packaging - Supplier take-back schemes - Provision of suitable construction and operational waste storage.
Stuff	Minimise provision of stuff prior to occupation.
Construction Stuff	Accurately forecasting the amount of materials needed, using larger pack sizes to reduce the amount of packaging per unit and by using cardboard packaging instead of plastic where possible.
Summary	Designing out waste through modular design, offsite fabrication and DFMA approaches. Site Waste Management Plan (SWMP) to be developed in order to identify all opportunities for waste reduction.
Challenges	Supplier takeback schemes still an immature market for certain materials in the UK.
Counter Actions +Who + When	Site Waste Management Plan (SWMP) prepared by the contractor, identifying the types and quantities of waste produced during every stage of the project, as well as opportunities to reduce, reuse and recycle construction process waste.
Plan to prove and quality	Review procurement plan with contractor during preconstruction supply chain engagement.

Principle 3: Manage waste sustainably and at the highest value	
Excavation waste (how waste from excavation will be managed)	
Site	-
Sub-structure	-
Superstructure	-
Shell/Skin	-
Services	-
Space	-
Stuff	-
Construction Stuff	-
Summary	There will be no excavation waste on site
Challenges	-

Counter Actions +Who + When	-.
Plan to prove and quality	-
Construction waste (how waste arising from construction of the layers will be reused or recycled)	
Site	Aim to achieve 95% diversion from landfill.
Sub-structure	-
Superstructure	Aim to achieve 95% diversion from landfill.
Shell/Skin	Aim to achieve 95% diversion from landfill.
Services	Aim to achieve 95% diversion from landfill.
Space	Aim to achieve 95% diversion from landfill.
Stuff	Guidance and targets to be included in fit-out guidance to be drafted.
Construction Stuff	Review with contractor during pre-construction, supply chain engagement.

Summary	Overarching project targets of 95% diversion from landfill of non-hazardous construction waste.
Challenges	Dealing with the most challenging waste streams commonly sent to landfill.
Counter Actions +Who + When	Site Waste Management Plan (SWMP) prepared by the contractor, identifying the types and quantities of waste produced during every stage of the project, as well as opportunities to reduce, reuse and recycle construction process waste.
Plan to prove and quality	Final site waste management plan data as used for BREEAM assessment.
Municipal and Industrial waste (how the design will support operational waste management)	
Site	Refuse storage planned in conjunction with site waste management strategy.
Sub-structure	Suitable refuse storage provided to enable segregation and storage of waste.
Superstructure	-
Shell/Skin	-
Services	-
Space	-

Stuff	Provide space for segregation of recyclables and bulk items to allow for collection for recycling.
Construction Stuff	-
Summary	Appropriate refuse storage to enable recycling and best practise waste management.
Challenges	Limitations in segregated waste collected by the local authority.
Counter Actions +Who + When	-
Plan to prove and quality	-

Appendix D Bill of Materials Template

The Bill of Materials contains an estimate of the quantity of materials used in each 'layer' of the building (kg), the material intensity (kg/m2 GIA) and set targets for the minimum amount of recycled content to be used (% by value). This includes:

Building weight calculation (load take-down) to be used in calculating material intensity.

Reused or recycled content calculations, including supporting details such as Environmental Product Declarations (EPDs), specification documents, etc.

