

Hermes responsible development and refurbishment guide

January 2018

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Version History

Version	Date	Comment
2.0	Sept 2015	Complete new version
2.1	June 2017	Updates: <ul style="list-style-type: none"> - Change to process monitoring - Update to text for improved clarification - Standard number referencing system
2.1.1	August 2017	Minor update with amendments from workshops
2.1.2	January 2018	Process update – RPD plans to be uploaded to Meridian not emailed

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1. Introduction

Hermes aims to ensure that our development and refurbishment programme delivers an appropriate level of quality in design, flexibility and sustainability. During preparation of the Client Brief, Consultants' Design Proposals and Contractors' Design Proposals (if applicable), particular emphasis should be placed on the consideration of sustainability issues.

The overarching objective of each development and refurbishment project is to create enhanced investment returns. At Hermes, we believe that sustainable buildings contribute to delivering long-term returns through positive impact on real estate fundamentals including client demand, void lengths, obsolescence, the rate of depreciation, operational costs and liquidity. Through our Responsible Property Investment principles and programme, we aim to capture all of the environmental improvements and opportunities in the investment lifecycle of an asset. Future maintenance and management requirements are an important aspect of design that can have a positive or adverse effect on future investment value. The development and refurbishment phases are therefore crucial stages in an asset's lifecycle where such opportunities can and should be realised.

This guide applies to all developments and refurbishments over the set threshold and is reviewed on an annual basis, as ownership structures apply. The work should deliver Hermes sustainability requirements whilst balancing practical and economic considerations to ensure the best possible development or refurbishment within the parameters of cost, value and investment return. The feasibility of implementing the sustainability requirements will also be influenced by constraints of the site, the scope of the works, physical characteristics of retained buildings and the requirements of the design, the latter particularly if there is a pre-let tenant(s).

This document is designed to inspire a conversation about how consultants and Hermes can develop long-term value in refurbishment projects and maintain that value through good management during the whole life cycle of the building.

2. How to use this guide

The Hermes Responsible Development & Refurbishment Guide (the Guide) is designed to help consultants understand how Hermes' Responsible Property Investment (RPI) programme affects refurbishment. The Client Brief, Consultants' Design Proposals, Contractors' Design Proposals must incorporate these sustainability requirements.

The Guide follows four stages in the development and refurbishment process – appointment, design, build, and commissioning stages. Each of these stages should be considered as a part of the design of the development and refurbishment work.

The Guide defines Hermes', core principles, and specific targets which should be considered and guide the work during each stage of this process.

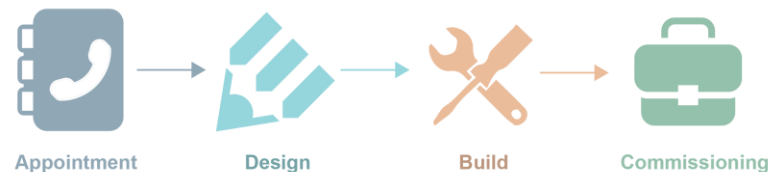
- **Core principles:** key concepts which should influence and affect the project
- **Targets:** mandatory considerations and documentation

The Guide assists consultants to understand the various aspects of sustainable development where Hermes expect its developments and refurbishment to adhere its core principles and targets. The following aspects of the project should be reviewed in the preparation of the project documents.

Hermes is committed to observing the BREEAM certification process and the Guide is designed to complement and not replace the BREEAM methodology, therefore the aspects follow the BREEAM methodology:

- Management
- Social
- Building Quality
- Health and Wellbeing
- Energy
- Transport
- Water
- Materials
- Waste
- Bio-Diversity
- Pollution
- Land use and Ecology

For each aspect, the design team should develop an Action Plan assessing the impacts and establishing the most appropriate solutions to address them for each project. The plans should include the data that is to be collected and reported as a part of any refurbishment. If certain targets cannot be satisfied in a given project due to the physical constraint of the assets, the scope of the work or cost effectiveness, an explanation of why the requirement cannot be met should be provided.



3. Process

The project development and refurbishment team should agree on the scope of the sustainability requirements for each project with Hermes, in particular where there is an exclusion to the requirements. The obligation to generate the “Action Plans” (see Section 5: Action Plans) should form part of the Initial Brief to the Architect as Design Team leader and written into the Architect’s Appointments and the BREEAM Assessor’s appointment where relevant. The final scope of the sustainability requirements and targets are to be agreed in the initial appointment process before the design stage begins and should form part of the Draft and final Design Briefs. The Brief can be appended to the Appointments.

The Project Management team has a responsibility to determine who is responsible for completing each stage and requirement of the Guide.

The requirements each have a documentation element which should be provided as the corresponding stage of the development and refurbishment process completes. These should be provided to Hermes responsible project manager and shared with Carbon Credentials to manage on behalf of the Head of Responsible Property Investment at Hermes.

There is a complimentary action plan spreadsheet to accompany this document.

Action Plans and other RPD documentation should be uploaded to Meridian Project Management System.

How this will be monitored

The Guide should be reviewed at each of the Stages set out in Royal Institute of British Architects (RIBA) Plan of Work. At the end of each Stage, a Report is prepared and the Review of the Requirements of the Guide should be incorporated into this Report. As each section is completed, a meeting should be organised where progress should be presented and the relevant documentation should be provided to Hermes project manager and the Head of Responsible Property Investment for review.

Carbon Credentials Energy Services has been supporting Hermes on RPI and RPM strategy for several years and will be overseeing the monitoring of this process. As noted in Hermes' Responsible Development and Refurbishment Workflow on page 10 of this document, Carbon Credentials is to be sent the current list of Action Plans at the end of RIBA Stages 4 and 5; essentially before and after construction.

Carbon Credentials will monitor the Responsible Development and Refurbishment process by drawing out all exceptions and variations on Hermes' requirements and summarising all the justifications for these. This review will make sure that any exceptions to Hermes' sustainable design programme are understood and that any questions over the implementation of the Responsible Development and Refurbishment process are clarified.

4. Hermes Responsible Development and Refurbishment Guide and BREEAM

Hermes are committed to the BREEAM certification process, where applicable, and believe this is a way to ensure building developments and refurbishments retain their lasting value and are future proof.

The requirements in the Guide are designed to complement and not replace the BREEAM methodology. The Guide reflects the standards that Hermes considers important in its refurbishments, developments and the RPI programme. The Guide should be used to understand and identify which areas of BREEAM are desired by Hermes. The requirements are to support areas of focus in the design and how BREEAM scoring should be optimised.

The Guide through the Action Plans defines the data that should be collected alongside the BREEAM process, and how this data should be handled and reported back to Hermes. The data collected through this process is fed into Hermes' RPI programme and is shared through the reporting process to Asset Managers and Fund Managers. The monitoring and aggregation of development data are also used for Hermes client reporting purpose.

