



Building Lifecycle Report

Proposed Apartment Block at Heuston South Quarter

Contents

Disclaimer2

0.0 Introduction3

0.14

Section 015

1.1 Long-Term Running Costs5

1.2 Property Management of the Common Areas of the Proposed Development.....5

1.3 Service Charge Budget.....6

1.4 Sinking fund6

Section 02.....7

2.1 Building Design7

2.3 Energy & Carbon Emissions8

2.4 Low energy technologies considered:9

2.5 Materials & Materials Specification:.....10

2.6 Waste Management:11

2.7 Human Health & Well Being11

2.8 Transport & Accessibility.....12

Disclaimer

Without Prejudice to the generality of this Building Lifecycle Report, the information provided is indicative and subject to change following detailed design and construction. As far as possible information is correct at the time of submission to the relevant authority for Planning Approval.

1.1 Introduction

The *Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities* (March 2018) provide policy guidance on the operation and management of apartment developments and include the requirement for the submission of a Building Lifecycle Report with planning applications.

This report is required to provide certainty on the long-term management and maintenance structures of Multi-Unit Developments, demonstrating compliance with *Multi-Unit Developments Act* of 2011. It should outline legal and financial arrangements, effective and appropriately resourced maintenance and operational regimes and show consideration of the long-term running costs of any scheme as they would apply on a per residential unit basis at the time of application. The *Building Lifecycle Report* should also demonstrate what specific measures have been considered to effectively manage and reduce costs for the benefit of residents.

Section 6.13 of the *Sustainable Urban Housing* guidelines requires that apartment applications shall:

- **“Include a building lifecycle report, which in turn includes an assessment of long-term running and maintenance costs as they would apply on a per residential unit basis at the time of application”**
- **“Demonstrate what measures have been specifically considered by the proposer to effectively manage and reduce costs for the benefit of residents.”**

This Building Life Cycle Report document sets out to address the requirements of Section 6.13 of Apartment Guidelines 2018, and is divided into 2 sections to reflect the above requirements:

Section 01

Assessment of long-term running and maintenance costs as they would apply on a per residential unit basis at the time of application

Section 02

Demonstrate what measures have been specifically considered by the proposer to effectively manage and reduce costs for the benefit of residents

1.2 Proposed Development

Within the greater housing development, a range of open spaces and amenities such as a dedicated recycling area are provided. These will also be available to the residents within the apartment block, however, for the purposes of this report, only amenities provided within and immediately adjacent to the apartment block have been considered.

The proposed development will consist of a residential development of 399 no. 'Build To Rent' residential units and all ancillary and associated uses, development and works, and a retail unit of 120 sq m, on a site of 1.08 ha. The proposed development consists of:

