RIBA Client Advisers' Sustainability Briefing Requirements (SBR): Workbook

RIBA
Client Adviser

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Guidance: The Sustainability Briefing Requirements Workbook

Use of the Workbook

This workbook, to be used with the RIBA Sustainable Outcomes Guide 2019, is intended for the briefing of RIBA Work Stages 0 and 1, and for development during Stage 2 and beyond, to help clients make informed choices setting sustainability outcomes for their projects. Further guidance is also signposted.

Population of the workbook will be an iterative process involving client, their RIBA Client Adviser and consultant team members.

Its purpose is to act as a checklist to help capture the preliminary thoughts and aspirations of the project team, with the goal of setting performance requirements. It will inform the choice of design strategies and assessment tools, identify the need for specialist team members and set up measurable long term sustainability strategies that will fit the client's own drivers and their wider responsibilities towards climate and society.

It is anticipated that these sustainability topics will have become embedded in the Project Brief by the end of Stage 2, with client choices ultimately reflected in the co-ordinated multidisciplinary design material.

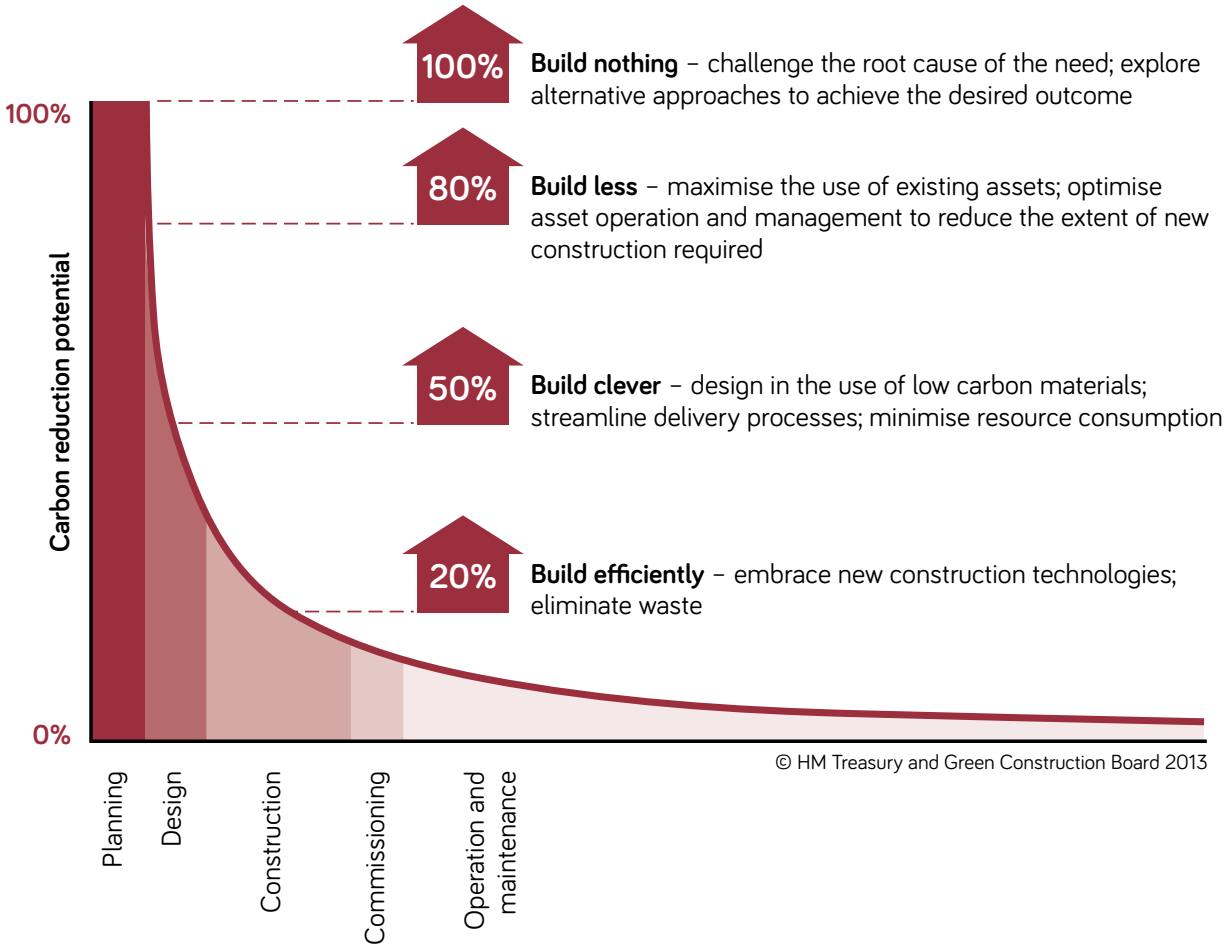
Structure of the Workbook

Eight topic areas constitute the SBR sustainability agenda for a project. Both objectives and strategies for achieving them are considered in the workbook. Note that Operational Carbon and Embodied Carbon have been combined into a Whole Life Carbon section,the first to follow.

Importance of Brief and Client Adviser

The highest impact to sustainable outcomes is made in the earliest stages of a project, often before a full design team is appointed. Clients have the most influence on sustainable outcomes, as Design Teams will only be able to deliver highly sustainable projects, which are defined as part of the Client Brief.

Engaging a RIBA Client Adviser early assists Clients to include strategic decisions within an informed Client Brief to set the project on track to achieve the most appropriate and impactful sustainability gains from the start.



Net Zero Operational & Embodied (Whole Life) Carbon

Project Objectives

Objectives	Methodology	Narrative/Notes
Definition	The CO2 emissions associated with constructing and maintaining the building. Consideration of embodied carbon as well as operational carbon emissions together over a project's expected life cycle constitutes a whole life approach.	
Targets	**Energy Use Intensity Targets:** Establish targets LETI: EUI. 35 kWh/m^2/yr Passivhaus: PER. Classic 60 – Plus 45 – Premium 30 - kWh/m^2/yr **Embodied Carbon Targets:** "Business as usual" -1200-1400 $kgCO_2e/m^2$/yr 540-750 $kgCO_2e/m^2$/yr for Embodied Carbon depending on project type 2025 targets 675-970 $kgCO_2e/m^2$/yr 2030 targets 540-750 $kgCO_2e/m^2$/yr	
Metric: **Embodied Carbon** **Energy Use Intensity (EUI)**	The embodied carbon used in creating a building comes from: Products & materials/ Transport / Construction / Maintenance and replacements / End of life disposal Units: $kgCO_2/m^2$ Energy Use Intensity (EUI), the total amount of energy used in a building in a year divided by its gross internal floor area (GIA) In Passivhaus methodology this is broadly equivalent to Primary Energy Demand (PER) - (treated floor area TFA) Units: kWh/m^2/yr	