In rare exceptions where the BREEAM certification process is not followed, this guide and the indicated Action Plans is still required to ensure that minimum standards of sustainability are integrated into the development or refurbishment process.

5. Action Plans

The Hermes Responsible Refurbishment Guidelines are designed to be flexible and adaptable to the varied requirements of refurbishments while ensuring that sustainability is considered in all aspects of the development and refurbishment work. The key to this is the use of Action Plans. The purpose of an individual Action Plan is to ensure that the design team considers and documents how the Responsible Refurbishment Requirements impact a given aspect of the project, without being overly prescriptive. The proposed Action Plans align to BREEAM aspects and requirements.

The timeline graphic on the next page shows how the action plans interact with BREEAM timescales and RIBA Plan to Work 2013 timescales. For most Action Plans, development of the plan will happen in the Design stage, and implementation of the plan will occur in the Build and Commissioning stages. Note that Action Plans are designed to be flexible and they might be developed over multiple stages in the development process.

Action Plans are to be developed and implemented during the various development phases and are a vital link between the design, development and management of an asset. With Action Plans we are better equipped to ensure that design intentions are maintained into the management of the asset, and where these intentions are not realised, we have a way of learning from the experience.

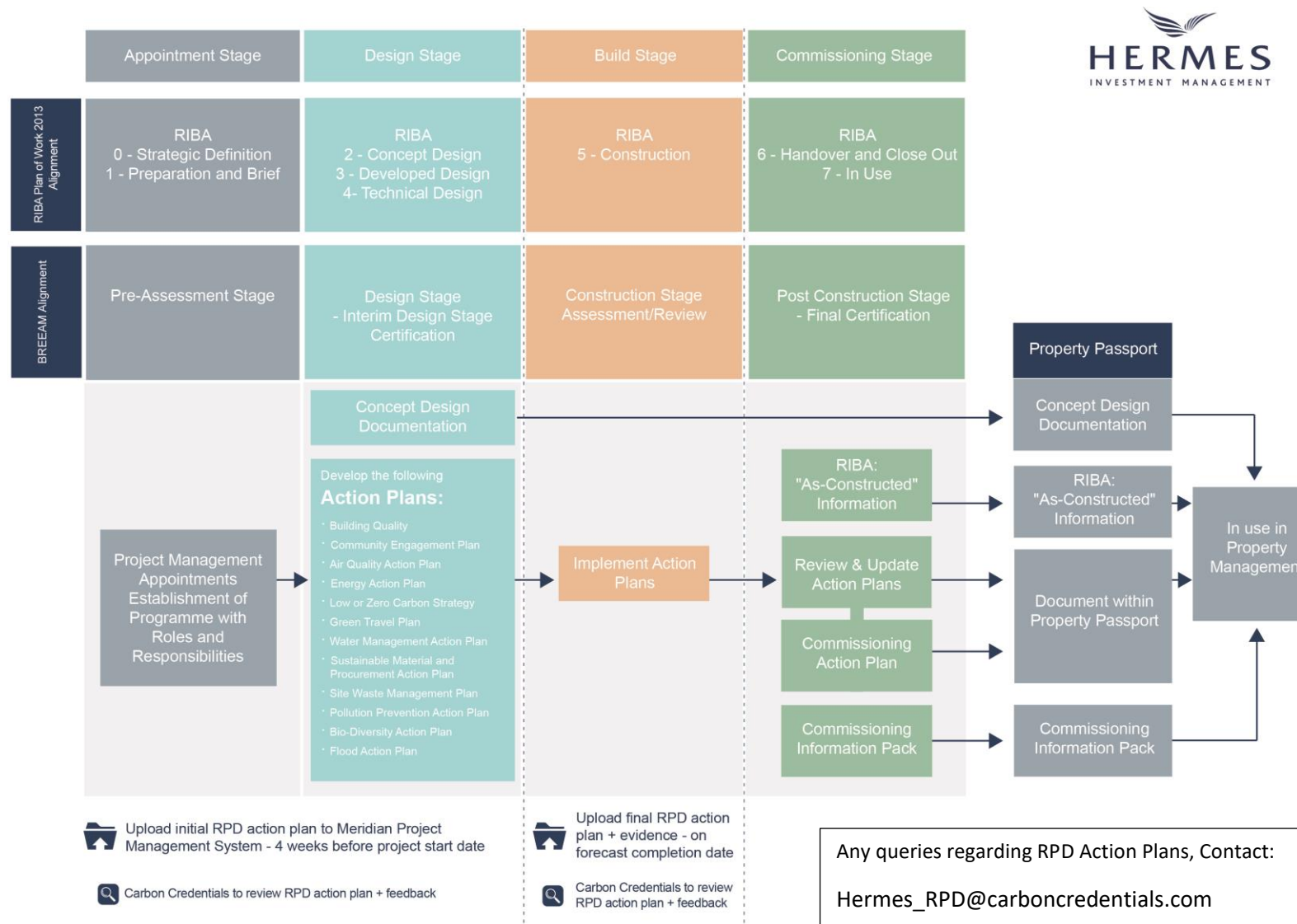
Action Plans are required for a variety of different aspects of the design and development of a refurbishment, and there are some basic components that each plan needs. These include:

- A description of the design or implementation strategy for the topic area
- Clearly delineated roles and responsibilities for key actions
- Specific commentary where this guide has noted requirements for the Action Plan.
- A description of how BREEAM credits are being targeted for the specific subject matter

Action Plans should be in a standard and transferable formats such as Word or Excel. They should be accompanied by any supporting documentation that is referenced in the Action Plan. They will constitute and remain within the Property Passport (see section 6 below) following completion of the development and refurbishment as a key part of the documentation of the building. It is noted that many of the deliverables required by the Action plan will be required by the local Authority Planning Department.

There is a complimentary action plan spreadsheet to accompany this document.

Hermes' Responsible Development and Refurbishment Workflow



Action Plan list:

	Action Plan ref	Other deliverables	BREEAM Assessment Documentation	Development	Implementation & Review
	Building Quality	Considerate Constructors Scheme documents			
	Community Engagement Plan			Design	Build Commissioning
	Air Quality Action Plan		HEA02, HEA03	Design	Build Commissioning
	Energy Action Plan	EPC inputs and Scenario testing outputs	ENE01	Design	Build Commissioning
	Low or Zero Carbon Strategy	Part L Benchmark Calculation	ENE04	Design	Build Commissioning
	Green Travel Plan		TR05, TR01	Design	Build Commissioning
	Water Management Action Plan		WAT04	Design	Build Commissioning
	Sustainable Material and Procurement Action Plan		MAT01, MAT03	Design	Build Commissioning
	Site Waste Management Plan		WST01	Design	Build Commissioning
	Pollution Prevention Action Plan		HEA06, LE01	Design	Build Commissioning
	Bio-Diversity Action Plan	Ecologists Assessment Report	LE02, LE03, LE04, LE05,	Design	Build Commissioning
	Flood Action Plan	Flood Risk Assessment	POL3	Design	Build Commissioning
	Commissioning Action Plan		MAN04, MAN05	Commissioning	
	Property Passport		MAN03	Commissioning	
	Environmental Management System		MAN03		

6. Property Passport

Upon handover of the asset to Hermes, the consultant should provide the required detailed technical documentation. The aim is to ensure every asset has a 'Property Passport' with all the technical information describing the building that would be necessary for future asset management. All the documentation will be recorded and used during asset management to ensure that the operations of this asset are aligned to the design and intention of the refurbishment.

