

Sustainable Property Development and Refurbishment Guidance

BRIDGES
FUND MANAGEMENT

Image: The Old Vinyl Factory, The Boilerhouse

Contents

Introduction	3
Applicability of this guidance document	4
Sustainable buildings & places	5
People & communities	7
Education & skills	8
Health, safety & well-being	9
Appendix A: Materials specification	12

Introduction

Bridges Fund Management is a specialist sustainable and impact investment fund manager. Through careful analysis of the trends re-shaping our world, we have spent more than two decades identifying investment solutions that can make our economy more sustainable and inclusive – in a way that also unlocks lasting economic value.

Buildings and construction are responsible for roughly 40% of global carbon emissions. So the real estate sector has an absolutely critical role to play in the transition to Net Zero. At the same time, demographic and cultural shifts are fundamentally changing the way we live and work. We need new property solutions that reflect and address this demand, while also supporting broader economic growth.

At Bridges, we believe that investing in the built environment is imperative if we want to build a more sustainable and inclusive future. But it's also a unique opportunity. By investing in developing real estate that is highly energy efficient, that improves well-being, regenerates communities and addresses unmet needs, we can also tap into the growing demand for sustainable assets. Since 2012, the Bridges Property Funds have developed over £2bn of assets across 70+ transactions, delivering attractive investment returns alongside positive social and environmental outcomes. These real estate funds seek to apply our impact methodology and responsible property investment principles (see our [Sustainable Property Investment](#) policy and [PRI 2023 Real Estate submission](#)) to all aspects of our investment activities, including the development of new assets and the management of existing ones.

Our investment strategy is based on careful analysis of four key impact themes (Healthier Lives, Future Skills, Stronger Communities and Sustainable Planet), which are closely aligned with the UN Sustainable Development Goals, or SDGs (see below for relevant mapping). By examining the key trends and challenges within these four themes, we develop a thesis about the sectors or business models best-suited to developing scalable commercial solutions.

We then look to identify and partner with the leading operators in these sectors, providing capital alongside strategic and operational support. Our sector understanding, investment agility, impact and sustainability track record, our engagement with experienced joint venture (JV) partners and management teams of our property-backed operating businesses, often help us to secure off-market transactions or to win in competitive processes. Bridges has a strong commitment to making our real estate investments as environmentally-sustainable as possible, within the limits of feasibility; for example by minimising carbon emissions, resource use, and adverse impacts on nature. Part of this responsibility lies with our JV partners, design teams, supply chain, contractors, communities and the occupants of our properties. As such, and to ensure all parties are aligned, Bridges requires our JV partners and property-backed operating businesses to agree to our *JV Partner Minimum Standards and Supplier Code of Conduct*. This sets out our minimum ESG and impact requirement, with specific targets outlined in our Investors' Committee paper and refined afterwards as the business plan progresses.

This document summarises the key actions and strategies that we suggest our partners could take to enable them to achieve our ESG and impact requirements.

Applying Bridges' themes to our Property activity



Sustainable Planet

- > Optimising resource use
- > Building or renovating properties sustainably



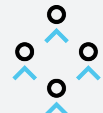
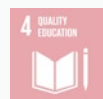
Healthier Lives

- > Healthcare accommodation for populations recovering from surgery
- > Assisted living accommodation supporting resident health & well-being



Future Skills

- > Investing in solutions that help people to fulfil their potential, while building the workforce of the future



Stronger Communities

- > Regenerating and revitalising the most deprived areas
- > Delivering lower-cost or affordable accommodation, employment & services for SMEs



Applicability of this guidance

Bridges Fund Management focuses on opportunities where we can generate attractive investment returns through helping to meet pressing social or environmental challenges. Through our property strategy, we create developments and invest in property assets that make a positive impact on people's lives. Our funds share a focus on four impact themes: Stronger Communities, Healthier Lives, Future Skills, and Sustainable Planet, helping us to identify opportunities and articulate the impact we seek.