- Site clearance and localised demolitions to remove part of the podium and Basement Level -1 reinforced concrete slabs at the interface of the proposed Blocks A and B, together with the incorporation of part of the existing double basement level structure extending to approximately 7,613 sq.m over two levels (excluding an area of 3,318 sq.m that will be backfilled at Basement Level -1) within the proposed development.
- The construction of 5 no. buildings (Blocks A to E) ranging in height between 3- to 18-storeys over double basement level / podium level to provide a residential / mixed use development to provide 399 Specific BTR (Build to Rent) units with a total gross floor area of 29,391 sq.m, comprising 46 no. studios, 250 no. one bedroom units, 90 no. 2 bedroom / 4 person units and 13 no. 2 bedroom / 3 person units; internal communal ancillary residential services / amenities to include a shared co-working area / lounge (178 sq.m) and gym (102 sq.m) at lower ground floor level, and lounges on either side of a residential foyer at ground floor / podium level within Block A (196 sq.m), and a TV Room / lounge (57 sq.m) at ground floor / podium level within Block C.
- An independent retail unit (120 sq.m) is proposed at ground floor / podium level within Block B.
- A double basement is provided that will be integrated within the existing basement levels serving the wider HSQ development and will be accessed from the existing vehicular ramped accesses/egresses onto/off St. John's Road West and Military Road to the north and east, respectively. Basement level -1 provides: a refuse store; 80 no. car parking spaces (including 4 no. disabled spaces and 8 car club spaces); 4 no. motorcycle parking spaces; and, secure bicycle parking / storage in the form of 251 no. double stacked cycle parking spaces providing capacity for 502 no. secure bicycle storage spaces for residents. An additional 49 no. Sheffield type bicycle stands are provided at basement level -1 to provide 98 no. visitor cycle spaces (inclusive of 8 no. designated cargo bike spaces, that will also be available for the shared use with residents of the scheme) and a further 55 no. Sheffield type bicycle stands are provided at podium level to provide 110 no. cycle parking spaces (108 no. visitor cycle parking spaces (inclusive of 6 no. designated cargo bike spaces) and 2 no. cycle parking spaces in connection with the retail unit). All bicycle parking at basement level is accessed via a dedicated cycle lift from podium to basement level -1 that is situated to the south of Block B.
- Works proposed along the St John's Road West frontage include the omission of the existing left-turn filter lane to the vehicular ramped access to the HSQ development and re-configuration of the pedestrian crossings at the existing junction together with the re-configuration of the existing pedestrian crossing over the westbound lanes of St. John's Road West leading to an existing pedestrian refuge island. Re-alignment of the existing footpath along the site frontage onto St John's Road West to tie into the reconfigured junction arrangement and provision of a link to a new lift to provide wheelchair access from St John's Road West to the HSQ podium.
- Communal Outdoor Amenity space is provided for residents in the form of rooftop terraces (totalling 1,179sqm), and lower-level communal courtyards between blocks (totalling 960sqm).
- Hard and soft landscaping works are proposed at podium level which includes the extension and completion of the public plaza to the east of Block A; the provision of footpaths; a MUGA (Multi Use Games Area) and informal play areas for children (totalling 1,670sqm).
- A double ESB substation/switch room at ground / podium level within Block A, and a single substation/switch room at ground / podium level within Block B together with associated site development works, which includes the realignment / reprofiling of an existing vehicular access ramp at the southern end of the site between basement levels -1 and -2 and the closure / removal of a second vehicular access ramp between the subject site at basement level -1 and the raised basement level -1 under the Telford building.

Section 01

An assessment of long-term running and maintenance costs as they would apply on a per residential unit basis at the time of application.

1.1 Long-Term Running Costs

From the outset of this project, care has been taken by HPREF HSQ Investments Limited. to ensure that long-term running costs for residents and maintenance costs for the operators are reasonable. The aim of HPREF HSQ Investments Limited is to manage and minimise potential unnecessarily high running costs for expenditure on a per residential unit basis. HPREF HSQ Investments Limited and their design team have a proven track record in the delivery of high-quality homes. The design team have applied lessons of previous schemes in ensuring the provision of an excellent end product which will be well managed and easily maintained for the foreseeable future.

1.2 Property Management of the Common Areas of the Proposed Development

6.14 The Multi-Unit Developments Act, 2011 (MUD Act) sets out the legal requirements regarding the management of apartment developments. In this regard, it is advised that when granting permission for such developments planning authorities attach appropriate planning conditions that require:

- *Compliance with the MUD Act,*
- *Establishment of an Owners Management Company (OMC) and:*
- *Establishment and ongoing maintenance of a sinking fund commensurate with the facilities in a development that require ongoing maintenance and renewal.*

A property management company will be engaged at an early stage of the development to ensure that all responsibilities within the remit of property management are dealt with and that the running and maintenance costs of the common areas of the development are kept within the agreed annual operational budget. The property management company will enter into a contract directly with the Owners Management Company (OMC) for the ongoing management of the built development. Note; This contract will be for a maximum period of 3 years and in the form prescribed by the PSRA.

The **Property Management Company** also has the following responsibilities for the apartment development once constructed:

- Formation of an OMC within a timely manner – this will be a company limited by guarantee having no share capital. All future purchasers of residential units will be obliged to become members of this OMC
- Preparation of annual service charge budget for the development of common areas
- Fair and equitable apportionment of the Annual operational charges in line with the MUD Act
- Engagement of independent legal representation on behalf of the OMC in keeping with the MUD Act - including completion of Developer OMC Agreement and transfer of common areas
- Transfer of documentation in line with Schedule 3 of the MUD Act
- Estate Management
- Third Party Contractors Procurement and management
- OMC Reporting
- Accounting Services
- Insurance Management
- After Hours Services
- Staff Administration
- Corporate Services

1.3 Service Charge Budget

The property management company (PMC) has a number of key responsibilities with first and foremost being the compiling of the service charge budget for the development for agreement with the OMC. The service charge budget covers items such as cleaning, refuse management, utility bills, insurance, landscaping, maintenance of mechanical/electrical lifts/ life safety systems, security, property management fee, etc, to the development common areas in accordance with the Multi-Unit Developments Act 2011.