The information comprising the Property Passport is also required to be set out in the Building Contract Documents and delivered by the Contractor or the Design Team. Some of the documents listed are more typically generated by the building's Facilities Manager e.g., the Asset Register.

Property passport should include as a minimum:

- **Building management documents**
- **Asset register**
- **Building user guide**
- **Operation and Maintenance manuals**
- **BREEAM certificate, file and underlying evidence**
- **EPC certificate, underlying data and evidence**
- **Building drawings**
- **Geotechnical surveys**
- **Asbestos register**
- **The Required Action Plans from the Responsible Refurbishment process**
- **Building Regulations Approval/Certification and any Warranties**

The Property Passport becomes a living document with information, data and documentation being added over time. For example, the final BREEAM rating is produced after hand-over – and should be included in the Property Passport by the managing agent within six months of completion.

All the Health and Safety documents should be collected and managed in line with Hermes Health & Safety best practice.

7. Core principles for responsible refurbishment

Responsible refurbishment can mean different things to different organisations and Hermes has a clear understanding of how contractors should interpret requirements on their behalf. These core principles should help the refurbishment project managers, designers and contractors understand what responsible refurbishment means to Hermes, and how the design and redevelopment of the asset should be carried out.


HERMES' CORE PRINCIPLES FOR REFURBISHMENTS		BREEAM REF
SOCIAL	Contribute to vibrant local community Hermes assets should have a positive impact on the local community. Where possible, refurbishments should: <ul style="list-style-type: none"> • Employ local labour • Support apprenticeships and helping people to work • Appreciate the social impact of developments and be sensitive to local noise pollution and traffic disturbances. 	N/A
	Design for Building Integrity The design should maintain the integrity of the building and its long term durability through the use of best available technology and resilient materials, and accommodate the ease of future replacement of failing components Best Practice: Refer to the BCO and BCSC Guidelines for building design	MAT05
BUILDING QUALITY	Design for Flexibility The design should maintain flexibility to: <ul style="list-style-type: none"> • Enable diversity of operational requirements • Be able to meet multiple occupancies and layouts • Allow for various working arrangements, hours of occupancy and duration • Encourage future proofing, including extensions to services and systems 	
	Design for Future Uses The design should consider ease of construction and demolition, to encourage future-proofing and flexibility for future refurbishments	MAT05
HEALTH AND WELL-BEING	Design for a Healthy Workplace The design should promote a healthy working environment, both when the building is operational and during construction activities	HE01 / HE02 / HE04/ HE05
	Design External Areas as Workspaces	

HERMES' CORE PRINCIPLES FOR REFURBISHMENTS		BREEAM REF
ENERGY	Where possible, the design should promote the use of external break-out meeting or leisure spaces	HE03
	Design for Sunlight The design should consider incorporating the facility for occupiers to control glare, such as space for the installation of blind boxes and consider the use of solar shading to reduce solar gain into the building	HE01
	Design for energy efficiency and low carbon buildings The design should use energy modelling to optimise for energy efficiency, including: <ul style="list-style-type: none"> • Design for efficient energy use and energy management • Limit heat loss through fabric design, thermal transmission and reduction in uncontrolled ventilation to exceed U-values required by Part L of the Building Regulations • Utilise energy efficient plant and mechanical and electrical systems • Maximise passive and active energy efficiency in the design • Optimise Energy Performance Certificate (EPC) ratings 	ENE01 ENE04
	Design Sustainable Energy Systems Consider the specification of alternative energy sources or energy efficient systems, such as: <ul style="list-style-type: none"> • The introduction of passive solar design • The introduction of Combined Cooling, Heating and Power (CCHP); Combined Heat and Power (CHP), and fuel cells • Renewables: wind power, biofuel, gasification, biomass heating, solar thermal heating, transpired solar collector, photovoltaic, ground source coupled with heat and cooling • Consider Passive/natural ventilation strategy • Consider assessing and minimising embedded energy 	ENE04
TRANSPORT	Manage for Local Labour and Materials Consider the use of local labour and the specification of locally sourced materials to reduce the impact of transportation Provide Cycle Storage and Shower facilities	TRA01

HERMES' CORE PRINCIPLES FOR REFURBISHMENTS		BREEAM REF
WATER	Design for Water Efficiency Include water meters in the building design Incorporate water efficient plant controls including automatic shut-off systems such as PIRs Introduce water consumption monitors and water leak detection devices through Building Management Systems Identify potential wasteful water usage and minimise, e.g. excessive cleaning regime Seek to implement grey water recycling Utilise water meters during both the construction and operational phases of the building cycle to monitor usage, where possible Design for Water Use Provide water filters, clean supplies and potable hot and cold water installations to avoid the need for bottled water and electrically operated inefficient equipment	WAT01, WAT04
	Design for Material Efficiency Conduct project lifecycle assessments on materials specified in the design to understand their efficiency, durability and resilience: <ul style="list-style-type: none"> • Incorporate materials that have a long life to first maintenance • Utilise robust detailing that is straight forward and easy to construct and subsequently easy to adapt or remove • Specify materials that are easy to clean or require infrequent cleaning • The adoption of pre-fabricated building components • Consider reuse of the existing structure 	MAT01, MAT06
WASTE	In construction, manage waste for minimal environmental impact: <ul style="list-style-type: none"> • Recycle demolition and building materials, where possible • Avoid the over-ordering of materials • Consider a 'just-in-time' material delivery protocol • Incorporate the use of bio-degradable packaging for easier disposal or weather resistant packaging to avoid product damage and waste Best Practice: Incorporate WRAP principles in the management of waste	WST01, WST06
FLOODING	Design for Climate Adaptation Future proof from flood risks by: <ul style="list-style-type: none"> • Procuring flood-proofed materials and developing emergency flood plans • Consider incorporation of porous paving/filter systems or the adoption of fully integrated Sustainable Urban Drainage (SUD) system • Consider the adoption of rainwater run-off management systems, such as permeable paving and soakaways, rainwater harvesting and recycling techniques 	POL03

8. Appointment Requirements

Upon appointment, the Project Manager will have the responsibility to deliver the following targets