This document summarises the key actions and strategies that we suggest our partners could take to enable them to achieve our ESG and impact requirements. These actions and strategies aim to enable positive social and environmental impacts on building occupants and nearby communities, alongside unlocking substantial economic value.

Key feasibility principles

Sustainability does not need to come at a premium. All our investments operate with the principle that integrating impact considerations early in the process helps to both optimise design development and ensure that costly revisions later in the development process can be avoided.

The project feasibility and design process should consider, as far as possible, the impact of any medium-term regulatory, physical and market risks on the completed development and, through good design, seek to manage and reduce the risk of obsolescence and depreciation and protect the value of the asset.

An optimised design takes into consideration end-user requirements, while the project teams should focus on cost-effective sustainable technologies and measures that deliver the greatest benefits for the building users, community and the planet.

The following programme actions are recommended for all development projects:

- › **Sustainability workshop:** A sustainability workshop, chaired and recorded by Bridges and/or JV partner, should be held at each key stage of the project. From the feasibility stage, the objective will be to agree (or refine) targets and benchmarks relevant to the project, and to rigorously consider the relevance of the suggested actions and strategies in this guidance document, taking into account planning requirements and the overall sustainability objectives for the project.
- › **Stage review:** A stage review should take place at the end of key stages of the project cycle (refer to the RIBA *Plan of Work 2020*; <https://www.architecture.com/knowledge-and-resources/resources-landing-page/riba-plan-of-work>) to allow the developer (JV partner) to be satisfied that proper consideration has been given to all relevant matters, and that all necessary reports have been issued and decisions made to allow progression to the next stage.
- › **Sustainability plan:** The outcome of each stage review will be a sustainability plan that will form the briefing document for the development of ideas in the next stage of the project cycle. It is assumed that the sustainability plan will evolve throughout the life of the project.
- › **Peer review:** The outputs of all stage reviews will be subject to peer review by Bridges to ensure consistency of application of the suggested actions and strategies in this guidance document and to promote the dissemination of experiences and best practices across projects.

All actions outlined in this document are suggested strategies, to be implemented where feasible in relation to the specific project.

About Bridges Property Alternatives Funds

Bridges Property Alternatives Funds are real estate equity funds providing values-aligned capital for value-add and opportunistic real estate investments in the UK and Europe. The Fund offers investors the opportunity to benefit from market-leading financial returns whilst creating lasting societal and environmental impact. This includes investing in:

- Property and property-backed operating businesses that provide high-quality, accessible services and accommodation, supporting economic regeneration in some of the most deprived areas.
- Much-needed sustainable and lower-cost residential accommodation to alleviate the acute housing needs of the population.
- Environmentally-led refurbishments that provide upgraded space, reduce carbon emissions and occupier costs.
- Low or Net Zero Logistics units providing suitable space for SMEs and contributing to local job creation.
- Building high-quality accommodation for older or underserved populations.

Environmental and social factors present a risk to the future occupants of our properties and need to be quantified and managed just as financial and business risks are. If managed properly, these factors can also provide a commercial differentiator and offer opportunities to add value.

We aim to minimise the impact of our properties in terms of resources and the level of energy they use. We realise the importance of challenges presented by climate change and adopt sustainability holistically within our investments and operational processes. To address these issues we take a leading role when working with our JV partners and supply chain to incorporate principles of sustainable development within the properties we create.

Sustainable buildings & places ¹



Energy

Produce an energy strategy for the development. The study should follow the methodology outlined in the *Energy Planning, Greater London Authority* guidance on preparing energy assessments (<https://www.london.gov.uk/programmes-strategies/planning/planning-applications-and-decisions/pre-planning-application-meeting-service/energy-planning-guidance>). Consider the estimated overall energy consumption of the project and estimated energy costs per sq. ft. following the methodology in the Chartered Institute of Building Services Engineers Technical Memorandum (CIBSE TM) 54¹, or equivalent.