Objectives	Methodology	Narrative/Notes
Desired Outcome	To achieve Net Zero carbon for new buildings and retrofit buildings including offsetting using whole life carbon assessment	
Baseline Standard		
Target Standard for Project	**Net Zero** Net zero is defined variously as reducing the embodied and in-use energy/ CO_2 emissions of construction, with the use of on-site renewables, and as a last resort using carbon offsetting. This is a topic which has not yet reached full agreement within the industry. Whole life calculation assessment tools should be used, including a life-cycle methodology. An open mind needs to be maintained by the briefing team, to avoid 'greenwashing' about the effectiveness of carbon offsetting schemes.	
	U Value Part L (2021) U Value range 0.16-0.26 W/m^2K LETI /Passivhaus U Value range 0.10-15 W/m^2K **Airtightness** Part L (2021) air tightness@50PA <8 m^3/h.m^2 (2021); <5 m^3/h.m^2 (2025) LETI target q50 - air tightness@50Pa <0.6-1 m^3/h.m^2 (permeability) Passivhaus n50 – airtightness@50Pa <0.6 ACH for Passivhaus, <1.0ACH for Enerphit (air changes per hour) **Thermal Bridging** LETI target 0.04 (y-value W/m^2K is the total sum of all linear psi (Ψ) values Passivhaus defines thermal bridge free junctions as psi 0.01 W/mK.	

Objectives	Methodology	Narrative/Notes
What assessment methods will be used?	Refer reference section for available assessment methods BREEAM/BRE Home Quality Mark/LEED, Living Building Challenge, Passivhaus/EnerPHit/AECB, UK Net Zero Carbon Buildings Standard, or NABERS 5*/6	
What tools will be used to manage the information?	Refer reference section for available assessment methods RIBA Plan for Use/Soft Landings/other/embodied carbon calculators, Energy modelling: Part L modelling: SAP (residential), SBEM (all other), PHPP & CIBSE TM54	
How will we verify outcomes?	Employ a consultant who can calculate the Whole Life Carbon Footprint of the existing and proposed situations. This should include an understanding of materials removed from site and disposed of or re-use, as well as the materials left on site and imported onto site. Mandatory carbon reporting for larger projects or in certain local authorities as part of the Completion handover pack. Voluntary reporting for any project	

Project Principles

Principles	Proposed Strategies The questions in this column are to be used as prompts and will be replaced by actual project responses for the record	Next steps: Challenges, risks, priority
Prioritise deep retrofit of existing buildings	• "Build nothing or build less" - don't automatically assume new-built or larger size, consider re-use/ retrofit, allow for in-use assessment, feasibility studies and needs analysis as input to business case and brief, establish items to be retained or recycled on-site, explore off-site solutions to reduce space-take further (e.g., for archiving or once-a-year staff assemblies) • Formulate descriptive reasons for sustainability targets and the value of corporate goals to the client, green funding requirement, reputational priority (e.g., "highest BREEAM rating", "low running costs", "get to net zero by 2030" etc) • Consider site specific constraints and opportunities, explore ideas that only the client can broker - e.g., wider estate, frameworks, synergies with neighbours or partners, R&D • Involve client sustainability lead / champion • Discuss undertaking a 'Building-in-Use' Assessment - to review operational implications and opportunities? • Is the building listed and therefore will require a particular approach to retrofit? • Will occupants/ users of existing building stay on site during the works? If not, and perhaps in particular for housing projects, what is the strategy for keeping the existing community together?	

Principles	Proposed Strategies The questions in this column are to be used as prompts and will be replaced by actual project responses for the record	Next steps: Challenges, risks, priority
Prioritise Fabric First principles	Prioritise a fabric-first approach to ultra-low energy, before considering embodied energy and offsetting • "Build clever"- maximise opportunities for flexibility within brief: multipurpose spaces with movable elements, • "Right fit" – adaptability as balance between over-provision and restriction, "loose fit" generic vs strictly bespoke design, importance of ceiling height to futureproofing • Prioritise energy-performance for fabric ("fabric first") beyond minimum required (airtightness, impact of thicker build-ups, double glazing vs triple glazing, comfort levels) • Ensure selection of competent designers and contractors to achieve airtightness and minimum thermal bridging • Avoid petroleum-based insulation, building papers, vapour control layers etc. Make sure your strategy avoids poor internal air quality/ lack of air changes etc. that can result in condensation, black mould etc.	
Take Whole Life net zero Carbon approach	• Whole life carbon (WLC module A-C) to be calculated alongside embodied carbon and operational carbon to ensure design decisions do not result in unintended increased carbon emissions • Major developments require CE (Circular Economy) statements alongside WLC Statements • Run embodied carbon tracker parallel to value engineering Find synergy between material savings (i.e., less embodied carbon) and financial savings • Appoint embodied carbon specialist early • Use case studies and benchmarking to develop targets • Targets can be a range of minimum / aspirational targets within Client Brief and Employer's Requirements (ERs), agree desired carbon definition when not mandated Undertake optioneering to narrow down agreed targets, allow for iterative modelling and optimisation	

Principles	Proposed Strategies The questions in this column are to be used as prompts and will be replaced by actual project responses for the record	Next steps: Challenges, risks, priority
Develop efficient environmental systems, installation and controls	Has the client provided information regarding utility/ service supply to site to establish capacity and flexibility? • Match complexity in use to client: Develop maintenance and energy strategies taking into account likely user knowledge and behaviour impacting on performance e.g., ventilation patterns, tenant change frequency, maintenance regimes • Are you prioritising low-carbon heating and cooling solutions? • Reduce energy use intensity (EUI), i.e., all energy demand incrementally e.g., passive measures, orientation, form factor, space efficiency, local micro-climate, enhanced envelope, exhaust and water heat recovery, capped peak heating, smooth peak demands through storage and exposed thermal mass etc. • Understand there is a disconnect between energy performance rating and actual energy performance • Anticipate and plan for emerging legal requirements • Develop heating and cooling strategies in consultation with future users to make sure occupant behaviour will be supporting them to achieve desired performance	
Maximum on-site renewables	• Do you have a view or policy on site renewables and offsetting? • Have you explored the potential for on-site renewables? • Understand LA minimum requirements for on-site renewables, Part L (2021) now incentivises electric, the carbon grid is decarbonising - towards fossil-fuel free • Allow for feasibility, covering also affordability and hybrid solutions (e.g., hybrid heat pump? hydrogen?) • Balance areas used for energy generation with wider needs for improved biodiversity and urban heat sink	