Management	Name Ref	Target	Applies to	Stage	Output	BREEAM Reference
	Appointment	Ensure appointment document includes requirement to use guides and achieve minimum requirements and targets	All	Appointment	Action Plan Document	MAN01
	Targets	Agree with Hermes Asset Manager and Head of Responsible Property Investment the targets which are to be excluded and explain the reasoning.	All	Appointment	Target Review Document	MAN01
	Life Cycle	Include life cycle costs and service life planning in design and refurbishment plan	Major refurbishments	Appointment	Life Cycle costs and plan output	MAN02
	Building contracts	Add a reference to guide as amendments of building contracts.	All	Appointment	References in Contracts	MAN01
	CCS	Employ a contractor registered under the Considerate Constructors Scheme	All	Appointment	CCS Registered Contractor	MAN03
	Suppliers	Ensure reference is made to supplier's requirements to follow and achieve guides minimum requirements.	All	Appointment		
	Environmental Management System	Develop Environmental Management System as part of refurbishment systems and processes	All	Appointment	EMS Outputs and Data	MAN03
	Roles and Responsibilities plan	Prepare a Roles and Responsibilities action plan which outlines who is accountable for reporting to Hermes against the requirements set out in the Hermes Responsible Refurbishment Guide for various sections and stages. Appoint a Sustainability Champion	All	Appointment	Action Plan Document	MAN01, MAN03
	Soft Landings	Create a "Soft Landings" action plan for incorporating future site management into the design and refurbishment processes.	Offices and Major Retail	Appointment	Action Plan Document	MAN04 MAN05



Name Ref	Target	Applies to	Stage	Output	BREEAM Reference
Property Passport	Develop a 'Property Passport' for the building including references all technical property information and compile supporting database	All	Appointment	Property Passport Document Collation	N/A


9. Design Stage Requirements


Great design creates great buildings. The following requirements are key to ensuring the Responsible Refurbishment programme drives the appropriate value into the assets.




	Ref #	Reference Name	Requirement	Sector	Stage	Required Documentation	BREEAM Reference
Social	1.1d	Community Engagement Plan	Ensure a development that is integrated into the community by developing a Community Engagement Plan. This should focus on how aspects of the community can interact during the planning process, build and management periods.	All	Design, Build & Commissioning	Community Engagement Plan	N/A
Building Quality	2.1d	BREEAM for Offices	Achieve a minimum BREEAM rating of 'Excellent' for refurbished buildings, where relevant.	Offices	Design	BREEAM Certificate and documentation	All
Building Quality	2.2d	BREEAM for Retail	Achieve a minimum BREEAM rating of 'Very Good' for refurbished buildings, where relevant.	Major Retail	Design	BREEAM Certificate and documentation	All


	Ref #	Reference Name	Requirement	Sector	Stage	Required Documentation	BREEAM Reference
Building Quality	2.3d	BREEAM Registration	BREEAM ratings are to be registered with BRE, regardless of rating.	All	Design	BREEAM Certificate and documentation	All
Building Quality	2.4d	CCS	Employ a contractor registered under the Considerate Constructors Scheme with procedures in place to achieve a score greater than 32.	All	Design	Contractor documentation	MAN03
Building Quality	2.5d	Secured by Design	Attain the 'Secured by Design' certification or 'Park Marks' accreditation schemes where feasible.	All	Design & Build	The documentation and, if required, associated commentary	HEA06
Health and Wellbeing	3.2d	Health and Safety requirements	Comply with Health and Safety best practice for a safe workplace, including: - Healthy internal environment through the safe containment and removal of pollutants during construction - If necessary flushing pollutants from systems prior to occupancy or occupant use.	All	Design, Build & Commissioning	The documentation and, if required, associated commentary	HEA03 HEA06

	Ref #	Reference Name	Requirement	Sector	Stage	Required Documentation	BREEAM Reference
Health and Wellbeing	3.4d	Indoor Air Quality Action Plan	Develop an Indoor Air Quality Action Plan to ensure a healthy workplace. This must be aligned to BREEAM requirements and include: <ul style="list-style-type: none"> - Investigate applicability for RESET and inclusion of RESET certified indoor air quality monitors - Appropriate ventilation- removal and control of contaminating sources- pre-occupancy flush - HVAC and indoor air quality management - Isolation of the refurbishment zone with in-use areas - Design air intake positions to avoid major sources of external pollution and recirculation of exhaust air - Emissions of Volatile Organic Compounds (VOCs) and other substances from key internal finishes to comply with best practice levels - Low NOx HVAC equipment. 	All	Design	The "Action Plan" document and supporting evidence	HEA02 HEA03
	3.5d	Thermal Comfort	Design for the Thermal Comfort of occupiers, to ensure a productive workplace. Ensure that: <ul style="list-style-type: none"> - Comfort level in occupied spaces to be assessed at the design stage in accordance with latest CIBSE Guidelines - Incorporate appropriately zoned temperature control systems that can be controlled locally, where necessary - Incorporate individual controls to all mechanical, electrical and public health systems for greater flexibility and control. 	All	Design	Commentary and the documentation used for the BREEAM submission	HEA04

	Ref #	Reference Name	Requirement	Sector	Stage	Required Documentation	BREEAM Reference
	3.6d	Visual Comfort & Daylight	Design for visual comfort and energy efficient lighting, including : - Good daylighting - Efficient and sufficient artificial lighting - Specify lighting levels in accordance with latest CIBSE Guidelines - Occupant controls.	All	Design	Commentary and the documentation used for the BREEAM submission	HEA01,ENE01
	3.7d	Acoustic performance	Create a productive environment to work in by enhancing attenuation measures from traffic noise and other noise and specify appropriate levels of ambient noise.	All	Design	Commentary and the documentation used for the BREEAM submission	HEA05
	3.8d	Monitoring	Incorporate monitoring controls for potential light, air and noise pollution during the operational life of the building and during construction activities - this will ensure the building achieves its potential. Investigate sensors that comply with RESET ¹ or align to the Better Places for People frameworks	All	Design		HEA02


¹ RESET is an Indoor Air Quality certification which incorporates good quality air quality metering to create healthy working environments. <https://www.reset.build/>


	Ref #	Reference Name	Requirement	Sector	Stage	Required Documentation	BREEAM Reference
Energy	4.1d	EPC	Create a resilient and economically efficient building - achieve an EPC rating of C for refurbished buildings (where cost effective) - Carry out an EPC modelling and scenario assessment at the onset of the refurbishment project - Use dynamic simulation modelling in EPC assessment.	All	Design & Commissioning	EPC modelling documentation EPC raw input data EPC documentation	ENE01
Energy	4.2d	Part L	Future proof energy systems. Seek to achieve a 20% improvement on the requirements of Part L of the Building Regulations for thermal performance and air-leakage, incorporating the use of robust detailing practices.	All	Design	Energy model documentation	ENE01
Energy	4.3d	Energy Action Plan	Develop an Energy Action Plan for a low-carbon building, which includes measures to: - Achieve EPC rating agreed (min C rating) - Deliver 20% improvements to Part L - Integrate energy management in Building Management System - Improve energy efficiency - Low or zero carbon strategy - Design to allow for night purging - Targets and monitoring process.	All	Design	The "Action Plan" document and supporting evidence	ENE01