This service charge budget will also include an allowance for a Sinking Fund – this is determined following the review of the Building Investment Fund (BIF) report prepared by for the OMC. Once adopted by the OMC, the BIF report should determine an adequate estimated annual cost requirement provision which would be based on the predicted needs of the development over a 30-year cycle period. The BIF report should identify any works which are expected to be necessary to maintain, repair, and enhance the premises over the 30-year life cycle period, as is required under the Multi-Unit Development Act 2011.

Under the MUD Act, it is required that the members of the OMC will determine and agree each year at a General Meeting of the members, the contribution to be made to the Sinking Fund, having regard to the BIF report produced.

A sample format of the typical BIF report is set out in Appendix B.

Note: *The detail associated with each element heading i.e. specification and estimate of the costs to maintain/repair or replace, can only be determined after detailed design and the procurement/ construction of the development and therefore has not been included in this document.*

1.4 Sinking fund

It is expected that a sinking fund allowance will account for future major maintenance and upgrade costs. A 10-year Planned Preventative Maintenance (PPM) strategy will determine the level of sinking fund required.

Note: *The detail associated with each element heading i.e. specification and estimate of the costs to maintain/repair or replace, can only be determined after detailed design and the procurement/ construction of the development and therefore has not been included in this document.*

Section 02

Measures specifically considered by the proposer to effectively manage & reduce costs for the benefit of residents.

The following is an indication of the energy saving measures that are planned for all units to assist in reducing day to day running costs for occupants:

2.1 Building Design

Measure	Description	Benefit
Daylighting to units	Where possible, as outlined in ‘Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities (March 2018)’ to have regard for quantitative performance approaches to daylight provisions ‘outlined in guides like the BRE guide ‘Site Layout Planning for Daylight and Sunlight’ (2nd edition) or BS 8206-2: 2008 – ‘Lighting for Buildings – Part 2: Code of Practice for Daylighting’ when undertaken by development proposers which offer the capability to satisfy minimum standards of daylight provision’.	Reduces the requirement for continuous daylighting, thus reducing the expense of artificial lighting
Daylighting to circulation areas	Natural lighting provided via tall windows at both the north and south elevations.	Reduces the requirement for continuous daylighting
External Lighting	<p>External lighting will comply with the latest standards and achieve:</p> <ul style="list-style-type: none"> • Low-level lighting • Utilise low voltage LED lamps • Minimum upward light spill <p>Each light fitting is to be controlled via an individual Photoelectric Control Unit (PECU). The operation of the lighting shall be on a dusk-dawn profile.</p>	Lighting will be designed to achieve the required standards, provide a safe environment for pedestrians, cyclists, and vehicular traffic, provide surveillance and limit the impact on the artificial lighting on surrounding existing flora and fauna.

2.2 Landscape

Measure	Description	Benefit
Paving and Decking Materials	Use of robust high-quality materials and detailing to be durable for bikes, play, etc.	Ensures the longevity of materials.
Site Layout & Landscaping Design	<p>High quality landscaping both hard surface (for the cycle /car parking and pavements) and soft landscaping with planting and trees. The landscaping will be fully compliant with the requirements for Part M / K of the Technical Guidance Documents and will provide level access and crossings for wheelchair users and pedestrians with limited mobility.</p> <p>Designated car parking including accessible & visitor car parking reduces the travel distances for visitors with reduced mobility.</p>	<p>Plenty of room for cycles and pedestrians along with car spaces provide a good balance between pedestrians and car users.</p> <p>Wheelchair user-friendly.</p>
Balconies & openable windows	Use of balconies & openable windows allow individuals to clean windows themselves	Reduces the cost and reliance on 3 rd party contractors for cleaning & maintenance.