Principles	Proposed Strategies The questions in this column are to be used as prompts and will be replaced by actual project responses for the record	Next steps: Challenges, risks, priority
Prioritise clean and renewable energy	• Investigate local and, or regional energy strategies for clean energy initiatives including Hydrogen alternatives. • All electric options can be expensive for end-users if reliant on Air Source Heat Pumps only installed in buildings without high levels of insulation and air tightness. • All gas (except perhaps 'Green Hydrogen') must be considered as a fossil fuel	
Carbon offsetting	• Will you offset as a last resort? Carbon offsetting is a complex and controversial topic, and evidence shows it is not always effective.	
Improve on Part L- Building Regulations	• Check LA for on-site carbon reduction requirements • Check local authority requirement for improvements by energy efficiency measures alone • Use energy modelling through all design stages, to predict performance, then monitor and test on-site to eliminate the "Performance Gap" (Note current version of SAP is a compliance methodology and is not necessarily helpful as an energy modelling tool).	
Embed in passive design principles	• Understand building form efficiency factor (external surface area divided by internal treated floor area) • Allow time for iterative optimisation over typical averages • Understand what can be achieved by different strategies (existing vs. new building, open plan vs. cellular, central core vs. atrium etc) – use brief-testing feasibility early • Lighten and reduce the structure and basements (biggest contributor of carbon), explore acceptability of areas with lower design load standards for further reductions • Balance impact of spans on carbon intensity and usability • Allow time for daylight analysis and for a range to be tested during design development	

Principles	Proposed Strategies The questions in this column are to be used as prompts and will be replaced by actual project responses for the record	Next steps: Challenges, risks, priority
Set monitoring & disclosure plan	• Appoint post-occupancy services (monitoring and adjustments) for optimal performance • Futureproof: provisions for metering and recording of information to enable future reporting • In-use: Explore commitment to annual DECs, reporting of energy consumption and uploading to public databases	

Sustainable Water Cycle

Project Objectives

Objectives	Methodology	Narrative/Notes
Definition	Further details are being developed for inclusion in the next revision. "The consumption and discharge of water, inside and outside buildings, the mitigation for flood risk, plus the energy required to heat water for use within buildings."	
Targets	In-use consumption Targets 40% reduction in potable water use per person per day Domestic Potable Water Use: [***source for these standards to be verified and quoted ***] - → 2020 - < 110 l/p/day - → 2025 - < 95 l/p/day - → 2030 - < 75 l/p/day Non-Domestic Potable Water Use: - → 2020 - < 16 l/p/day - → 2025 - < 13 l/p/day - → 2030 - < 10 l/p/day	
Metric	Water consumption - [litres/ person/day] Flow rate of appliances – [litres/ minute] Capacity of fittings and appliances - [litres] Heat energy required to heat water - [kWh/(m2 .a)] Embodied water/ Water footprinting/ Environmental Product Declarations (EPD) SuDS- Dead legs – measured in litres Leakage (Non-revenue water) water lost before reaching customer, expressed as percentage %	
Desired Outcome	Reduce water and Domestic Hot Water consumption Reduce Energy required for DHW Implement Sustainable Urban Drainage Systems (SuDS) Implement water harvesting	
Baseline Standard	In-use consumption Targets 40% reduction in potable water use per person per day Domestic Potable Water Use: - → 2020 - < 110 l/p/day - → 2025 - < 95 l/p/day - → 2030 - < 75 l/p/day Non-Domestic Potable Water Use: - → 2020 - < 16 l/p/day - → 2025 - < 13 l/p/day - → 2030 - < 10 l/p/day	

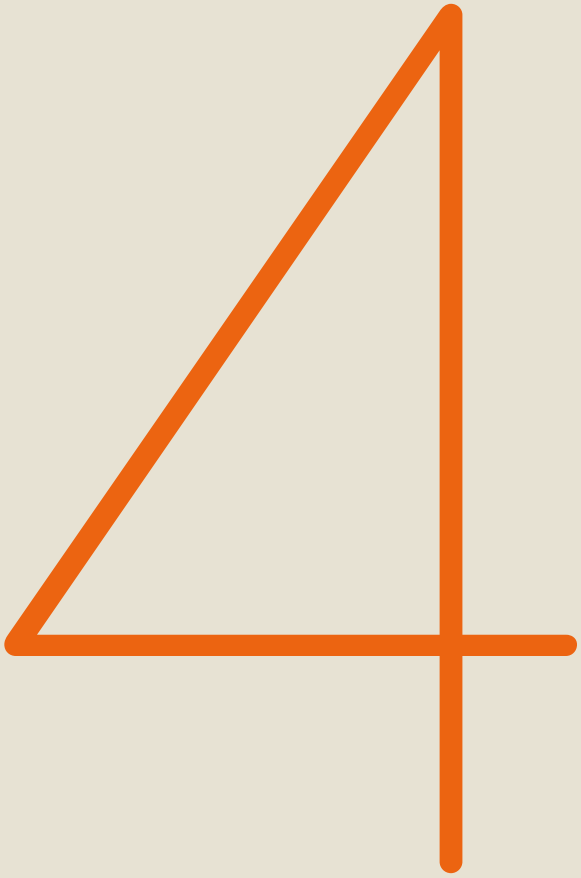
Objectives	Methodology	Narrative/Notes
Target Standard for Project	The WELL Building Standard™ version 2 Living Building Challenge (US) BREEAM, Passivhaus, BSRIA – Soft Landings NABERS – (National Australian Built Environment Rating System)	
What assessment methods will be used?	In-use consumption Targets Non-Domestic Potable Water Use: Assessment Certification & Process Tools – → BREEAM – → LEED – → Living Building Challenge – → RIBA Plan for Use – → Greenstar (Aus) & NABERS (Aus) – others	
What tools will be used to manage the information?	BSRIA – Soft Landings	
How will we verify outcomes?	BSRIA – Soft Landings Water footprinting (Embodied water)- international water footprinting standard ISO 14046	

Project Principles

Principles	Proposed Strategies	Next steps
Functional Brief	• Establish client and project-specific functional requirements including higher impact on water cycles such as higher rainwater system security level, agricultural uses, water-intense uses, basements etc. • Consider and improve the wider environmental implication, to include such as: below ground aquifers, clean discharge into rivers and oceans, minimise flooding, increase biodiversity and water resilience • Engage with stakeholders early on • Use benchmarking and site visits to develop targets • For master planning: consider Sustainable Drainage System (SuDS) from the outset - design schemes to improve water permeability from existing level • Appoint specialist early for water-critical projects, detailed brief by separate consultant if necessary	
Efficient Water Usage	• Aim for reduction in potable water as litre/person/day • Establish client acceptance of waterless appliances • Provide low-flow fittings (i.e., Impact on Victorian sewers) • Consider sensor-flow controllers where applicable • Consider rainwater harvesting and grey water recycling • Explore on-site reed bed black water cleansing and recycling Domestic: 2025 < 95 l/p/day; 2030 < 75 l/p/day non-domestic: 2025 < 13 l/p/day; 2030 < 10 l/p/day Schools: 2025 < 1.5 l/p/day; 2030 < 0.5 l/p/day (RIBA 2030 Climate Challenge Version 2 (2021)	