The energy strategy should also include relevant calculations (including the percentage of the energy consumed and met by renewable energy), the estimated Energy Performance Certificate (EPC) or equivalent and the annual reduction in CO₂ emissions from the development.

Resilience and climate change

Prepare a Resilience and Climate Change assessment report, both at the due diligence stage and a more detailed assessment as part of project development. Projects should be designed and managed in order to respond to occupants' changing circumstances, now and into the future. This will consider strategies to minimise the risk of flooding and overheating using future climate change scenarios using CIBSE TM52² and CIBSE TM59³ and evaluate performance of the development under extreme weather conditions, natural hazards, the adaptability of the development and installations for potential future uses, and the regulatory risks and measures to be undertaken once the development is completed, such as maintenance and post occupancy evaluation surveys. An exercise should be undertaken to forecast long-term operational carbon emission reductions, taking into consideration the projection of the carbon intensity for the grid electricity and natural gas provided by the Department for Energy Security & Net Zero.

Display energy and water use

Provide water and energy meters that can display current and cumulative water, electricity, heating and cooling consumption. Consider operational water use also as part of the embodied and whole life carbon assessments.

Energy-efficient building services and small power

Provide energy-efficient building services and efficient small power and appliances/white goods (if provided).

Sustainability certification

Certify all developments via a third-party rating system. In order of preference, this could include BREEAM (minimum Very Good / Excellent rating), Home Quality Mark (4 stars minimum), LEED (minimum Gold rating), WELL Building Standard™ (minimum Gold rating), Fitwel (2 stars minimum) or equivalent when feasible and appropriate.

Durability of construction

Consider the durability of construction products and protect exposed elements of the development and landscape to minimise maintenance and frequency of their replacement.

Waste in construction

Report the percentage of non-hazardous construction, demolition and excavation waste by weight diverted from landfill (target >90%). Consider the employment of modern methods of construction that minimise waste and increase the speed of construction.

Waste management plan

The project's principal contractor will be expected to prepare a Site Waste Management Plan during construction and to develop an operational waste strategy.

Environmental impact of materials

Employ sustainable and durable materials where possible and consider Life Cycle Cost in the selection and specification of materials. Any insulation employed should have zero Ozone Depleting Potential substances and low global warming potential (GWP).

¹ CIBSE TM 54: *Evaluating operational energy use at the design stage* (2022)

² CIBSE TM 52: *The limits of thermal comfort: avoiding overheating* (2013)

³ CIBSE TM 59: *Design methodology for the assessment of overheating risk in homes* (2017)



Sustainable buildings & places cont.



Sustainable purchasing / responsible sourcing

Consider the feasibility of obtaining all concrete, steel, cladding metals, bricks, gypsum, glass from manufacturers that operate under the following standards (not exhaustive): EPA¹, ISO 20400², BS EN ISO 14001³, BES 6001⁴. 100% of timber must be sourced from the Forest Stewardship Council (FSC) or equivalent certified sources.

Embodied and Whole Life Carbon, and circular buildings

Calculate the embodied and whole life carbon following the RICS⁵ *Whole Life Carbon Assessment for the Built Environment 2nd Edition* guidance from very early in the design stages, where possible using carbon optioneering⁶ techniques. Also consider options to reduce the embodied carbon content, re-use, recycle, deconstruct, design for disassembly and circular building principles.

Ecology, biodiversity and habitats

Employ a suitably-qualified ecologist during the early design stages to identify the existing ecology on the site, in order to ensure that ecological value is protected, maintained or enhanced, while any risks to the ecological value are eliminated or managed effectively throughout the development and into occupation. Increase biodiversity, achieve biodiversity net gain on site where possible, and calculate the urban greening factor (UGF)⁷.

Use of recyclable materials

Consider the end-of-life recovery of materials and, where feasible, employ re-used/recyclable materials and consider materials that have lower life-cycle costs in comparison to other available alternatives. For more information on building materials, please refer to Appendix A.