2.3 Energy & Carbon Emissions

Measure	Description	Benefit
BER Certificates	A Building Energy Rating (BER) certificate will be provided for each unit in the proposed development. This will provide detail of the energy performance of the units. This is calculated through energy use for space and hot water heating, ventilation, and lighting and occupancy. It is proposed to target an A2/A3 rating for the apartments this will equate to the following emissions. A2 – 25-50 kWh/m2/yr with CO2 emissions circa 10kgCO2/m2 year A3 – 51-75 kWh/m2/yr with CO2 emissions circa 12kgCO2/m2 /year	A BER rating is a reduction in energy consumption and running costs
Fabric Energy Efficiency	<p>Proposed U-Values will be in line with the requirements set out by the current & proposed Part L including Nearly Zero Energy Buildings targets.</p> <p><i>“Conservation of Fuel and Energy Buildings other than Dwellings”.</i></p> <p>Thermal bridging at junctions between construction elements and at other locations to be minimised in accordance Paragraphs 1.2.4.2 and 1.2.4.3 within the Technical Guidance Documents Part L. See Table 1 of Part L, Building Regulations (AppendixC).</p>	Lower u-values and improved airtightness will be achieved to reduce the amount of heat loss throughout the building fabric, and lower the consumption of energy and therefore carbon emissions.

<p>External Lighting</p>	<p>Low energy LED public lighting shall be designed and specified in accordance with CIBSE lighting guide and Kildare County Council public lighting standards and shall:</p> <ul style="list-style-type: none"> • Provide Low-level lighting • Utilise low voltage LED lamps • Minimum upward light spill <p>Each light fitting is to be controlled via an individual Photoelectric Control Unit (PECU). The operation of the lighting shall be on a dusk-dawn profile.</p>	<p>Lighting will be designed to achieve the required standards, provide a safe environment for pedestrians, cyclists, and vehicular traffic, provide surveillance and limit the impact on the artificial lighting on surrounding existing flora and fauna.</p>
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2.4 Low energy technologies considered:

Measure	Description	Benefit
<p>Exhaust Air Heat Pump</p>	<p>An exhaust air heat pump can cover up to 100% of the heating requirements of a well-insulated apartment.</p> <p>Can also work in conjunction with underfloor heating.</p>	<p>Modern heat pumps will typically provide 4 to 5 times more heat energy to the dwelling than the electrical energy they consume. They have a lower consumption of energy and therefore lower carbon emissions.</p>
<p>Low energy LED Lighting</p>	<p>Shall be designed and specified in accordance with the BER requirements in each unit and in the landlord areas in accordance with Part L.</p>	<p>Lower consumption of energy and therefore lower carbon emissions.</p>
<p>Mechanical Demand Control Ventilation (DCV)</p>	<p>The ventilation for the apartments shall be provided by a mechanical system with central extract and operating on the principle of Demand Control Ventilation (DCV)</p>	<p>Improved air quality and reduced costs in providing alternative heating etc.</p>
<p>E-car Charging Points</p>	<p>Ducting to be provided to designated car parking spaces for future provision of E-car charging points</p>	<p>Facilitating residents & visitors move to EV motoring</p>
<p>Renewable Energy</p>	<p>In accordance with the proposed part L amendments, the balance of renewable energy requirements shall be satisfied with roof-mounted photovoltaic panels.</p>	<p>Reducing electrical loads for each resident</p>

2.5 Materials & Materials Specification:

Implementation of the Design and Material principles to the design of the building envelope, internal layouts, facades and detailing has informed the materiality of the proposed development.

The proposed envelope of the building is a mix of brick and stone finish, with high-performance double-glazed aluminium windows. Based on comparison with similar schemes developed, the proposed materials are considered durable and would not require regular replacement or maintenance.

Materials have been selected with a view to longevity, durability and low maintenance. Consideration has been given to Building Regulations and includes reference to BS 7543:2015 'Guide to Durability of Buildings and Building elements, Products and Components'.

It is expected that a sinking fund allowance will account for future major maintenance and upgrade costs. A 10-year Planned Preventative Maintenance (PPM) strategy will determine the level of sinking fund required.