Principles	Proposed Strategies	Next steps
Efficient Energy Use	• Consider impact of hot water use on energy use as well as water use (showers versus baths) – typical 12 l/min shower head – LETI standards: 6 l/min shower head, maximum dead leg of 1 litre for hot water pipework • Flow rates: certified 'Green' Euro Water Label should be used for hot water outlets (not using flow restrictors)	
Drinking Water Quality	• Consider drinking water dispensers/water bottle refilling • Eliminate risk of stagnant water esp. in existing contexts	
Metering & Monitoring	Develop a water metering & monitoring strategy, e.g., 1 meter per property, or 1 meter per tenancy/floor • Choose zones to reflect possible use/user change in time • Set plan for Post Occupancy Evaluation to verify performance in use	
Reduced Leakage	• Mandate leak-detection with connection to BMS • Mandate shut-off valves & occupancy sensors to isolate areas in unoccupied periods	
Wider Systems	• Understand high-impact site-specific constraints and opportunities early such as shared sewers, site falls, third party (flood) defences, Ground Water Protection Zones (SPZ) and Nitrate Vulnerable Zones (NVZs) • Develop strategies to minimise impact on and pollution of watercourses by higher-risk development as part of brief • Create, connect and / or improve amenity provision locally • Use project synergy to support natural habitats locally • Utilise local resources where possible, avoid higher "water footprint" especially of imported materials	

Principles	Proposed Strategies	Next steps
Climate Resilience	Carry out site-specific flood risk assessment; minimum 100-year storm return rate, or minimum 270-year storm return rate for higher security • Assess Sustainable Drainage System (SuDS) • Explore options for attenuation including green roofs • Explore options for "floodable" areas • Include ground floor uses resilient to flooding • Consider impacts of droughts or reduced water quality e.g., include drought-resistant planting	



Sustainable Connectivity and Transport

Project Objectives

Objectives	Methodology	Narrative/Notes
Definition	• This is the capacity to support the mobility needs of a society in a manner that is the least damaging to the environment and does not impair the mobility needs of future generations. • Single and multimode transport and connectivity for time efficiency, usability, accessibility, safety and reliability. • Travel and connections between buildings and their locality, between localities: urban, suburban, town, village, and countryside.	
Targets	• Achieving footfall for business plan and Customer Value Proposition • Inclusive access for all to BS8300 • Selecting relevant standards and guidance, with addition of published material, setting project specific benchmarks, or • Utilising BREEAM, or other commonly utilised accreditation, these will have a lower granularity to the project specific approach using QA tools in the Baseline Standard section below. • Safe by design, design for safety to ALARP (As Low As Reasonably Practicable).	
Metrics	• Travel time • Travel mode options • Ecological diversity • Ecological mass • Water cleanliness • Welfare and happiness • Increased financial wealth, inc. business and personal	
Desired Outcome	A built environment which promotes and maintains a good quality of life: • Comfort and ergonomics • Marginal cost of time • Options, Flexibility & Freedom • Safety and security • Inclusivity and diversity • Health and wealth • Communication and engagement, innovation	

Objectives	Methodology	Narrative/Notes
Target Standard for project	• Utilising project and location specific metrics, to enhance and improve transport options that meet outcome requirements above, whilst also mitigating risk of harm to As Low As Reasonably Practicable (ALARP).	
Assessment & Tools	• What assessment methods or tools will be used? – Developed for project specific purposes? or – Utilised common sustainability method such as BREEAM?	
Verification	• How will we verify outcomes? – Pre-tender requirements development for inclusion in contract deliverables or – Iterative standard QMS process for contractor to deliver and validate outcomes post completion	

Project Principles

Principles	Proposed Strategies	Next steps
Comfort & ergonomics	• What opportunities exist to improve an individual's and the wider community's sense of identity and perception of themselves through connections between place of home, work, amenities and the proposed project? • What strategies might be adopted to enable users to be and feel safe and secure when arriving and departing, and connecting between the building? • Where and what are the touch-in and touch-out points as interface(s) between connections provided and transport? • What is the basis of decision making and tools to be used • What strategies could be adopted to give users a sense of belonging to the community and for neighbours/colleagues to provide constructive social support? • How is the maintainer and or operator supported to excel at their role once in use for positive emotional workplace?	
Marginal Cost of Time	• How are the desired footfall and user movement flows derived, and then validated in the design? • What is the basis of decision making and tools to be used? • What are the desired connections for outcomes intended the most? • What are existing links, connections and transport? • Are there deficiencies identified in existing links and transport modes, where investment would support better intended outcomes? • How will the requirement for social and or functional adjacencies be defined? • Are there any accessibility or transport issues your community faces/ project needs to address? • What provision may be required to enable and facilitate future connectivity improvements resulting from opportunities in present proposal? • What are the opportunities for improving transport and connectivity use, and how might risks of underuse, opportunities for enhancing use, be included in financial budgets and procurement? • What legal arrangements may be needed to ensure investment can be received from inside or outside the commissioning organisation?	

Principles	Proposed Strategies	Next steps
Options, Flexibility & Freedom	• What approach can be adopted to safeguard privacy and freedom from user and transport disturbance on neighbouring residents/ colleagues? • What pricing and or incentive strategies may need to be put in place to support use freedom and flexibility of use? • What is the basis of decision making and tools to be used? • What touch points or interfaces between the building and its environs may be required to enhance actual or perceived flexibility of use and ease access? • What stakeholders will need to be involved to realise benefit from outputs or organisational change that support flexibility and freedom? • What stakeholders are involved in connectivity and transport, how and when does the project engage with them to facilitate flexibility and freedom? • Are there specific age groups or diversity requirements that need supporting, and how though connectivity and transport? • What provision may be needed to include for information and or knowledge about wider community and or social opportunities from connectivity and transport provided?	
Safety and Security	• What is the scope of safety matters at, and outside the site boundary that interface with topic? • What is the basis of decision making and tools to be used? • What is the safety by design process, and how is this integrated into the project process? • How can the project increase resolution of safety matters or concerns in transport and connections? • What are the security interfaces between the site and project, and topic • Which statutory authorities/undertakers require consultation? • Which service providers can support the project, with resource and or information? • What are the immediate anti-social challenges and how can benefit be added through the project?	

Principles	Proposed Strategies	Next steps
Inclusivity, diversity	• What is the basis of decision making and tools to be used? • What is the basis of design data, and source, for beginning option preparation, sifting for resolution by design team for inclusivity and diversity choices in connectivity and transport? • How could the project design process to give the community / users the opportunity to connect with the project, and with each other? • What types of connectivity and transport investment, either direct or indirect could further diversity and inclusivity aim, and objectives set out for the design team and contractor to realise through the built work? • What opportunities are there to respond to the general demographic of the area (age / culture / ability / socioeconomic status). Are there any notable demographic groups? (More relevant to Social Value / Community)? • What strategies can be adopted to ensure that existing occupants will be treated fairly, in particular, that impacts, and harms are mitigated and/or remedied, so that no one person or community is less well off? • How are planned or proposed social initiatives being used to improve the wellbeing of the community throughout the project process, and in use? • What existing social infrastructure can the project support and engage with, and how?	
Health and Wealth	• What opportunities are there to prioritise active routes and means of transport, including client initiatives or potential partners to help develop walking or cycling? • List the immediate social health and wealth challenges, engage with Local Authorities. • What modes of transport support required return on investment for project owner and communities in context? • What existing social infrastructure can the project support and engage with, and how? • What is the basis of decision making and tools to be used? • How will the project collate existing initiatives that would benefit from connectivity with the project? • Are there any available data on any specific health needs in your community and if so, could the project help address any of these needs? • What public service agreements can be put in place to enhance benefit from topic?	

