

BREEAM International New Construction 2016 scheme assessment timeline

Guidance Note GN30

The assessment timeline has been produced to assist with optimising project sustainability performance. It outlines at which stage credits should be addressed and ideally when these should be considered by the design team, planner, contractors, owners/occupiers and other members of the project team to achieve the highest possible BREEAM rating at the minimum cost. It demonstrates that where BREEAM advice is taken on too late within the design and construction phases a number of BREEAM credits may not be achieved.

* For a description of each stage of work, refer to Appendix A

Please note: Stage B: Preparation and Brief - Client decisions made at this stage may create opportunities or barriers that impact on the ability to meet BREEAM requirements at a later stage in the project by limiting design and/or specification decisions. This applies to a significant number of issues in the construction timeline below.

		Sub credits	Stages of work in the new build construction process*						
			Stage A	Stage B	Stage C	Stage D	Stage E	Stage F	Stage G
			Strategic Definition	Preparation and Brief	Concept Design	Developed Design	Technical Design	Construction	Handover and Close Out
Management									
Man 01	Project brief and design	Stakeholder consultation			Consultations		Feedback		
		Sustainability champion (design)		Appointment	Agree BREEAM target				
		Sustainability champion (monitoring progress)							
Man 02	Life cycle cost and service life planning	Life cycle cost			Elemental LCC		Component level LCC plan		
		Capital cost reporting							
Man 03	Responsible construction practices	Environmental management							
		Considerate construction							
		Sustainability champion							
		Monitoring of construction site impacts							

	Design/management influence
	Design/client decision
	Design/management changes at a high cost and higher risk of not achieving credit
	No further changes can be made
	Stage of work stipulated within BREEAM criteria.
	Issue not applicable to BREEAM International New Construction 2016 scheme

Man 04	Commissioning and handover	Commissioning and testing					Appointment		
		Handover							
Man 05	Aftercare								
Health and Wellbeing									
Hea 01	Visual comfort								
Hea 02	Indoor air quality	Minimising sources of air pollution							
		Potential for natural ventilation							
Hea 03	Safe containment in laboratories	Laboratory containment devices and containment areas					Risk assessment		
Hea 04	Thermal comfort								
Hea 05	Acoustic performance								
Hea 06	Accessibility	Safe access							
		Inclusive and accessible design							
Hea 07	Hazards						Risk assessment		
Hea 08	Private Space								
Hea 09	Water Quality								
Energy									
Ene 01	Reduction of energy use and carbon emissions								
Ene 02a	Energy monitoring								

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Ene 02b	Energy monitoring								
Ene 03	External lighting								
Ene 04	Low carbon design	Passive design			Passive design analysis				
		Low and zero carbon technologies feasibility			Feasibility study				
Ene 05	Energy efficient cold storage	Energy efficient design, installation and commissioning			Strategy for design and Installation				
Ene 06	Energy efficient transportation systems								
Ene 07	Energy efficient laboratory systems	Design specification		Client engagement					
Ene 08	Energy efficient equipment								
Ene 09	Drying space								
Transport									
Tra 01	Public transport accessibility								
Tra 02	Proximity to amenities								
Tra 03a	Alternative modes of transport	Option 1 - Cycling network		Consultation with local authority					
		Option 2 - Local bus service provision							
		Option 3 - Electric recharging stations							
		Option 4 - Car sharing							
		Option 5 - Cyclist facilities							

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Tra 03b	Alternative modes of transport	Option 1 - Cycling network		Consultation with local authority					
		Option 2 - Local bus service provision							
		Option 3 - Electric recharging stations							
		Option 4 - Car sharing							
		Option 5 - Cyclist facilities							
Tra 04	Maximum car parking capacity								
Tra 05	Travel plan		Travel plan						
Tra 06	Home Office								
Water									
Wat 01	Water consumption								
Wat 02	Water monitoring								
Wat 03	Water leak detection								
Wat 04	Water efficient equipment								
Materials									
Mat 01	Life cycle impacts								
Mat 02	Hard landscaping and boundary protection								
Mat 03	Responsible sourcing of materials	Sustainable procurement plan			Sustainable procurement plan				
Mat 04	Insulation								