Measure	Description	Benefit
Implementation of the Design and Material principles to the design of the proposed development.	Materials have been selected with a view to longevity, durability and low maintenance with Consideration given to Building Regulations and include reference to BS 7543:2015 'Guide to Durability of Buildings and Building elements, Products and Components'	Longevity, durability and low maintenance of materials
Brickwork to the building envelope		Requires minimal maintenance and does not require regular replacement
Stone Finish		stone cladding will be robust and good detailing shall ensure minimal staining on façades.
Installation of factory finished double glazed aluminium windows and doors		Requires minimal maintenance and does not require regular replacement
Installation of factory finished Precast concrete/ steel composite balconies		Requires minimal maintenance and does not require regular replacement

2.6 Waste Management:

Measure	Description	Benefit
Construction and Operational Waste Management Plan	This application is accompanied by a Construction Management Plan prepared by CS Consulting. An Operational Waste Management Plan has been prepared by AWN consultants in support of this application.	Demonstration of how the scheme has been designed to comply with best practice.
Storage of non-recyclable waste and recyclable household Waste	The inclusion of a centralised bin storage area. Domestic waste management strategy in place: 1) Grey, Brown and Green bin distinction 2) Regular tendering for waste management collection	Access to all residents to reduce the risk of littering within the scheme and reduces potential waste charges.
Additional Recycling Centre	Additional recycling centre to be provided throughout the development	Helps to reduce waste charges and the amount of waste going to landfill.
Composting	Addition of organic waste bins to be provided throughout the development	Helps to reduce waste charges and the amount of waste going to landfill.

2.7 Human Health & Well Being

How human health and well-being is been considered:

Measure	Description	Benefit
Natural daylight	Design of the layout of the building has been optimised to achieve a good quality of natural daylight to the units.	Demonstration of how the scheme has been designed to comply with best practice
Security	Passive surveillance is incorporated into the design	Access to all residents to reduce the risk of crime, littering within the scheme and reduction of potential waste charges.
Accessibility	All units, egress routes and stair cores to comply with the requirements of Technical Guidance Documents Part M/ PartK	Demonstration of how the scheme has been designed to comply with best practice in relation to accessibility, reachability

		and inclusivity.
Amenity	Provision or external communal amenity space	Facilitates socialising & community interaction.
Private Open Space	Provision of private open space	Facilitates interaction with outdoors, increasing potential health benefits.

2.8 Transport & Accessibility

Transport considerations for increasing the uptake of the use of public transport, cycling and walking and reducing the ownership of private cars and reducing oil dependency:

Measure	Description	Benefit
Access to Public Transport	<p>The subject site is located within 500 metres of Heuston Station which serves direct rail routes to Cork, Galway, Limerick, Tralee, Waterford and Westport.</p> <p>The site is very well served by bus routes located along St. Johns Road West.</p> <p>St. Johns Road West is served by the 747 and 757 Airlink bus routes, within 200 metres of the subject site.</p> <p>JJ Kavanagh operates services no. 717, 736 and 735 stopping along St Johns Road West serving Kilkenny, Clonmel, Waterford, Carlow, Roscrea, Portlaoise, Nenagh and Limerick.</p> <p>Dublin Bus operates a number of routes serving St. Johns Road West including the no. 25A, 25B, 79, 79A and 860. These serve Lucan, Ballyfermot, Chapelizod as well as Dublin City centre.</p> <p>These services are all highly accessible from the subject site with the closest interchange opportunities located within 65m of the permitted access junction.</p>	<p>Availability, proximity to bus and railway services reduces the reliance on the private motor.</p>
Pedestrian Permeability	<p>The provision of good permeability for pedestrians and cyclists, as well as efficient access to public transport, are all key objectives of the proposed development. Easy pedestrian and cyclist access to podium level is facilitated at multiple points via the existing Heuston South Quarter complex:</p> <ul style="list-style-type: none"> - to/from Military Road, at the site's eastern boundary - to/from St. John's Road West, at the site's northern boundary. <p>Access for cyclists to the basement-level bicycle parking facilities is provided via a dedicated bicycle lift located at the rear of Block B and accesses the secure bicycle compound directly.</p> <p>Pedestrian and cyclist permeability through the subject development itself is ensured by the provision of clear and safe podium-level pedestrian and cyclist routes along the east/west and north/south axes. A primary east/west axis connects the RHK gardens to the existing Heuston South Quarter square with a 6 metre wide footpath.</p>	<p>Ensures long-term attractiveness of walking, and cycling to a range of local facilities.</p> <p>This strong infrastructure ensures that there will be a balance of transport modes used by future residents of the proposed development.</p>
Bicycle Storage	<p>Bicycle storage is located and designed as follows :</p> <p>Podium Level : 55 no. Sheffield stands to provide 110 spaces inclusive of 6no cargo spaces and 2 no spaces designated for the retail unit.</p> <p>Basement Level: 502 bicycles located in a secure compound in the form of 251 doubled stackers. 49 no Sheffield stands to provide 98 visitor stands (inclusive of 8 no Cargo spaces)</p>	<p>Accommodates the uptake of cycling and reduces the reliance on the private motor vehicle.</p>