<div></div> <div>Energy</div>	Ref #	Reference Name	Requirement	Sector	Stage	Required Documentation	BREEAM Reference
	4.4d	Energy Efficiency	<p>Design an energy efficient building. Incorporate energy efficient M&E into the design of the project, including:</p> <ul style="list-style-type: none">- Maximise passive and active energy efficiency in the design- Specify energy efficient lighting, plant and mechanical and electrical systems- Utilise energy efficient bulbs, such as LED or T5 fittings and high-frequency ballasts- Incorporate appropriately zoned lighting systems that can be controlled locally, where necessary- Incorporate movement sensors and timers for electrical equipment.	All	Design	The documentation and, if required, associated commentary	ENE01

	Ref #	Reference Name	Requirement	Sector	Stage	Required Documentation	BREEAM Reference
Energy	4.5d	Target and Monitoring	<p>Analysis at the design stage can help to understand energy use and running costs. Determine and monitor energy performance targets and benchmarks for the design and building operations. Monitoring against benchmarks to be carried out across all the main energy end-uses, (where relevant), including:</p> <ul style="list-style-type: none"> - Overall building CO2 emissions - Overall energy consumption (kWh/m2) of each fuel type - Installed power loads (W/m2) of each major service e.g. lighting, pumps, fans etc. - End-use energy consumption (kWh/m2) of each major service - Efficiency indicators, such as specific fan power and lighting e.g. W/m2 per 100 lux. 	All	Design	The documentation and, if required, associated commentary	ENE02
Energy	4.8d	Building Management System	Incorporate effective and appropriately integrated engineering systems and advanced system controls, such as a Building Management System.	All	Design	The documentation and, if required, associated commentary	ENE02

	Ref #	Reference Name	Requirement	Sector	Stage	Required Documentation	BREEAM Reference
Energy	4.9d	Low or Zero Carbon Strategy	Produce a site Low or Zero Carbon (LZC) energy strategy and implement (where feasible). This might include the specification of alternative energy sources or energy efficient systems, such as: - the introduction of passive solar design - the introduction of Combined Cooling, Heating and Power (CCHP); Combined Heat and Power (CHP), and fuel cells - Renewables: wind power, biofuel, gasification, biomass heating, solar thermal heating, transpired solar collector, photovoltaic, ground source coupled with heat and cooling.	Major projects	Design	The "Action Plan" document and supporting evidence	ENE04
Transport	5.1d	Green Travel Plan	Adopt a Green Travel Plan during construction and when the building is operational. This will review public transport facilities and consider potential changes that could be incorporated into the design to make access easier or more convenient.	All	Design	Green Travel Plan documentation	TR05, TR01
Transport	5.2d	Cyclist Facilities	Promote a healthy workplace and sustainable transport through the provision of showers, changing and storage facilities for cyclists and runners in building specifications, where possible and relevant.	All	Design	The documentation and, if required, associated commentary	TR03


	Ref #	Reference Name	Requirement	Sector	Stage	Required Documentation	BREEAM Reference
 Water	6.1d	Water Management Action Plan	Produce a site water management action plan promoting water efficiency, with measures including: - Water efficient technologies and equipment such as: - proximity sensors - spray taps - low flush or dual flush toilet cisterns - automatic systems when using urinals - Water meters and monitoring systems - Water leak detection.	All	Design	The "Action Plan" document and supporting evidence	WAT04


							
Materials							
Ref #	Reference Name	Requirement	Sector	Stage	Required Documentation	BREEAM Reference	
7.1d	Sustainable Material and Procurement Action Plan	<p>Develop a Sustainable Procurement Action Plan which supports and specifies materials and equipment purchased and installed in the refurbishment.</p> <p>This should include Hazardous Materials and to be avoided</p> <p>The specification and use of materials to include:</p> <ul style="list-style-type: none">- materials from certified sustainable sources and locally sourced materials- materials that are recycled or reclaimed, and recyclable or are from crushed waste for demolition- insulation with low embodied energy and 80% to be responsibly resourced- materials that do not contribute to ozone depletion or global warming- materials produced from natural raw materials with low carbon footprints- wool/flax based insulation or insulation from recycled cellulose- organic paint with reduced organic compounds emissions. <p><i>The project design must ensure that specified materials do not adversely impact the integrity of the health & safety and fire strategies of the building and are compliant with all statutory obligations.</i></p>	All	Design	The "Action Plan" document and supporting evidence	MAT01, MAT03	




Materials

Ref #	Reference Name	Requirement	Sector	Stage	Required Documentation	BREEAM Reference
7.2d	Hazardous Materials	<p>Develop a healthy workplace, do not use materials that are considered hazardous. Materials should be avoided where they:</p> <ul style="list-style-type: none"> - pose a threat to the local or global environment - have health and safety implications for contractors and occupiers - are recognised as being deleterious or hazardous - cause pollution or contamination of land, air and water - may deteriorate rapidly and pose a threat to health and safety - are materials that contribute to ozone depletion and global warming - adversely impact on greenhouse gas emissions - include the use of materials that contain or have used CFCs and HCFCs in their processes. <p><i>The project design must ensure that specified materials do not adversely impact the integrity of the health & safety and fire strategies of the building and are compliant with all statutory obligations.</i></p>	All	Design & Build	Commentary and the documentation used for the BREEAM submission	MAT01


	Ref #	Reference Name	Requirement	Sector	Stage	Required Documentation	BREEAM Reference
 <div>Waste</div>	8.1d	Site Waste Management Plan	<p>Produce a Site Waste Management Plan (SWMP) to minimise the production of waste during the development and when operational. The SWMP should:</p> <ul style="list-style-type: none"> - Identify a method of control for non-hazardous and hazardous waste recovery, collection and segregation, including the adoption of a clearly signposted and colour coded waste segregation system - Establish proposed disposal methods for waste from site - Identify and record the amount and type of waste created on site and removed off site, including details of the destination, whether to landfill or to a waste management and recycling facility - Recycle paper, cardboard, plastics, glass and organic waste to create a new product or create energy - Avoid unnecessary transport movements - Set targets to ensure that the amount of non-hazardous waste is to be as or better than best practice - 9.2 m³ or 4.7 tonnes per 100m² FI. 	All	Design & Build	The "Action Plan" document and supporting evidence	WST01
	10.1d	Site Pollution and Mitigation Action Plan	<p>Pollution and contamination site assessment and mitigation action plan, to manage the risks of contamination on the site. This report should include:</p> <ul style="list-style-type: none"> - A review of contamination of Land; Groundwater; water; air pollution; PCB; radon (where relevant) - An assessment of the presence of any hazardous materials: Asbestos; refrigerants; etc. - References to Ecologists Assessment. 	All	Design	Pollution site assessment	LE01 GRESB NC3