Principles	Proposed Strategies	Next steps
Communication Engagement & Innovation	• How are material and social improvements measured and managed though the project process to realise benefit from communications and engagement? • Are there existing and/or planned initiatives related to the topic that the project can tap into, and or support? • What are the best value key performance indicators to be used to measure improvement and or cost? • How does planned transport use enhance connectivity? • List local community organisations that the project will engage with, separate from the planning process? • When in the project are innovations to be identified for exploration and or development for realisation, are these social, environment and or financial? • Who pays for innovation and engagement around transport and connectivity, how can tax support be realised for innovation, and by whom? • What partnerships are required to enable delivery and use of transport and connectivity strategy? • What people and consultants are required to deliver? • Are there particular local characteristics that transport, and connectivity choices can enhance? • How is connectivity and transport use being integrated into the project use stage communications plan?	

Sustainable Land Use and Ecology (Biodiversity)

Project Objectives

Objectives	Methodology	Narratives/Notes
Definition	• Built environment projects need to maximise the efficiency of land to reduce the impact of development on the physical site and its context, through consideration of two main aspects: Sustainable Land Use and Building Density and Biodiversity. These are supported by the approaches of: – Nature-based Solutions – Bio-regional Urbanism and Design – Urban Farming and Sustainable Food Production	
Targets	• Enhance the local flora and fauna post-development compared to pre-development. • Achieve an Urban Greening Factor of 0.3 for non-domestic and 0.4 for residential developments.	
Metrics	• Common measures of building density are floor area ratio and plot ratio are: – population density refers to the number of people living in a unit of land area. – FAR : total usable floor area of a building per area of the site – dwelling unit density refers to the number of homes per hectare – gross and net densities	

Objectives	Methodology	Narratives/Notes
Desired Outcome	• The key design principles aim to reduce development on ecologically rich sites, make the best use of previously inhabited sites, protect existing wildlife, and make it ecologically richer and productive. – leave a site in better 'regenerative' ecological condition than before – prioritise building and site re-use – prioritise brownfield site selection – carry out sustainable remediation of site pollution – retain existing natural features – create mixed use development with density appropriate to local context – create a range of green spaces: roofs, vertical, pocket parks, green corridors – create habitats that enhance biodiversity – create 'productive' landscapes for urban food production	
Baseline	• Are you aware of the substantial steps taken in relation to biodiversity in recent years? Do you accept the need to adopt measures to protect biodiversity which are increasingly required to obtain necessary building consents? Are you aware of the additional fee costs therefore involved? • Biodiversity Net Gain and Environmental Net Gain as a minimum	
Target Standard for Project	• population density • total usable floor area of building against the site area • dwelling unit density • dwellings per hectare • gross and net densities	
Assessment & Tools	• Careful definition of criteria prior to use of readily available online calculators.	
Verification	• Post Occupancy Evaluation: long-term success of targeted issues	

Project Principles

Principles	Proposed Strategies	Next steps
	are you aware of the term 'biodiversity' and 'ecology' in the context of the built environment?	
	what is your understanding of? • sustainability in the built environment • the ecological impact of the built environment • the link between biodiversity and the built environment • the impact of Food Production on ecology	
	Are you aware of the substantial steps taken in relation to biodiversity in recent years?	
	Do you accept the need to adopt measures to protect biodiversity which are increasingly required to obtain necessary building consents?	
	Are you aware of the additional fee therefore involved?	
	Do you have knowledge of and understand the benefits of biophilic design?	
	Have you adopted biophilic design to-date?	
Net Gain	• Do you understand the concept of Biodiversity Net Gain and Environmental Net Gain?	
	• What actions have you employed to date to maximise net gain? Have you to date calculated species and habitat impacts?	
Land Use & Building Density	• Do you understand the effect of land use on sustainability?	
	• Are you aware of the benefits for the environment of dense building footprints?	
	• Have you to date adopted and procured dense building footprints?	
	• Have you to date re-used existing buildings on existing footprints?	

Principles	Proposed Strategies	Next steps
Nature-based Solutions	• What is your understanding of Nature-based Solutions?	
Bio-Regional Urbanism	• Do you understand the term Bio-regional Urbanism and its importance?	

6

Good Health and Wellbeing

Project Objectives

Objectives	Methodology	Narrative/Notes
Definition	• Wellbeing is Health, Comfort, Delight and Happiness (Oxford English Dictionary). This means equal priority for understanding and creating the conditions for both good mental health and physical health. Health and wellbeing affect capability, which includes having choice and agency. Design matters for wellbeing because the built environment affects how we feel, what we do, our ability to perform tasks, our health and safety.	
Targets	• Good health: to increase the physical health of the users as self-assessment at POE by at least 30% compared to before the project started • Wellbeing of mind: for all users at POE to measure the improvement in their positive emotions, connectivity, freedom and flexibility and participation as at least 30% improved compared to before the project started.	
Metrics	• WELL score • BREEAM • Health outcomes (such as Life Expectancy)	
Desired Outcomes	A built environment which promotes and maintains a society with good mental and physical health, through equal consideration of both a healthy mind and a healthy body: Healthy Mind desired outcomes: – Positive Emotion – Connection – Choice & Freedom – Taking Part – Equality, Diversity & Inclusion Healthy Body desired outcomes: – Active Lifestyle & Fitness – Physical Comfort	
Baseline	• Identify and measure existing project and location specific metrics, to enhance and improve desired health and wellbeing outcomes (see above)	

Objectives	Methodology	Narrative/Notes
Target Standards for project	• Occupant density m^2/person • Qualitative measures for personal control • Overheating: 25-28 °C for 1% of occupied hours • Daylighting > 2% av. daylight factor, 0.4 uniformity • CO_2 levels < 900 ppm • Total VOCs < 0.3 mg/m^3 • Formaldehyde < 0.1 mg/m^3	
Assessment & Tools	• WELL Certification FITWEL certification • WELL Scorecard / DQIs (Design Quality Indicators) /other	
Verification	• Post Occupancy Evaluation (POE - performance in use) / other	