Reduce CO₂ emissions, energy, and water use during construction

The project's principal contractor must monitor CO₂ emissions, energy and water use during construction, and implement CO₂ emissions, energy and water use reduction measures, as set out in Bridges' *JV Partner Minimum Standards* document.

Water efficiency and management

Use water-efficient fittings, provide a shower / locker for every ten cycle spaces and implement water-efficient management practices.

Water recycling

Carry out a water resource strategy to make efficient use of local sources of water. Assess the viability of rainwater/grey-water recycling systems on site, considering costs and life-cycle carbon emissions as well as other social and environmental benefits.

Water run-off attenuation

Projects should be protected from flooding and designed to minimise water run-off. Appoint a suitably-qualified professional to carry out, demonstrate and/or confirm the development site's compliance with the local regulations and applicable policies with regards to flooding and water run-off and attenuation.

Reduce watercourse pollution

Specify oil/petrol separators (or an equivalent system) in surface water drainage systems, where there is a high risk of contamination or spillage of substances such as petrol and oil. Design and detail all water pollution prevention systems in accordance with the relevant regulations.

Monitor performance and continuous improvement

Benchmark, target and monitor performance of carbon (including embodied carbon), energy, water and waste of developments and meet with the onsite team annually to evaluate and review further improvement opportunities including post-occupancy evaluations.

¹ US Environmental Protection Agency (EPA)

² International Organization for Standardization (ISO) 20400: Sustainable Procurement Guidance (2017)

³ British Standard (BS) European Standards - Euronorm (EN) ISO 14001: Environmental management systems (2015)

⁴ BRE Environmental and Sustainability Standard (BES) 6001: Framework Standard for Responsible Sourcing

⁵ The Royal Institution of Chartered Surveyors (RICS)

⁶ Carbon Optioneering describes the process by which a project team compares and considers a number of design/development options, including material use and energy installation/consumption choices, in order to find the optimum balance between carbon emissions reduction, cost/viability, and programme terms (across planning, design, construction and operational stages)

⁷ Urban Greening Factor also known as Green Space Factors is used to evaluate the quantity and quality of urban greening provided by a development proposal





Community engagement

Develop and implement a community consultation and engagement plan, to ensure the needs, ideas and knowledge of the local community are used to improve the quality and acceptability of the development throughout the design and construction process. Appropriate community engagement is fundamental to understand local needs and any potential risks or opportunities.

Plans could include the identification of projects and initiatives and a monitoring and a risk mitigation programme identifying disruption risks and stakeholders/impacted groups.

Community facilities and recreational spaces

Consider the provision of community and facilities, spaces which are inclusive to the majority of users who will occupy the development, and how the building design could serve to facilitate community activities.

In the absence of a community space, other facilities could be considered such as community electric vehicle car clubs, dedicated community planting space (allotments for organic food), etc.

Consider also the provision of outdoor recreational spaces that promote community cohesion, activity and wellness.

Accessibility

Consider both tangible and perceived barriers to access in the design and construction process to promote inclusion in conjunction with community engagement plan. Promote accessibility within the development and comply with relevant regulations and local requirements.

Considerate and responsible construction

The Principal Contractor should achieve a score of over 36 in the Considerate Constructors Scheme (<https://www.ccscheme.org.uk/>), aiming to achieve over 40 in all projects where the scheme is applied. This will reduce the social and environmental impact of construction and assist in promoting the community acceptance of the new development before occupants have moved in.

Socio-economic and health impact assessments

Carry out a socio-economic and health impact assessment of the proposed development and take into consideration the recommendations of the assessment.

Local procurement

Develop a sustainable procurement plan, promoting local procurement of materials and set targets for the percentage of materials (by weight and/or value) to be procured from within a 30km radius of the site.

Tenant engagement

Prepare a tenant engagement strategy and an energy and sustainability occupant awareness programme, providing them with actionable strategies for reducing the building's environmental footprint.

