ARCHITECTURAL | BUILDING LIFECYCLE REPORT

PROPOSED DEVELOPMENT FOR MULDOWNEY`S PUB AND ADJACENT LANDS AT **RATHCOOLE, CO. DUBLIN**

ADDITIONAL INFORMATION
PLANNING REG. REF.: SD22A/0096

March 2023

DOWNEY

Document prepared by

DOWNEY.

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On behalf of

Lorat Trading Ltd.

For Lands at

Muldowney`s Pub, Main Street,
Rathcoole;

Co. Dublin

March 2023

DOWNEY

01|INTRODUCTION

Section 6.12 of the "Sustainable Urban Housing: Design Standards for New Apartments - Guidelines for Planning Authorities 2022" requires that planning applications for apartment development:

"Accordingly, planning applications for apartment development 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, as well as demonstrating what measures have been specifically considered by the proposer to effectively manage and reduce costs for the benefit of residents."
"demonstrate what measures have been specifically considered by the proposer to effectively manage and reduce costs for the benefit of residents"

This building Lifecycle Report document sets out to address the requirements of Section 6.12 of Apartment Guidelines 2022 as they apply to the single-storey apartment blocks within the development.

Project Description:

South Dublin County Council – We Lorat Trading Ltd intend to apply for permission for a residential development on a site of 0.57ha at Muldowney's Pub, Main Street, Rathcoole, Co. Dublin. The residential development will consist of (a) the demolition of some of the existing structures on site to include: a portion of an existing rubble wall; the rear extension of an existing cottage; existing structures, storerooms, and sheds to the west and north of Muldowney's Pub. (b) The reconfiguration, renovation, and extension of the existing cottages on site to provide for 2 no. 2-bedroom units. (c) The reconfiguration and renovation of Muldowney's Pub and storage yard. (d) The construction of 21 residential units within 2 no, 3-storey blocks to the rear and side of Muldowney's Pub as follows: Block A will provide 6 no. 1-bedroom units, giving a total of 6 no. apartments in this building. Block B will provide for a mix of 3 no. 1-bedroom and 12 no. 2-bedroom units, giving a total of 15 units within this Block.

Private open space will be provided in the form of balconies with communal open space provided in the centre of the site. The development will also include the provision of a pedestrian access from Main Street and a pedestrian and vehicular access via the existing car-park entrance to the rear of Muldowney's Pub. Provision of 32 carparking spaces and 44 bicycle spaces, all ancillary hard and soft landscaping, boundary treatment, ESB sub-station, signage, bin and bike stores and all engineering and site development works necessary to facilitate the development.

The application may be inspected or purchased at a fee not exceeding the reasonable cost of making a copy, at the offices of South Dublin County Council during its public opening hours of 9am-4pm, Mon-Fri. A submission or observation may be made in writing to South Dublin County Council on payment of the prescribed fee (€20.00) within the period of 5 weeks beginning on the date of receipt by South Dublin County Council of the application.

AN ASSESSMENT OF LONG TERM RUNNING AND MAINTENANCE COSTS AS THEY WOULD APPLY ON A PER RESIDENTIAL UNIT BASIS AT THE TIME OF APPLICATION

Property Management Company and Owners Management Company (OMC)

1.1 Property Management of the development

A property management company will be engaged at an early stage of the development to ensure that all property management functions are dealt with for the development 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 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 development once constructed:

- Timely formation of an Owners Management Company (OMC) – which will be a company limited by guarantee having no share capital. All future purchasers will be obliged to become members of this OMC
- Preparation of annual service charge budget for the development common areas
- Transfer of documentation in line with Schedule 3 of the MUD Act
- Estate Management
- Third Party Contractors Procurement and management
- Accounting Services
- Corporate Services
- Insurance Management
- After Hours Services
- Staff Administration

1.2 Service Charge Budget

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

This **service charge budget** also includes an allowance for a **Sinking Fund** and this allowance is determined following the review of the Building Investment Fund (BIF) report prepared by for the MC. The BIF report once adopted by the MC, determines an adequate estimated annual cost provision requirement based on the needs of the development over a 30-year cycle period. The BIF report will identify those works which are necessary to maintain, repair, and enhance the premises over the 30-year life cycle period, as required by the Multi Unit Development Act 2011.

In line with the requirements of the MUD Act, the members of the MC 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 A.

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.

MEASURES SPECIFICALLY CONSIDERED BY THE PROPOSER TO EFFECTIVELY MANAGE AND REDUCE COSTS FOR THE BENEFIT OF RESIDENTS.

2.1 Energy and Carbon Emissions

The following are an illustration of the energy measures that are planned for the units to assist in reducing costs for the occupants.

Measure	Description	Benefit
BER Certificates	A Building Energy Rating (BER) certificate will be provided for each dwelling in the proposed development which will provide detail of the energy performance of the dwellings. A BER 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/ dwellings 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	Higher BER ratings reduce energy consumption and running costs.

<table>
<tr><th>Measure</th><th>Description</th><th>Benefit</th></tr>
<tr><td>Fabric Energy Efficiency</td><td>The U-values being investigated will be in line with the requirements set out by the current regulatory requirements of the Technical Guidance Documents Part L, titled “Conservation of Fuel and Energy Buildings other than Dwellings”.
Thermal bridging at junctions between construction elements and at other locations will be minimised in accordance Paragraphs 1.2.4.2 and 1.2.4.3 within the Technical Guidance Documents Part L. See below Table 1 of Part L, Building Regulations.