Project Principles

Principles	Proposed Strategies	Next steps
Positive Emotions	• What opportunities exist to improve an individual's and the wider community's sense of identity and perception of value through this project?	
	• What project strategies might be adopted to enable occupiers and visitors to feel safe and secure, cultivating a sense of belonging and mutual social support?	
	• Are there some opportunities to enhance the users emotional state through physical movement through the project/internal and external spaces?	
	• Do you have any current knowledge of biophilic design? Do you understand the benefits of biophilic design? Have you adopted biophilic design?	
Connection	• What strategies could be adopted to give users a sense of connection with or belonging to the community and for neighbours / colleagues to provide constructive social support? (See above)	
	• What opportunities for the project and wider community might be created by joining existing facilities nearby, which have shared / complimentary purposes? Identify links to be retained, reinforced and added.	
	• What is the potential for shared use of the project by the community? Any co-location of services? Any partnership opportunities?	
	• What are the local amenities in the immediate context of your site (1km radius)? Any possible opportunities and barriers to access these amenities e.g., shops, education, health, community facilities? Could the project address any gaps? How could the project help provide shared community use?	
	• Are there any accessibility or transport issues your community faces/ project needs to address?	
	• Could budget be allocated, or funding sources be found for improving connections e.g., public realm, additional time-managed security to allow out of hours community use etc?	
	• What strategies could be adopted to connect users with nature; spaces inside and outside the project / building? Is there potential for any food growing on the site (Biodiversity / Biophilic urbanism)?	

Principles	Proposed Strategies	Next steps
Choice & Freedom	• What approach can be adopted to create adequate safeguard privacy and freedom from disturbance by neighbouring residents / colleagues?	
	• How can users be enabled to adapt homes/ workspaces to their needs?	
	• What options are there to maximise the social and economic value of the asset through use outside the standard hours of use?	
	• Is there scope for communal facilities, and if so, who can use them (building users, wider community etc)?	
Taking Part	• How could the project design process to give the community / users the opportunity to learn new things?	
	• How could the design process to help to develop relationships within the neighbourhood?	
	• What opportunities are there to respond to the general demographic of the area (age/culture/ ability/socioeconomic status). Any notable demographic groups?	
Equality, Diversity & Inclusion	• What strategies can be adopted to ensure that existing occupants will be treated fairly?	
	• Are there any social initiatives innovations being used to improve the wellbeing of the community throughout the project process?	
	• Are there any initiatives to prevent homelessness and support rough sleepers e.g., opening facility spaces after hours e.g., showers?	

Principles	Proposed Strategies	Next steps
Active Lifestyles	• What opportunities are there to prioritise active circulation routes-e.g., could the project brief include additional support spaces to promote cycling such as storage and showers/changing facilities etc, are there any client initiatives or potential partners to help develop walking or cycling?	
	• Is there any available data on any specific health needs in your community and if so, could the project help address any of these needs?	
Physical Comfort	• Would the project brief require every habitable room to have a window with a direct source of natural daylight and a strong visual connection to the outside e.g., internal offices or classrooms with no windows?	
	• Is there opportunity to maximise local environmental controls by occupants e.g., opening windows or intuitive building systems controls? Do there need to be any restrictions on user control? What training might be needed by the users (current and future) to improve the ease and efficiency of user control e.g., school staff to develop environmental controls as pupil curriculum tool	
	• What is the appropriate occupant density for the activity proposed?	
	• Do you have any data on indoor air quality from any POE from this building if a retrofit project or other budlings if relevant? Are you aware that choice of furnishings and fittings and plants can impact on this?	
	• What is the client strategy for indoor daylighting, lighting and glare control, adaptive controls? Are there any specific client requirements for developing an optimum indoor environment that the design team need to know at the start e.g., computer use or projector screens?	
	• What is the client strategy for extent of open plan and acoustically separate spaces? What is needed for private conversations? Are there any specific client requirements for developing an optimum indoor environment that the design team need to know at the start?	
	• What strategies are put in place to make spaces inclusive and universally accessible (e.g., colours, LRVs, lighting levels, adjustable desks etc)?	
	• Are there any specific client/user requirements for lighting, acoustics, thermal, ventilation or ergonomic comfort?	

Sustainable Communities and Social Value

Project Objectives

Objectives	Methodology	Narrative/Notes
Definition	• Sustainable Communities and Social Value prescribes and monitors the social impact of a development on its end users and the wider community. The overall aim is that an intervention makes positive impacts on the quality of physical place and on the quality of life of a local community. This is achieved by creating places for people that support not only their basic needs such as shelter, health, and security but that also enhance physical and mental health and wellbeing and community identity.	
Targets	– Governance – Stakeholders – identify immediate and wider beneficiaries – Vision – Objectives; Critical successes; Goals – Expectations & measurements – Collaboration/Participation/Engagement & Consultation – Communications/Feedbacks/Milestones – Performance/data/Key Indicators – Metrics/Toolkits – Equality, Diversity & Inclusion: A duty to cooperate – Resources: skills, knowledge/system	
Metrics	• WELL score • BREEAM • Other (tbc)	
Desired Outcomes	• High level outcomes for the SVT are (see also Health & Wellbeing) – Freedom – Connecting – Active Lifestyles – Positive Emotions	
Baseline	• Identify and measure existing project and location specific metrics, to enhance and improve desired community and social outcomes (see above)	

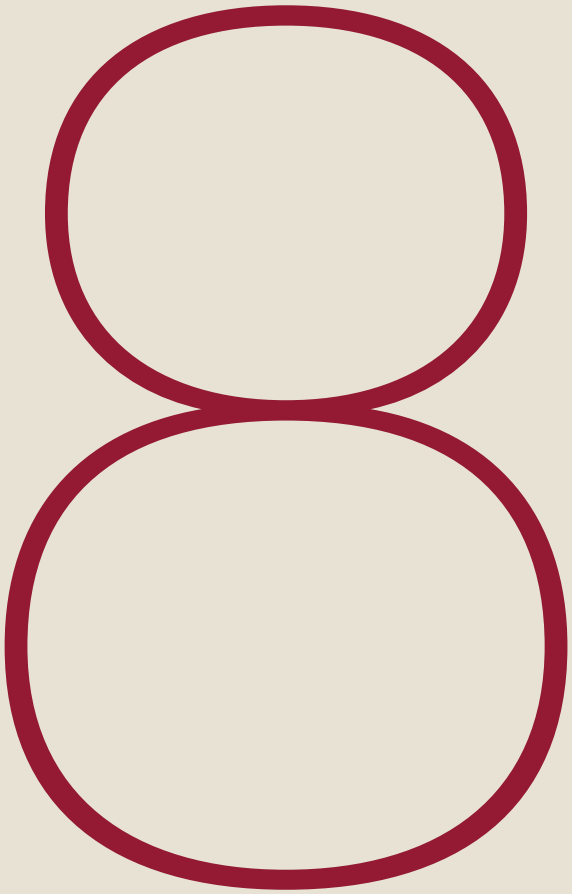
Objectives	Methodology	Narrative/Notes
Target Standards	• Treasury Green Book (UK Gov 2019): focus on procurement • Public Service (Social Value) Act 2012 • BS 8950:2020: Social Value – understanding and enhancing	
Assessment & Tools	• Choose the most appropriate one from the following: – Social Value Toolkit for Architecture – Plan for Use Guide – BREEAM - Communities – Framework for Defining Social Value – UKGBC – CLC - An introduction to the Value Toolkit – National Social Value Measurement Framework	
Verification	• Post Occupancy Evaluation-performance in use • Post completion stakeholder survey	