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Mat 05	Designing for durability and resilience								
Mat 06	Material efficiency			Optimise material use	Optimise material use	Optimise material use	Optimise material use	Optimise material use	
Waste									
Wst 01	Construction waste management								
Wst 02	Recycled aggregates								
Wst 03a	Operational waste								
Wst 03b	Operational waste								
Wst 04	Speculative floor and ceiling finishes								
Wst 05	Adaptation to climate change	Structural and fabric resilience		Climate adaptation strategy appraisal					
Wst 06	Functional adaptability			Functional adaptation strategy appraisal		Functional adaption measures adopted			
Land Use and Ecology									
LE 01	Site selection	Previously occupied land							
		Contaminated land							
LE 02	Ecological value of site and protection of ecological features	Ecological value of site							
		Protection of ecological features							
LE 03	Minimising impact on existing site ecology								
LE 04	Enhancing site ecology	Ecologist's report and recommendations			Ecologist appointment and Ecology report				
LE 05	Long term impact on biodiversity								

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Pollution								
Pol 01	Impact of refrigerants							
Pol 02	NOx emissions							
Pol 03	Surface water run-off							
Pol 04	Reduction of night time light pollution							
Pol 05	Reduction of noise pollution							

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Appendix A:

Stages of work in the new build construction process

The information which follows organises the process of briefing, designing, constructing, maintaining, operating and using building projects into a number of key stages. It gives indications of key tasks likely to take place at each stage. It is recognised that these stages may often overlap and a degree of iteration may occur between them on a real life project. Regardless of this they are used to define a series of outcomes that will occur in any project and are used in this document in this context.

These stages form the basis of construction process structure used in the BREEAM International New Construction 2016 Assessment timeline.

Background

The description of each stage of work has been developed by drawing on information from existing plan of works e.g. UK Digital Plan of Work and RIBA Plan of Work. These are being used to help guide the international discussions around project management and Building Information Modelling (BIM).

Stage	Objectives and expected activities
Stage A - Strategic design	<p>The objective of this stage is to ensure that the client is fully informed when making decisions around development needs and options before the project brief is finalised.</p> <p>Activities will be critical in establishing basic needs and objectives for the project and can include: site investigations, transport connections, initial considerations for assembling the project team, establishing a high-level project programme and a strategic review of clients' needs to optimise benefits and impacts.</p>
Stage B - Preparation and brief	<p>The objective of this stage is to develop a project brief and programme that set out overall requirements and targets including quality objectives and project outcomes, sustainability requirements/aspirations and resources including project budgets, appointments and timing necessary to realise these.</p> <p>Activities will determine the project brief and should include: reviewing site information, developing feasibility studies, assembling the project team and the timeline for their appointment required to optimise outcomes, defining each party's roles and responsibilities, preparing risk assessments and setting the handover points for the exchange of information between client and project team etc.</p>
Stage C - e.g. Concept design	<p>The objective at this stage is to develop outline proposals including site and spatial planning, building form, structural and building services strategies, outline specifications, preliminary cost budgets including relevant project strategies which support or influence the design programme and the ability to comply with BREEAM requirements as the project progresses.</p> <p>Activities can include: preparing the sustainability strategy, maintenance and operational strategy, handover strategies, carrying out risk assessments, reviewing the project programme, considering construction logistics to ensure efficiency, developing health and safety strategy, undertaking any third party consultations as required and any research and development aspects.</p>
Stage D - Developed design	<p>The objective at this stage is to develop detailed design proposals for built form, layout, constructional and structural design, building services systems, specifications and cost information based on the concept design and project strategies.</p> <p>Activities can include: reviewing and updating the sustainability strategy, maintenance and operational strategy, handover strategies, risk assessments, construction logistics and health and safety strategies, undertaking any third party consultations as required and concluding any research and development aspects in accordance with the design programme.</p>
Stage E - Technical design	<p>The objective at this stage is to prepare the technical design and specification information as required for tendering and construction activities. These will include all architectural, structural and building services details, specialist subcontractor design and specifications.</p> <p>Activities can include: reviewing and updating the sustainability strategy, maintenance and operational strategy, handover strategies and risk assessments, updating and / or refining roles and responsibilities of each party.</p>
Stage F - Construction	<p>The objective at this stage is to construct the building in accordance with the developed and technical design stage outputs and associated site works including any offsite manufacturing in accordance with the construction programme.</p> <p>Activities can include: reviewing and updating the sustainability strategy, construction logistics and health and safety strategies; procurement of construction materials and services; installation and commissioning of fabric and services, monitoring of construction activities and progress; implementing the handover strategy; administration of building contract including regular site inspections, training, feedback mechanisms, site support and skills.</p>
Stage G - Handover and close-out	<p>The objective at this stage is to handover the building to the future owners/occupiers in a manner that maximises the opportunities for realising the BREEAM related design objectives during the buildings operation.</p> <p>Activities can include: ongoing commissioning of building services and systems (including seasonal commissioning), provision of information and knowledge to owner/occupiers; collecting feedback from project team and end-users.</p>