Sustainable and community transport

Locate the main entrance oriented to pedestrian traffic and encourage green transport modes such as walking, cycling and the use of public transport. Support carpool / vanpool programmes and assign priority parking locations to carpools and vanpools.





Educational initiatives

Bridges is keen to share our sustainability expertise with our joint venture (JV) partners and supply chain, and we hope that each project is a learning resource for the community. Consider opportunities for building or landscape design to promote environmental awareness by demonstrating principles for school children and people in the community.

Training & employment

Develop and implement a contractor employment and training plan. This should include targets for training, apprenticeships and a percentage of construction or other roles sourced locally from the main contractor and supply chain. These employment practices will not only contribute to the local community but minimise the CO₂ emissions from transport.

Strengthen partnerships with occupiers, contractors and suppliers that promote fair working practices and enable leaner and more carbon-efficient buildings to be delivered. For example, property management providers are encouraged to pursue ongoing sustainability education, training and professional accreditation provided by UKGBC¹, IWFM², RICS³, BRE⁴, CIBSE⁵, etc.

Provide information to occupants and energy managers

Provide occupants and property managers with relevant information about their development and surroundings in a written guide and/or building information pack, making this material available in a clear and user-friendly way. Consider the inclusion of videos, websites, or other media in order to help translate the design benefits of the development to tenants. The guide could include information about:

- > Location, green travel plan and alternative sustainable transport options, including cycle storage, nearby cycle routes, electric charging points, car clubs, amenities, places of interest, liveability and walkability scores
- > Internet connectivity speed, access and benefits
- > Health and wellness features and security measures that have been implemented
- > Biophilia⁶ and plant benefits in buildings
- > Maintenance of plants and communal amenity spaces
- > Flood risk, drainage, fire and emergency contact information
- > Temperature control measures
- > Operational information on heating, ventilation, and air conditioning (HVAC) systems
- > Instructions on how to operate offices in an energy-efficient way
- > Details of any low- or zero-carbon (renewable) technologies that have been installed
- > Instructions on how to control lighting, alarms, communication facilities, telephone, sound systems
- > Information regarding any functional flexibility that has been designed into the spaces within the development
- > Types of post-construction support available to the occupants

Post-construction occupancy evaluation

Consider undertaking a post-construction occupancy evaluation survey to determine the actual performance of the project against the design intent. Collect feedback directly from a sample of occupiers or residents (targeting a 30% response rate) in the form of questionnaires, focus groups, interviews etc. Include a review of energy and water usage and occupiers' feedback on issues such as thermal comfort, ventilation and air quality (during both summer and winter), lighting, noise, satisfaction with energy and water efficiency, connectivity, smart meters and controls, access, space and layout.

¹ UK Green Building Council (UKGBC)

² Institute of Workplace and Facilities Management (IWFM) (previously British Institute of Facilities Management, BIFM)

³ The Royal Institution of Chartered Surveyors (RICS)

⁴ The Building Research Establishment (BRE)

⁵ Chartered Institute of Building Services Engineers (CIBSE)

⁶ Biophilia: a concept used within the building industry to increase occupant connectivity to the natural environment through the use of direct/ indirect nature, and space and place conditions





Health & safety

Supply chain and contractor selection should include environmental, sustainability and health & safety policies, quality (ISO 9001) and environmental (ISO 14001) certifications or equivalent standards, and health & safety accreditations where applicable. Consider from an early stage the implications of the Building Safety Act 2022 and recent changes to Building Regulations.

Security needs assessment

Contact a suitably-qualified security specialist to conduct an evidence-based security needs assessment (SNA) at concept design, to assist the team in meeting the required security requirements of the project and implement the recommendations or solutions, where feasible.

This plan is intended to improve occupants' quality of life by strengthening communities and reducing potential for crime. The assessment could include the project's street-scape and public realm, to promote pedestrian and cyclist safety.