	Ref #	Reference Name	Requirement	Sector	Stage	Required Documentation	BREEAM Reference
Land use, Ecology and Pollution	10.3d	Bio-Diversity Action Plan	<p>Prepare a biodiversity action plan to minimise the loss of the ecology of the site, identify methods of protection, improvement, replacement or relocation required. The action plan should:</p> <ul style="list-style-type: none"> - Specify indigenous plant species in landscaped areas - Aim for low maintenance and low water intensity of the specified landscaping regime, and aim for - Evaluate all inbuilt habitat options (e.g. green roofs) - Evaluate options for bird and bat nesting and "bee hotels". <p>Identify any protected species on the site and undertake suitable mitigation measures to reduce any adverse impacts:</p> <ul style="list-style-type: none"> - Trees - Flora - Birds - Mammals - Reptiles - Other fauna. 	Offices and Major Retail where there are external works	Design	The "Action Plan" document and supporting evidence	LE02, LE03, LE04, LE05
	10.4d	Ecology	Design for a low impact on ecology by employing a qualified ecologist to carry out an assessment of and record the ecological quality and features of the site.	Projects with external areas	Design	Ecologist's assessment and report	LE02

	Ref #	Reference Name	Requirement	Sector	Stage	Required Documentation	BREEAM Reference
Land use, Ecology and Pollution	10.6d	Flood Action Plan	<p>Create a Flood Action Plan to ensure the site can adapt to the effects of climate change. Identify the risk of flooding and mitigation actions from:</p> <ul style="list-style-type: none"> - Rivers and tides on and off site - Surface water - Foul water drainage. <p>Also include investigation of:</p> <ul style="list-style-type: none"> - Infrastructure water run off - Opportunities for sustainable drainage technologies - Specification of flood-proofed materials - Emergency flood plans. 	All	Design	The "Action Plan" document and supporting evidence	POL3
	10.8d	Low NOx	Create a healthy workplace. Ensure the use of Low NOx technologies in the design specification.	All	Design	Commentary and the documentation used for the BREEAM submission	POL02

10. Build Stage Requirements

In addition, to deliver the design programme and targets, the following section identifies minimum targets for the build stage of the refurbishment project, focusing on the environmental footprint of the construction activities.



	Ref #	Reference Name	Requirement	Sector	Stage	Required Documentation	BREEAM Reference
Management		Commissioning Action Plan	Develop an Action Plan for commissioning of the building in advance of build completion. Should include commentary on the following topics: <ul style="list-style-type: none"> - Soft landings - Commissioning and testing schedule and responsibilities - Commissioning building services - Testing and inspecting building fabric - Handover - Aftercare support - Seasonal commissioning - Post occupancy evaluation. 	All	Build & Commissioning	The "Action Plan" document	MAN04 MAN05
Social	1.1b	Community Engagement Plan	Ensure a development that is integrated into the community by developing a Community Action Plan. This should focus on how aspects of the community can interact during the planning process, build and management periods.	All	Design, Build & Commissioning	Community Engagement Plan	N/A
Social	1.2b	Apprentices	Support training of a new workforce by supporting apprenticeship programmes.	All	Build	Contractor's apprenticeship policy and figures for the project.	N/A
Social	1.3b	Local Labour	Where possible employ local labour to ensure the community benefits from the development. "Local" refers to living within 10miles or less.	All	Build & Commissioning	Contractor's statements on local labour force employed through the project.	N/A



	Ref #	Reference Name	Requirement	Sector	Stage	Required Documentation	BREEAM Reference
Building Quality	2.5b	Secured by Design	Attain the 'Secured by Design' certification or 'Park Mark' accreditation schemes.	All	Design & Build	The documentation and, if required, associated commentary	HEA06
Health and Wellbeing	3.1b	CDM Regulations	Implement latest CDM regulation to ensure a safe workplace, and manage and control the risks to building, contractors and occupier safety, both when the building is operational and during construction activities.	All	Build	The documentation and, if required, associated commentary	MAN03 HEA06
Health and Wellbeing	3.2b	Health and Safety requirements	Comply with Health and Safety best practice for a safe workplace, including: - Healthy internal environment through the safe containment and removal of pollutants during construction - If necessary flushing pollutants from systems prior to occupancy or occupant use.	All	Design, Build & Commissioning	The documentation and, if required, associated commentary	HEA02, HEA06
Health and Wellbeing	3.3b	Health and Safety Implementation	Implement Health and Safety best practice during the build to ensure a safe refurbishment.	All	Build & Commissioning	The "Action Plan" document and supporting evidence	MAN03
Energy	4.3b	Energy Action Plan Implementation	Implement the Energy Action Plan to ensure energy management is embedded in the build. Refer to "Soft Landings" approach to hand-over to site management.	All	Build & Commissioning	The "Action Plan" document and supporting evidence	MAN03 ENE01 ENE04



	Ref #	Reference Name	Requirement	Sector	Stage	Required Documentation	BREEAM Reference
Energy	4.6b	Energy Use in Build	Record and provide data on energy used during the refurbishment process to show an efficient build process.	All - as available	Build	KPI BREEAM documentation evidence	MAN03
Energy	4.7b	Metering	Measuring the energy performance of the site, and ensure accurate energy recharge, ensure energy (SMART) meters and sub-meters are installed and monitor appropriate areas.	All	Build & Commissioning	Metering schematics agreed, sign off with Property Managers and Asset Managers	ENE02
TRANSPORT	5.2b	Transport in Build	Review and monitor transport performance targets and benchmarks for the construction phase.	All	Build	The documentation and, if required, associated commentary	MAN03
Water	6.2b	Water Management Action Plan Implementation	Implement the Water Management Action Plan for the site, ensuring the management strategy functions correctly. This will lead to a less resource intensive site.	All	Build & Commissioning	The "Action Plan" document and supporting evidence	MAN03 WAT04
Water	6.3b	Water Use in Build	Demonstrate an efficient build. Determine and monitor water performance targets and benchmarks during the build phase of the refurbishment project, where possible.	All - as available	Build	KPI BREEAM documentation evidence	MAN03 WAT01



	Ref #	Reference Name	Requirement	Sector	Stage	Required Documentation	BREEAM Reference
Materials	7.2b	Hazardous Materials	<p>Develop a healthy workplace, do not use materials that are considered hazardous. Materials should be avoided where they:</p> <ul style="list-style-type: none"> - pose a threat to the local or global environment - have health and safety implications for contractors and occupiers - are recognised as being deleterious or hazardous - cause pollution or contamination of land, air and water - may deteriorate rapidly and pose a threat to health and safety - are materials that contribute to ozone depletion and global warming - adversely impact on greenhouse gas emissions - include the use of materials that contain or have used CFCs and HCFCs in their processes. 	All	Design & Build	Commentary and the documentation used for the BREEAM submission	MAT01
Materials	7.3b	Sustainable Material and Procurement Action Plan Implementation	Implement Material and Procurement Action Plan to lead to a cost-efficient sustainable refurbishment.	All	Build & Commissioning	The "Action Plan" document and supporting evidence	MAN03 MAT01 MAT06
Materials	7.4b	Materials use in build	<p>Monitor material use and compliance with Action Plan to show efficiency in the use of materials in the build.</p> <p><i>The project design must ensure that specified materials do not adversely impact the integrity of the health & safety and fire strategies of the building and are compliant with all statutory obligations.</i></p>	All - as available	Build	The "Action Plan" document and supporting evidence	MAT03