Layer and Building element category		Material type	Material quantity (kg)	Recycled content (% by value)	Reused content (% by value)	Estimated reusable materials (kg)	Estimated recyclable materials (kg)
0.1	**Demolition: Toxic/Hazardous/Contaminated Material Treatment**						
0.2	**Major Demolition Works**						
0.3	**Temporary Support to Adjacent Structures**						
0.4	**Specialist Ground Works**						
1	**Substructure**						
2.1	**Superstructure: Frame**						
2.2	**Superstructure: Upper Floors**	Timber floor boards	538,200 kg				
2.3	**Superstructure: Roof**	Timber roof structure	145,000 kg				
		Slate tiling					
		Clay tiles	5,800 kg				
		Corten steel					
2.4	**Superstructure: Stairs and Ramps**	Timber stairs					
2.5	**Superstructure: External Walls**	Corten steel					
		Glazing	50,000 kg				
2.6	**Superstructure: Windows and External Doors**	Timber shopfront	32,400 kg				
		Timber doors					
		Timber sash windows	15,000 kg				
		Timber windows					
		Timber sliding doors					
		Crittal metal windows					
		Metal balustrade	176,000 kg				
2.7	**Superstructure: Internal Walls and Partitions**	Linings to external Walls					
		Internal partitions within apartments					
		Internal partitions generally (note - priced on £/m2 GIA basis)					
2.8	**Superstructure: Internal Doors**	Timber doors generally (not priced on £/m2 GIA basis)					
		Timber doors to apartments					
3	**Finishes**	Wall tiling within apartments					
		Unspecified floor finish generally					
		Timber floor to apartments					
		Ceramic tiling to apartments					
		Carpet to apartments					
		Unspecified floor finish					
		Plasterboard finish within apartments					
4	**Fittings, furnishings & equipment (FFE)**	Built in wardrobes					
		Shower Screens					
		Bathroom cabinets					
		Vanity units					
		Kitchens including worktops and appliances					
5	**Services (MEP)**	Passenger lift					
6	**Prefabricated Buildings and Building Units**						
7	**Work to Existing Building**						
8	**External works**						
		General allowance for structural repairs and support to external façade extent unknown at this stage					
		Existing chimney breast to be tidied up					
		Basement					
		Existing stairs to be removed					
		Ground Floor					
		Existing shopfront to be removed.					
		Shopfront to be reinstated					
		Boarded up windows to be re-opened					
		Existing side extension to be demolished					
		Existing gate to be removed and replaced by new corten design					
		Back wall to be demolished to allow for new rear extension					
		Existing outriggers to be demolished					
		Rear extension to be demolished					
		Brick infills to be removed on sclater street wall					
		First Floor					
		Existing extension to be demolished					
		Existing windows to be replaced					
		Boarded up windows to be re-opened					
		Existing wall to be demolished to allow for new rear extension					
		Existing outriggers to be demolished					
		Existing stairs to be removed					
		Rear façade to be demolished					
		Second Floor					
		Existing extension to be demolished					
		Existing windows to be replaced					
		Boarded up windows to be re-opened					
		Existing wall to be demolished to allow for new rear extension					
		Existing outriggers to be demolished					
		Existing stairs to be removed					
		Rear façade to be demolished					
		Third Floor					

		Existing extension to be demolished					
		Existing windows to be replaced					
		Existing outriggers to be demolished					
		Stairs to be removed					
		Rear facade to be demolished					
		Roof Floor					
		New openings to allow for new rooflights					
		Roof coverings removed.					
		Provisional allowance for repairs to roof structure					
		New party wall repaired and made good					
		Masonry Cleaning					
		Graffiti removal to areas similar to image 1364 using a two-part chemical process					
		Clean to external facades similar to image 1370 & 1375 using a combination of superheated medium pressure, low pressure air abrasive systems and a two-part chemical process					
		Masonry Repointing					
		Allow to rake out loose and/or defective pointing to stock brickwork and repoint with a suitable lime based mortar: to walls					
		Allow to cut out poor historic mortars/cementitious mortars and repoint with a suitable lime based mortar: to walls					
		Allow to rake out loose and/or defective pointing to stonework and repoint with a suitable lime based mortar					
		Mission Chapel					
		General allowance for structural repairs and support to external façade extent unknown at this stage					
		Existing door to be removed and replaced by new window opening					
		Boarded up windows to be re-opened grills to be removed					
		Non original side extension to be demolished					
		Twentieth century wall to be removed					
		Existing mezzanine to be removed					
		Boarded up windows to be re-opened grills to be removed					
		Existing front door to be removed and replaced by new window to match existing					
		Blocked up window to be reopened and opening extended to match existing					
		Brickwork to existing slcater street wall to be removed					
		Roof structure to be removed					
		Inner, recessed arch to be demolished					
		Nib to be demolished					
		Blocked opening to be re-opened and extended to allow for new window					
		Masonry Cleaning					
		Graffiti removal to areas similar to image 1364 using a two-part chemical process					
		Clean to external facades similar to image 1370 & 1375 using a combination of superheated medium pressure, low pressure air abrasive systems and a two-part chemical process					
		Masonry Repointing					
		Allow to rake out loose and/or defective pointing to stock brickwork and repoint with a suitable lime based mortar: to walls					
		Allow to cut out poor historic mortars/cementitious mortars and repoint with a suitable lime based mortar: to walls					
		Allow to rake out loose and/or defective pointing to stonework and repoint with a suitable lime based mortar					