Health & well-being

Design flexible layouts that achieve good practice space standards, daylighting levels, views and consider the installation of web enabled control devices that are easy to operate and able to report on air quality (CO₂, nitrogen oxides (NOx)), temperature and humidity, etc.

Where applicable, prepare an indoor air quality management plan at design stage, specify materials with low or zero volatile organic compounds (VOCs), and measure the indoor air quality post-construction (pre-occupancy).

Employ well-designed ventilation strategies that promote good indoor air quality, prioritising free-cooling and natural ventilation where possible. Adopt a smoke-free policy for the building and outdoor spaces under ownership.

Contract a suitably-qualified acoustician to advise on the requirements of meeting indoor ambient noise levels and design criteria for internal and external noise in accordance with relevant standards. Test results on sample areas to demonstrate that the noise limits have been met.

Provide fresh air in accordance with ventilation requirements of British Council for Offices, CIBSE and Building Regulations and Codes where applicable and carry out indoor air quality checks to make sure the building exceeds industry standards in the relevant country.

Carry out a lighting design and colour optimisation study for offices that assesses, among other issues, the impact of circadian lighting¹. Use space standards/layouts in a way to place occupant desk-working activities into areas closer to the windows.

Provide well-ventilated, well-lit, private and quiet spaces free from being overlooked that promote focused work, relaxation, stress relief and healthy sleep.

Design dedicated storage space to promote stress-free hot desking (if applicable) and provide breakout and amenity spaces for occupants.

Consider the feasibility of installing water softeners and/or filters to improve the water quality in the offices.

Incorporate blinds or solar control measures to limit solar gains and the potential for overheating.

Produce a cleaning programme for the development which employs healthy and green cleaning products, where applicable.

¹ A circadian lighting system is designed to send light signals to the brain that replicate the signals from natural daylight over the course of the day. This keeps individuals active in the daytime and helps individuals produce melatonin at nighttime, for better quality sleep.



Appendix A: Materials specification 7

Project teams need to consider the following requirements when specifying materials:

All timber should be supplied with a Chain of Custody from Forest Stewardship Council (FSC)-certified wood or equivalent.

We encourage the use of:

- > Concrete, steel, cladding metals, bricks, gypsum, window glass certified to ISO 14001¹, ISO 20400², BES 6001³ Framework Standard for the Responsible Sourcing of Construction Products or equivalent
- > Local extracted and manufactured materials
- > Paints and sealants with low or zero volatile organic compounds
- > Materials with recycled content

All buildings should be free of materials that constitute a potential risk to health. When selecting materials, the EU Taxonomy guidance should be considered, as well as the Informed Habitable Future guidance in relation to the health impact of materials (<https://informed.habitablefuture.org/product-guidance>) and/or the Living Building Challenge Red List.

None of the following materials should be used or specified for use in the project:

- > Any material which is known to or is reasonably believed to pose a hazard (by itself or as a result of the manner of its installation) to the health of any person or to the environment
- > Any material which, although not in itself novel or unusual, is knowingly used in a manner or combination which is unproven
- > Any material which at the time of specification or use in the project is generally accepted as being or is reasonably believed to be deleterious or capable of:
 1. Becoming deleterious when used in a particular situation or in combination with any other material or materials
 2. Becoming deleterious without a level of maintenance which is higher than that which would normally be expected in a building of comparable type
 3. Being damaged by or causing damage to any structure in which it is incorporated or to which it is affixed
- > Any other materials which are not in accordance with Statutory Requirements, British Standards, EN⁴, ISO⁵, Codes of Practice or BRE⁶ Green Guide to Specification or relevant standards and regulations.

¹ International Organization for Standardization (ISO) 14001: Environmental management systems (2015)

² International Organization for Standardization (ISO) 20400: Sustainable Procurement Guidance (2017)

³ BRE Environmental and Sustainability Standard (BES) 6001: Framework Standard for Responsible Sourcing

⁴ European Standards - Euronorm (EN)

⁵ International Organization for Standardization (ISO)



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Bridges Fund Management, June 2024