	Ref #	Reference Name	Requirement	Sector	Stage	Required Documentation	BREEAM Reference
Waste	8.1b	Site Waste Management Plan	<p>Produce a Site Waste Management Plan (SWMP) to minimise the production of waste during the development and when operational. The SWMP should:</p> <ul style="list-style-type: none"> - Identify a method of control for non-hazardous and hazardous waste recovery, collection and segregation, including the adoption of a clearly signposted and colour coded waste segregation system - Establish proposed disposal methods for waste from site - Identify and record the amount and type of waste created on site and removed off site, including details of the destination, whether to landfill or to a waste management and recycling facility - Recycle paper, cardboard, plastics, glass and organic waste to create a new product or create energy - Avoid unnecessary transport movements - Set targets to ensure that the amount of non-hazardous waste is to be as or better than best practice: 9.2 m³ or 4.7 tonnes per 100m² FI. 	All	Design & Build	The "Action Plan" document and supporting evidence	WST01
Waste	8.2b	In-Build Waste Monitoring	<p>Monitor waste produced and waste management process for all waste during construction, including:</p> <ul style="list-style-type: none"> - The amount of waste: achieve at least 90% by weight or 85% by volume of non-hazardous waste not directly sent to landfill - The type of waste created on site and removed off site, including details of the destination, whether to landfill or to a waste management and recycling facility - Waste streams, including recycled paper, cardboard, plastics, glass and organic waste to create a new product or create energy. 	All	Build	The documentation and, if required, associated commentary	WST01 WST02 WST03




	Ref #	Reference Name	Requirement	Sector	Stage	Required Documentation	BREEAM Reference
Land use, Ecology and Pollution	10.2b	Pollution Prevention Action Plan	Develop a Pollution Prevention Action Plan which indicates measures to prevent and mitigate pollution of the environment generally during refurbishment and when the building is operational. As well as from the refurbishment project and operational activities of the building on: - Land - Water and ground water - Air quality - Noise - Lighting (to be designed to ILE Guidance).	All	Build	The "Action Plan" document and supporting evidence	HEA06 LE01
Land use, Ecology and Pollution	10.5b	Flood Plan Implementation	Implement flood risk mitigation action plan to ensure adaptation to threats posed by climate change.	All	Build & Commissioning	The "Action Plan" document and supporting evidence	MAN03 HEA06
Land use, Ecology and Pollution	10.7b	Pollution Prevention Action Plan Implementation	Implement pollution mitigation action plan to ensure a low impact and safe refurbishment.	All	Build & Commissioning	The "Action Plan" document and supporting evidence	MAN03 HEA06

11. Commissioning and Hand-Over Stage Requirements

	Ref #	Reference Name	Requirement	Sector	Stage	Required Documents	BREEAM Reference
Management	0.1c	Commissioning Action Plan	Implement an Action Plan for commissioning of the building in advance of build completion. Should include commentary on the following topics: <ul style="list-style-type: none"> - Soft landings - Commissioning and testing schedule and responsibilities - Commissioning building services - Testing and inspecting building fabric - Handover - Aftercare support - Seasonal commissioning - Post occupancy evaluation. 	All	Build & Commissioning	The "Action Plan" document and supporting evidence	MAN04 MAN05
Management	0.2c	Property Passport Implementation & Environmental Management System	Collate all the documents required for the Property Passport and establishment of the on-going Environmental Management System. Documents include: <ul style="list-style-type: none"> - Building management documents - Asset register - Building User guide - Operation and Maintenance Manuals - BREEAM certificate, file and underlying evidence - EPC certificate, underlying data and evidence - Building drawings - Geotechnical surveys - Asbestos register - The Required Action Plans from the Responsible Refurbishment process 	All	Commissioning	Property Passport Documents	MAN03



	Ref #	Reference Name	Requirement	Sector	Stage	Required Documents	BREEAM Reference
Social	1.1c	Community Engagement Plan	Ensure a development that is integrated into the community by developing a Community Action Plan. This should focus on how aspects of the community can interact during the planning process, build and management periods.	All	Design, Build & Commissioning	Community Engagement Plan	N/A
Energy	4.4c	Energy Action Plan Implementation	Implement the Energy Action Plan to ensure energy management is embedded in the build. Refer to "Soft Landings" approach to hand-over to site management.		Build & Commissioning	The "Action Plan" document and supporting evidence	MAN03, ENE01, ENE04
Health and Wellbeing	3.3c	Health and Safety Implementation	IMPLEMENT Health and Safety best practice during the build to ensure a safe refurbishment.	All	Build & Commissioning	The "Action Plan" document and supporting evidence	MAN03 HEA06
Water	6.1c	Water Management Action Plan	Implement the Water Management Action Plan for the site, ensuring the management strategy functions correctly. This will lead to a less resource intensive site.	All	Build & Commissioning	The "Action Plan" document and supporting evidence	MAN03 WAT04
Materials	7.1c	Sustainable Material and Procurement Action Plan	Implement Material and Procurement Action Plan to lead to a cost-efficient sustainable refurbishment.	All	Build & Commissioning	The "Action Plan" document and supporting evidence	MAN03 MAT01 MAT06
Land use, Ecology and Pollution	10.6c	Flood Plan	Implement flood risk mitigation action plan		Build & Commissioning	The "Action Plan" document and supporting evidence	POL03

 Land use, Ecology and Pollution	Ref #	Reference Name	Requirement	Sector	Stage	Required Documents	BREEAM Reference
	10.2c	Pollution Prevention Action Plan	Implement pollution mitigation action plan to ensure a low impact and safe refurbishment.		Build & Commissioning	The "Action Plan" document and supporting evidence	MAN03 HEA06

12. Evidence: Action Plans, Documents and KPIs

Below are the Action Plans, & documents required to be included in the project schedule as evidence of the implementation of the refurbishment guide.