Project Principles

Principles	Proposed Strategies	Next steps
Governance	• Does the client have a Social Value Strategy/ Policy in place? Is the project team familiar with it?	
	• What client/outside resources are required? Is Budget in place?	
	• Who will lead the consultation? In-house expertise? External consultant? Should not necessarily fall to the design team.	
	• Will you form a focus/steering group to kick-start the consultation process? Are they decision-makers?	
	• Stakeholder Analysis: Who are the immediate end user stakeholders? How to identify primary stakeholder target group for consultation?	
	• Is it desirable to consult on a wider basis? How to include wider community?	
	• What is additional effort to include less often heard stakeholders e.g., future generations, particular group?	
Measure	• Identify achievable targets- How to collect data to enable tangible benefit on social value be captured over time?	
	• What are the top 3 “likes” of the existing facility? E.g., safety – internal and external, aspect, neighbourliness, accessibility, transport, noise, privacy, public spaces, defensible realm, etc	
	• Identify achievable targets: How will data be collected to enable tangible benefit on social value be captured over time? How to identify achievable targets and social value indicators in the context of the sustainability brief? E.g., design/ use of homes and space / energy / community / amenity?	
	• Are there any heritage/conservation aspects of the project to be addressed – formal or informal?	

Principles	Proposed Strategies	Next steps
Engage & Feed Back	• How to include less often heard stakeholders e.g., future generations, particular group? (Important for futureproofing)	
	• What social media can be used for consultation? What type of comms? E.g., exhibitions, website, online meetings, door to door, printed matter.	
	• Does the programme allow for the required level of consultation? What time should be allocated for milestones stages (board level)	
	• Agree early programme with milestones e.g., 1. Open forum, Q&A; 2. Feedback on "sifted" project community responses to 1, buy in of stakeholders to key project targets and proposed SV requirements of brief; 3. Sharing of design options (before Planning submission); 4. Sharing of project logistics (phasing, decant etc.); 5. Updates during construction; 6. POE	
Key Indicators	• Is accreditation/certification of any kind required e.g., WELL? What metrics to use? – There are a number of industry accredited methods of performance measurements e.g., BREEAM, LEED, WELL, Living Standard Challenge, and etc	
	– What metrics is most suited for this project? Who is deciding on which are the most informative metrics?	
	• How to identify the range of relevant data – existing, proposed to establish the baseline information for comparison purpose (before and after) – Assured Evidence vs. Stakeholder Informed Judgements- identified. – How to report on social value in the context of this project, and any key milestones?	

Principles	Proposed Strategies	Next steps
Metrics & Toolkits	• Identify measures of success e.g., stakeholder satisfaction rated 1-5? Measure against key targets identified at stage 1. Revise/Update targets in later work stages if and as required.	
	• How to identify main themes from consultation? What purpose does the consultation serve?	
	• How to identify achievable targets and social value indicators in the context of Sustainability brief?	
	• There are established Social Value Toolkits. What is best for this project, if any?	
	• Identify measures of success e.g., stakeholder satisfaction rated 1-5? Measure against key targets identified at stage 1. Revise/Update targets in later work stages if and as required.	
Equality, Diversity & Inclusion	• What are the existing barriers to inclusion?	
	• What are the existing barriers to diversity?	
	• What is known about the community?	
	• Is there wealth inequality in the project community? In a wider sense? Should the project address this?	
	• Is there Gender/ethnic/ability inequality in the project community? Should the project address this?	
	• Which are the needs/ aspirations of different ethnic groups in the project community?	
	• Is there capacity within project delivery and in-use to create employment/apprenticeships/up-skilling?	
	• How would you ensure EDI principles are aligned in the consultants, the contractors and the supply chains?	
Resources: Skills, knowledge & processes	• To facilitate the project quality assurance, have you identified any skill and knowledge gaps within the project team? If so, would you require external support?	
	• What client/outside resources are required at each RIBA stage? Budget? Is specialist external assistance required?	



Sustainable Life Cycle Cost

Project Objectives

Objectives	Methodology	Narrative/Notes
Definition	• This section prompts consideration of a group of topics which, through early focus in project briefing, can substantially improve the long-term usefulness of a building, thus avoiding unnecessary impacts such as waste and redundancy. • Sustainable Life Cycle Cost refer to the economic sustainability of a project in use • Circularity refers to the intention that buildings should be capable of adaption, reconstruction, and deconstruction, as a result of having been made from materials that can be reused or recycled, to help create a regenerative built environment. This is a move away from the linear model of "take, make, use, and throw away" to "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" (Constructing Excellence, UK) • Climate Resilience is the ability of buildings to withstand the projected conditions of climate for 2030 and beyond: increasing average temperatures, increase in floods and droughts and the increase in extreme weather conditions.	
Targets	• Client budget (tbc)	
Metrics	• £/m^2 (tbc)	
Desired Outcomes	• Affordability to the client (tbc)	
Baseline	• Benchmark data (tbc)	
Target Standards for Project	• £/m^2 (tbc)	
Assessment & Tools	• ICMS Life Cycle Method of measurement (tbc)	
Verification	• (tbc)	

Project Principles

Principles	Proposed Strategies	Next steps
Sustainable Life Cycle Costs	• Is the clients cost adviser familiar with/do they have experience of Life Cycle Costs (LCC) as defined by ICMS 2nd edition?	
	• This includes definition and modelling of renewal, operation, maintenance, and end of life costs in addition to capital/construction costs (CROME)?	
	• Has the Period of Analysis for life cycle costing been defined? This could relate to the end of life, or the end of interest, depending on funding structure	
Whole Life Analysis	• Does the client-side cost adviser scope of services include definition and modelling of renewal and end of life costs?	
	• Have any assumptions been made regarding Expected Asset Life (expected constructed asset service life span after completion of construction)?	
	• The design life of the Constructed Asset is a key performance requirement and should be defined in the project brief. The estimated expected service life of the Constructed Asset should be at least as long as the design life. Renewals of Constructed Assets during the expected service life should be included in the life cycle cost's Period of Analysis, as well as any associated end of life or hand back obligations.	
Plan for Use	• Is the client team familiar with the Soft Landings building delivery process, and in particular the provisions of Graduated to Handover and Aftercare?	
	• Post-occupancy services to be built into design team scopes.	
Energy Costs	• What benchmarks should be used as the basis for creating energy use targets?	
	• Is there a proposed process for measuring energy costs for the completed building?	