Appendix E Recycling and Waste Reporting Form

This section reports the estimates of total amount of waste and material generated during demolition, and management methods construction. For the post-construction stage CES, the Principal Contractor will update the form with actual monitored figures.The following evidence is required to complete the Waste Metrics Form:

- Reused or recycled content calculations, including supporting details such as Environmental Product Declarations, specification documents, etc.
- Relevant extracts from the Site Waste / Resource Management Plan.
- Relevant extracts from the Municipal / Operational Waste Management Plan.

In addition, when it is intended to send waste to landfill applicants **must** provide written confirmation the receiving landfill has the capacity to deal with waste over the lifetime of the development. Where possible, confirmation should be provided for all waste handling facilities, in or outside London[7]. This should be supported by the calculations / estimates of waste arising. Figures must align with the Waste Metrics form.

Category	Total Estimate	Of which…				Source of Information
	t/m ^{2} Gross Internal Area (GIA)	% Reused or recycled onsite	% Reused or recycled offsite	% Not reused or recycled 5% max		
				% To landfill	% To other management	
Excavation waste	0	N/A	N/A	N/A		No excavation waste on site

[10] The UK Department for Environment, Food & Rural Affairs Waste Duty of Care Code of Practice (2018) states: 'You have a responsibility to take all reasonable steps to ensure that when you transfer waste to another waste holder that the waste is managed correctly throughout its complete journey to disposal or recovery.'

Category	Total Estimate	Of which…				Source of Information
	t/m ^{2} Gross Internal Area (GIA)	% Reused or recycled onsite	% Reused or recycled offsite	% Not reused or recycled 5% max		
				% To landfill	% To other management	
Demolition Waste	0.28	100	0	0		Bill of Materials
Construction Waste	0.01			100		Bill of Materials
				5	95	
	t/annum	% Reused on or off site	% Recycled or composted on or off site	% Not reused or recycled		
				% To landfill	% To other management (e.g. incineration)	
Municipal waste	379	TBC	TBC	Max. 35%		Operational Waste Management Plan. 65% diversion from landfill rate commitment.

Category	Total Estimate	Of which…				Source of Information
Industrial waste (if applicable)	N/A	N/A	N/A	N/A		N/A

Appendix F Policy and Regulations

This section highlights the policies and regulations which are relevant to the Proposed Development.

Legislation: Climate Change Act 2008[8]

The UK government amended the **Climate Change Act 2008** in June 2019 to target net zero carbon emissions by 2050. The target requires the UK to bring all greenhouse gas emissions to net zero by 2050, compared with the previous target of at least 80% reduction from 1990 levels. Additionally, any emissions must be balanced by schemes to offset an equivalent amount of greenhouse gases from the atmosphere.

National Policy: (NPPF)[9]

The revised **NPPF** sets out the Government's planning policies for England and provides a framework for achieving sustainable development. This can be summarised as "*meeting the needs of the present without compromising the ability of future generations to meet their own needs*" and supports sustainable development.