Status	Action Plan ref	Other deliverables	BREEAM Assessment Documentation	Development	Implementation & Review	Responsibility
	Building Quality	Considerate Contractors Scheme documents				
	Community Engagement Plan			Design	Build Commissioning	
	Air Quality Action Plan		HEA02, HEA03	Design	Build Commissioning	
	Energy Action Plan	EPC inputs and Scenario testing outputs	ENE01	Design	Build Commissioning	
	Low or Zero Carbon Strategy	Part L Benchmark Calculation	ENE04	Design	Build Commissioning	
	Green Travel Plan		TR05, TR01	Design	Build Commissioning	
	Water Management Action Plan		WAT04	Design	Build Commissioning	
	Sustainable Material and Procurement Action Plan		MAT01, MAT03	Design	Build Commissioning	
	Site Waste Management Plan		WST01	Design	Build Commissioning	
	Pollution Prevention Action Plan		HEA06, LE01	Design	Build Commissioning	
	Bio-Diversity Action Plan	Ecologists Assessment Report	LE02, LE03, LE04, LE05,	Design	Build Commissioning	
	Flood Action Plan		POL3	Design	Build Commissioning	
	Commissioning Action Plan		MAN04, MAN05	Commissioning		
	Property Passport		MAN03	Commissioning		
	Environmental Management System		MAN03			

The following KPI are all part of the BREEAM evidence gathering and collection. This evidence and data should be shared with Hermes Head of RPI at the end of each phase of the refurbishment project.

Design Streams	KPI	Phase	BREEAM ref	Responsibility
Social				
S1	Stakeholder Engagement or Consultation	Design	MAN01	
S2	Post-Occupancy Evaluation	Commissioning or in Operation	MAN05	

Design Streams	KPI	Phase	BREEAM ref	Responsibility
Management				
MG1	Responsible refurbishment plan and targets, including roles and responsibilities plan	Design	MAN01, MAN02	
MG2	Soft landing action plan	Design	MAN04, MAN05	
MG3	Project registered under the Considerate Constructors Scheme	Build	MAN03	BS
MG4	'Secured by Design' certification or 'Park Marks' accreditation schemes completed	Build	HE06	Consultant

Design Streams	KPI	Phase	BREEAM ref	Responsibility
Building Quality and Flexibility				
QF1	Certified BREEAM Ratings attained (at design stage and at completion)		All	Consultant/ BS
QF2	Improvement on the requirements of Part L of the Building Regulations for thermal performance and air-leakage		ENE01	BS
QF3	Improvement on the requirements of Part M of the Building Regulations		N/A	BS

Design Streams	KPI	Phase	BREEAM ref	Responsibility
Health and Wellbeing				
HP1	Health and Safety best practice		GRESB 19	Contractor
HP2	Total cost of penalties or fines incurred for breaching pollution laws		GRESB 19	Contractor
HP23	Significant (Environment Agency Category 1 or 2) and minor (Category 3) spills of chemicals, oils, and fuels		MAN 03, GRESB RO19	Contractor
HP4	RIDDOR reportable deaths and major injuries by project		GRESB NC13	Contractor
HP5	RIDDOR reportable over-three-day injuries by project		GRESB NC13	Contractor
HP6	RIDDOR reportable dangerous occurrence / near misses by project		GRESB NC13	Contractor

Design Streams	KPI	Phase	BREEAM ref	Responsibility
Pollution				
PO1	Reducing surface water run-off and minimising watercourse pollution.	Design and Build	POL03, GRESB 19	Contractor
PO2	Reduced NOx Emissions	Design	POL02	Contractor

Design Streams	KPI	Phase	BREEAM ref	Responsibility
Energy				
E1	Energy Action Plan including: Design target for overall building CO2 emissions, and achievement against target Design target for overall energy consumption (kWh/m2) of each fuel type, and achievement against target Design target for installed power loads (W/m2) of each major service e.g. lighting, pumps, fans etc., and achievement against target Design target for end-use energy consumption (kWh/m2) of each major service, and achievement against target Design target for efficiency indicators, such as specific fan power and lighting e.g. W/m2 per 100 lux, and achievement against target Design target for renewable energy generation (whether on; near or off-site)	Design/Commissioning	ENE01	Contractor
E2	Energy Performance Certificate rating	Design / Commissioning	ENE01	Services Consultant
E3	Design target for renewable energy generation (whether on; near or off-site)	Design / Commissioning	ENE01	Services Consultant/ Architect/Contractor
E4	Total consumption of electricity from the grid during construction phase	Build	MAN03	Services Consultant/ Contractor
E5	Total consumption of fuels during construction phase i) Diesel ii) Gas iii) Oil (including in generators) on site during construction phase	Build	MAN03	Services Consultant/ Contractor

Design Streams	KPI	Phase	BREEAM ref	Responsibility
Transport				
T0	Green Travel Plans for construction and operational phases	Design / Build	Tra05	Contractor/Consultant/BS
T1	Cycle spaces provided at each newly completed development	Design	Tra03	Contractor
T2	Transport miles and fuel used for all deliveries to and from construction site	Build	MAN03	Contractor

Design Streams	KPI	Phase	BREEAM ref	Responsibility
Water				
W1	Water management action plan, including Predicted occupational water demand and percentage to be supplied by rainwater or greywater harvesting Water efficiency measures introduced Water meters implemented in the design	Design / commissioning	WAT01	BS
W2	Total mains water purchased during construction phase	Build	MAN03	Contractor

Design Streams	KPI		BREEAM ref	Responsibility
Materials				
M1	<p>Material and Procurement Action Plan, including Hazardous materials that could not be avoided in the design and construction process</p> <p>Sustainable and resilient material specified, such as:</p> <ul style="list-style-type: none"> - Materials from sustainable sources, locally sourced materials, crushed waste for demolition - Materials that are recycled or reclaimed, and recyclable - Materials with low embodied energy - Materials that do not contribute to ozone depletion or global warming - Materials produced from natural raw materials with low carbon footprints - Wool/flax based insulation or insulation from recycled cellulose - Organic paint with reduced organic compounds emissions - Recyclable content of all materials specified (shell, façade, fit out, aggregates) - Materials from certified sustainability managed resources (e.g. Timber from Forest Stewardship Council (FSC)) 		MAT01 / MAT03 / MAT05 / MAT06	BS/Contractor

Design Streams	KPI	Phase	BREEAM ref	Responsibility
Waste				
WS1	Waste Management Action Plan	Design	WST01	BS/Contractor
WS2	Total amount of waste produced	Build	WST03	Contractor
WS3	Cost of waste disposal	Build	WST03	Contractor
WS4	Site waste - Sent to recycling facilities (to MRF or segregated on-site)	Build	WST03	Contractor
WS5	Site waste - Sent directly to landfill	Build	WST03	Contractor
WS6	Total amount of ordered materials unused by end of development	Build	WST03	Contractor
WS7	Total amount of ordered materials sent directly to landfill	Build	WST03	Contractor
WS8	Total amount of waste recycled or re-used	Build	WST03	Contractor

Land and Bio-diversity		Phase	BREEAM ref	Responsibility
L1	Existing ecological features protected	Design / Build	LE02	Consultant
L2	Protected species mitigation measures implemented	Design / Build	LE03/ LE04	Consultant
L3	Bio-diversified mitigation measures	Design / Build	LE03 / LE04 / LE05	PM/BS