Principles	Proposed Strategies	Next steps
Repair & replace	• Does the client-side cost adviser scope of services include definition and modelling of operation & maintenance costs?	
	• Is there a project / program business case? If so, does it make any assumptions about Management & Maintenance Costs within a wider economic project evaluation?	
	• If not, what steps need to be put in place to create/expand the business case and to define target management & maintenance costs?	
Running Costs	• Is there a project / program business case? If so, does it make any assumptions about Life Cycle Costs within a wider economic project evaluation that considers the Whole Life Costs (WLC) (including non-construction costs such as finance, business income from sales and disposals, occupancy costs and externalities).	
	• If not, what steps need to be put in place to create/expand the business case and to define target WLCs and LCCs?	
Circularity	• What are the most accessible local materials? Are they appropriate/relevant/ feasible for use on this project?	
	• What are the strongest local supply chains? Are they appropriate/relevant/ feasible for use on this project?	
	• Which materials / products are likely to be required but which have high transport and recycling impacts?	
	• What opportunities exist to mitigate impacts?	
	• Are there any factors that suggest that dismantling and reconstruction of the building might be a primary briefing consideration? E.g., Asset Life, climate resilience issues	
	• Is there opportunity to embed D4Mf principles to improve circularity?	
Plan for Change	• Is potential modification for different uses considered to be a priority?	
	• What factors might drive a change of use within the design life of the building?	
	• What modifications might be considered e.g., loose fit, greater service capacity?	

Principles	Proposed Strategies	Next steps
Plan for Risk	• Have climate and risk assessments been investigated? Is any uncertainty surrounding current and future risks clearly described, or is clarification needed? Can the project team access data on natural risk at an affordable cost and in a practical format?	
	• Are there any shared resources in the locality which could be harnessed to mitigate any of the risks, and should any action be taken to put these in place e.g., shared water supply, generators?	
	• Are roles and responsibilities for evaluating disaster and climate risk management in the client team clearly defined?	
	• Are project funders/stakeholders aware of the level of residual risk they are exposed to, or the level of protection offered by public infrastructure and instruments?	
Innovation	• Are there any opportunities available to the client/project to actively adopt or develop new technologies for resilience?	
Funding	• Can client access financing for adaptation-related investments? • Is the government providing specific financing instruments to facilitate people's investments in adaptation and risk reduction?	

Selected References

General Process Tools

- RIBA Sustainable Outcomes Guide
- RIBA Plan of Work Overview
- RIBA Plan for Use Guide
- BSRIA Government Soft Landings

Certification Schemes

- Well Building Standard, Fitwel Certification
- BREEAM (UK) / NABERS (AUS) / LEED (US) / DGNB (DE)
- Passivhaus Standard
- Building with Nature (Green Infrastructure Benchmark Assessment)

Energy & Carbon

- RICS - Whole Life Carbon Assessment / RIBA - Embodied and Whole Life Carbon Assessment for Architects
- LETI - Client Guide, One Pagers / Quick Guides: Net Zero Operational Carbon; Embodied Carbon; Circular Economy; Whole Life Carbon
- LETI - Embodied Carbon Target Alignment; Improving Consistency in Whole Life Carbon Assessment and Reporting
- Passivhaus Trust / Levitt Bernstein – Easi Guide Passivhaus Design; Passivhaus Trust: PPHP (Passive House Planning Package)
- UKGBC Net Zero Carbon Buildings - A Framework Definition, Developing A Client Brief
- UKGBC Renewable - Energy Procurement & Carbon Offsetting
- Stockholm Institute - Carbon Offset Guide
- Publicly accessible databases: GLA, CarbonBuzz, Low Energy Buildings

Sustainable Water Cycle

- Better Building Partnership - water briefing
- WELL Building Standard - water quality & monitoring
- BREEAM – WAT 01-04 water usage & POL 03 pollution
- Susdrain (Part of CIRIA) – The community for sustainable drainage
- EA (Environment Agency) – guidance on statutory requirements
- AHDB – best practice guidance for agricultural projects

Sustainable Connectivity and Transport

- BREEAM Technical Standards - Sustainability Strategies ; BREEAM Accessibility Index Tool
- TCPA - Guide 13: Sustainable Transport

Sustainable Land Use and Ecology (Biodiversity)

- RIBA - Sustainable Outcomes Guide | Land Use and Biodiversity
- RTPI - Biodiversity in Planning: Obligations and opportunities to promote biodiversity through the UK planning system
- Partnership for Biodiversity in Planning – various guides and publications
- CIEEM / CIRIA / IEMA - Biodiversity net gain: good practice principles for development
- DEFRA Biodiversity 2020 - A Strategy for England's wildlife and ecosystem services.
- European Commission - Biodiversity strategy for 2030
- Essex Design Guide - Densities for Sustainable Development

Good Health and Wellbeing

- Overview: Usable Buildings Trust (https://www.usablebuildings.co.uk)
- WELL Building Standard
- BREEAM - Health and wellbeing in BREEAM
- Fitwel – various standards, reports and scorecards
- BCO - Wellness Matters; Defining & Measuring Productivity in Offices; Office Occupancy: Density and Utilisation
- CIBCSE - TM40 Health and Wellbeing in Building Services, TM59 Design Methodology for the assessment of overheating risk in homes

Sustainable Communities and Social Value

- Social Value Portal – Maximising social value in design; National Social Value Measurement
- BREEAM Technical Standards - Communities; other relevant sections in LEED, WELL, Living Standard Challenge
- UKGBC - Social value in new development; Delivery Checklists
- RIBA - Social Value Toolkit
- BS 8950:2020: Social Value – understanding and enhancing social value

Sustainable Life Cycle Cost

- Introduction to the Value Toolkit – Construction Innovation Hub#
- UKGBC - Circular Economy Guidance; LETI - Circular Economy Design Guide / 1-Pagero

Thank you:

RIBA Client Advisers for this work:

Zuzana Sojkova
Sui-Te Wu
Sarah Williams
Sarah Curl
Ruth Butler
Paul Cayford
Nigel Maynard
Neil Wilson
John Pickup
Jennifer Dixon
Ioana Lupas
Helen Taylor
Haydn Davies
George Stowell
Dominic Cullinan
Ann Griffin
Aaron Taylor

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Carys Rowlands

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Insert project specific information below

Document

Title
Date
Revision
Contributors

Project

Name
Typology/framework
Location
Intended design life

Client

Name
Sustainability lead
Significant stakeholders
Corporate goals (Including certifications such as Passivhaus, BREEAM, NABERS, WELL etc)
Corporate sustainability policies
Funding for R&D / pilot projects

Local

Local sustainability policies

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Royal Institute of British Architects
66 Portland Place, London W1B 1AD

Tel: +44 (0)20 7580 5533 Email: info@riba.org

RIBA
Architecture.com