Appendix A

Table 1 Maximum elemental U-value (W/m²K)^{1, 2}		
Column 1 Fabric Elements	Column 2 Area-weighted Average Elemental U-Value (Um)	Column 3 Average Elemental U-value – individual element or section of element
Roofs		
Pitched roof		
- Insulation at ceiling	0.16	0.3
- Insulation on slope	0.16	
Flat roof	0.20	
Walls	0.21	0.6
Ground floors ³	0.21	0.6
Other exposed floors	0.21	0.6
External doors, windows and rooflights	1.6 ⁴	3.0
Notes:		
1. The U-value includes the effect of unheated voids or other spaces.		
2. For alternative method of showing compliance see paragraph 1.3.2.3.		
3. For insulation of ground floors and exposed floors incorporating underfloor heating, see paragraph 1.3.2.2.		
4. Windows, doors and rooflights should have a maximum U-value of 1.6 W/m ² K when their combined area is 25% of floor area. However areas and U-values may be varied as set out in Table 2.		

Figure 1- TGD Part L 2011, Table 1

Appendix C

Figure 4 Phases of the life cycle

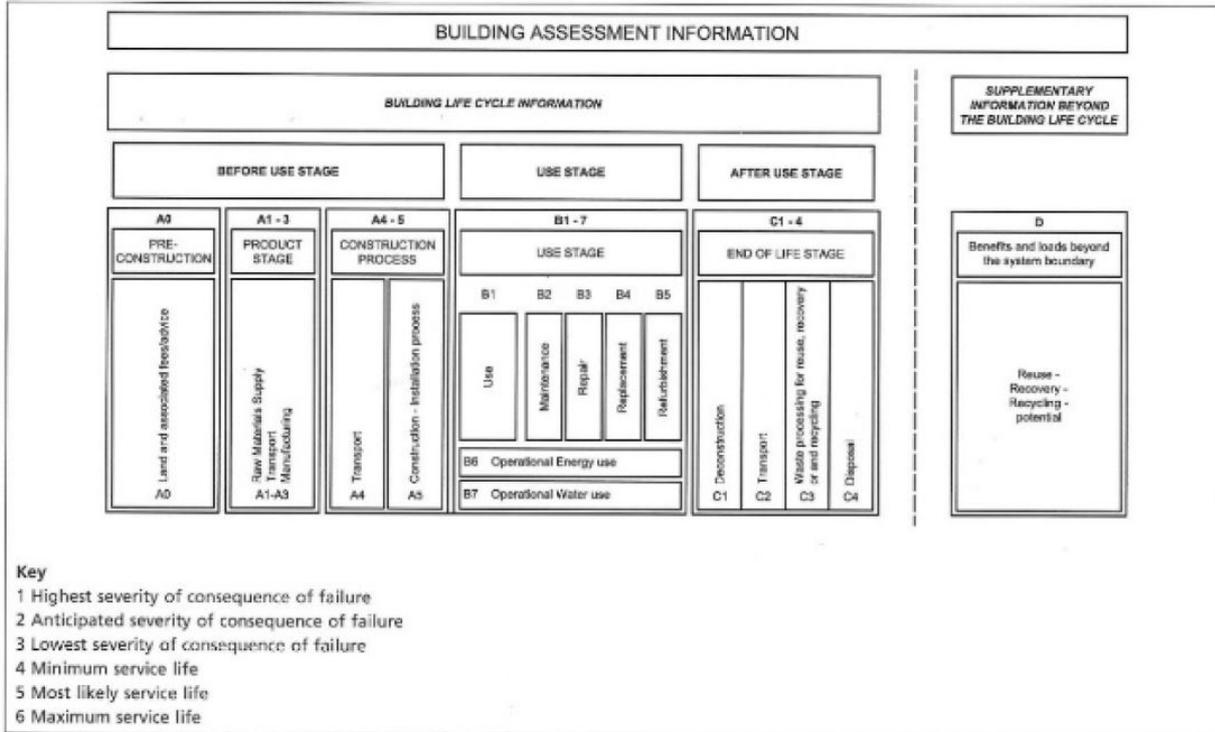


Figure 2 - BS 7543:2015 Figure 4