Regional Policy: The London Plan March 2021[10]

The London Plan defines a Circular Economy as "One where materials are retained in use at their highest value for as long as possible and are then reused or recycled, leaving a minimum of residual waste"

Policy SI 7 Reducing Waste and supporting the circular economy states

"A - Resource conservation, waste reduction, increases in material re-use and recycling, and reductions in waste going for disposal will be achieved by the mayor, waste planning authorities and industry working in collaboration to:

promote a more circular economy that improves resource efficiency and innovation to keep products and materials at their highest use for as long as possible.

encourage waste minimisation and waste prevention through the reuse of materials and using fewer resources in the production and distribution of products.

ensure that there is zero biodegradable or recyclable waste to landfill by 2026.

meet or exceed the municipal waste recycling target of 65 per cent by 2030.

meet or exceed the targets for each of the following waste and material streams:

a) construction and demolition – 95 per cent reuse/recycling/recovery

b) excavation – 95 per cent beneficial use.

---

[8] Climate Change Act 2008

[9] Ministry of Housing, Communities & Local Government – National Planning Policy Framework February 2019

[10] The London Plan 2021 Policy SI7 'Reducing waste and supporting the Circular Economy'

design developments with adequate, flexible, and easily accessible storage space and collection systems that support, as a minimum, the separate collection of dry recyclables (at least card, paper, mixed plastics, metals, glass) and food.

Tower Hamlets Local Plan 2031[11]

The Hackney local Plan 2031 was adopted in January 2020. The following policies are considered relevant to this Circular Economy Statement:

Policy S.MW1: Managing our waste expects developments to seek to maximise the efficiency and/or capacity of waste facilities in the borough in order to be supported.

Policy D. MW3: Waste Collection facilities in new development requires new development to include sufficient accessible space to separate and store dry recyclables, organics and residual waste for collection, both within individual units and for the building as a whole. Major residential developments must incorporate high quality on site waste collection systems that do not include traditional methods of storage and collection.

Tower Hamlets Draft Waste Management Strategy[12]

The London Borough of Tower Hamlets Draft Waste Management Strategy sets out how the Borough will approach waste management up to 2030 and help residents, businesses and visitors reduce the amount of waste sent to disposal. The aim is to prevent waste arising in the first place, but when it does, there is a large focus on recycling, composting, and reusing as much as possible. The following objectives from this strategy are considered relevant to this Circular Economy Statement.

RICS Whole Life Carbon Assessment for the Built Environment[13]

The RICS professional statement underpins the British Standard EN 15978, "providing a consistent whole life carbon assessment implementation plan and reporting structure for built projects and promoting the reliability of whole life carbon assessments by acting as a solid reference for the industry. This professional statement is intended to standardise whole life carbon assessment and enhance consistency in outputs, by:

Providing specific practical guidance for the interpretation and implementation of the methodology in EN 15978 in carbon calculations. This is to achieve coherent and comparable results that can be used to benchmark the whole life carbon performance of built assets. The specific objectives of this professional statement are to:

provide a consistent and transparent whole life carbon assessment implementation plan and reporting structure for built projects in line with EN 15978

---

[11] Tower Hamlets Local Plan. Link: https://www.towerhamlets.gov.uk/Documents/Planning-and-building-control/Strategic-Planning/Local Plan/TH_Local_Plan_2031_accessibility_checked.pdf

[12] https://democracy.towerhamlets.gov.uk/mgConvert2PDF.aspx?ID=128934

[13] Royal Institute of Chartered Surveyors (RICS) Whole Life Carbon Assessment for the Built Environment, 1st edition whole-life-carbon-assessment-for-the-built-environment-1st-edition-rics.pdf

enable coherence in the outputs of whole life carbon assessments to improve the comparability and usability of results

make whole life carbon assessments more 'mainstream' by enhancing their accessibility and therefore encourage greater engagement and uptake by the built environment sector

increase the reliability of whole life carbon assessment by providing a solid source of reference for the industry

promote long-term thinking past project practical completion, concerning the maintenance, durability and adaptability of building components and the project as a whole; and

promote circular economic principles by encouraging future repurposing of building components, as well as of the project as a whole, through quantify."

As a minimum, RICS requires the WLCA to be carried out before the commencement of the technical design (RIBA Stage 4 or equivalent) of the project".

temple

CREATING SUSTAINABLE FUTURES

London
3rd floor
The Clove Building
4 Maguire Street
London
SE1 2NQ

+44 (0)20 7394 3700
enquiries@templegroup.co.uk
templegroup.co.uk