Table 1 Maximum elemental U-value (W/m²K)[1, 2]
<table><tr><th>Column 1 Fabric Elements</th><th>Column 2 Area-weighted Average Elemental U-Value (Um)</th><th>Column 3 Average Elemental U-value – individual element or section of element</th></tr><tr><td>Roofs

Pitched roof
- Insulation at ceiling
- Insulation on slope

Flat roof</td><td>

0.16
0.16

0.20</td><td>

0.3

</td></tr><tr><td>Walls</td><td>0.21</td><td>0.6</td></tr><tr><td>Ground floors[3]</td><td>0.21</td><td>0.6</td></tr><tr><td>Other exposed floors</td><td>0.21</td><td>0.6</td></tr><tr><td>External doors, windows and rooflights</td><td>1.6[4]</td><td>3.0</td></tr><tr><td colspan="3">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</td></tr></table></td><td>Lower U-values and improved air tightness is being considered to help minimise heat losses through the building fabric, lower of energy consumption and thus minimise carbon emissions to the environment.</td></tr>
<tr><td>Energy Labelled White Goods</td><td colspan="2">The white good package planned for provision in the apartments will be of a very high standard and have a high energy efficiency rating. It is expected that the below appliance ratings will be provided:
• Oven - A plus
• Fridge Freezer - A plus
• Dishwasher - AAA
• Washer/Dryer - B</td><td>The provision of high rated appliances in turn reduces the amount of electricity required for occupants.</td></tr>
</table>

<table>
<tr><th>Measure</th><th>Description</th><th>Benefit</th></tr>
<tr>
<td>External Lighting</td>
<td>The design proposes to use 9 No. Luminaire types mounted at 6 meters height and with continuous beam widths across the development.
• The Average Horizontal Illuminance is 6.84 which is P4 compliant.
• The Minimum Horizontal Illuminance is 1 Lux (Emin ≥ 1 Lux) P4 to be compliant.
• 3000K Colour Temperature

<table>
<tr><td>Luminaire A Data</td><td>  </td></tr>
<tr><td>Type</td><td>Veelite Metro Streetlight 19W 8LED 700mA 3000k Street Optic R03</td></tr>
<tr><td>Lamp(s)</td><td>8LED 3000K</td></tr>
<tr><td>File Name</td><td>5MTA08LGA-R03.ies</td></tr>
<tr><td>Maintenance Factor</td><td>0.760</td></tr>
<tr><td>No. in Project</td><td>9</td></tr>
</table>
</td>
<td>The public lighting design for residential development is to provide adequate illuminance for vehicular and pedestrian access for residents and general public.

Provides a safe environment for pedestrians, cyclists and moving vehicles, to deter anti-social behaviour and to limit the environmental impact of artificial lighting on existing flora and fauna in the area.

The design of the public lighting includes low energy LED lighting throughout.
Energy efficient light fittings are the key element in reducing the developments energy consumption.

The design of Public Lighting with regard to the energy consumption has been carefully considered for the lifetime of the development.
- Low energy LED light fittings with high quality efficient lamps will provide considerable operational saving for the development.
- Greater energy savings will also result using the inbuilt multi-step dimming program during late hours of darkens along the public lighting spaces.</td>
</tr>
</table>

The following are low energy technologies that are being considered for the development and during the design state of the development the specific combination from the list below will be decided on and then implemented to achieve the A2 BER Rating.

Measure	Description	Benefit
Heating & Hot water	An Exhaust Air Heat pump EAHP solution shall be designed for the apartments. It extracts energy from the warm air as it leaves the home via the ventilation system and uses it to heat the radiators and domestic hot water. The installation of an EAHP is self-contained within each apartment and only requires an ESB connection and standard mains water connection.	An exhaust air heat pump can provide for the heating requirements of a well-insulated apartment in some of the coldest conditions. When working efficiently, it can reduce consumption for heating by up to 50% when compared to conventional heating systems
Space Heating	The units will be heated with steel, horizontal panel radiators in each room of the units and designed for the operating temperature of the heat pump. Each unit shall have two heating zones, the first zone will be the main open plan kitchen / living room and the second zone will be the bedrooms.	Smart technology can be used to control the system by phone app.
Ventilation	The ventilation for the apartments shall be provided by the EAHP and be classed as mechanically ventilated. The central extract shall operate on the principle of mechanical extract ventilation (MEV). MEV will be commissioned with two dedicated extract flow rates for the unit, one for background ventilation and one for boost ventilation.	Optimum levels of ventilation and air quality will be maintained 24/7 for the health and comfort of residents.

Measure	Description	Benefit
ECAR Charging Points	A selected amount of wired public access EV points shall allow the visitors of the apartments charge their electric cars. The supplies will be located around the development in the dedicated visitors spaces and ducted to ESB mini pillars for installation.	Providing the option of E-car charging points will allow occupants to avail of the ever improving efficient electric car technologies.
Smart Building Technology	The Developer anticipates providing significant Resident controls on various aspects including smart heating systems facilities* booking systems and integration with external services providers	

2.2 Materials

The practical implementation of the Design and Material principles has informed design of building facades, internal layouts and detailing of the proposed apartment buildings.

2.2.1 Buildings

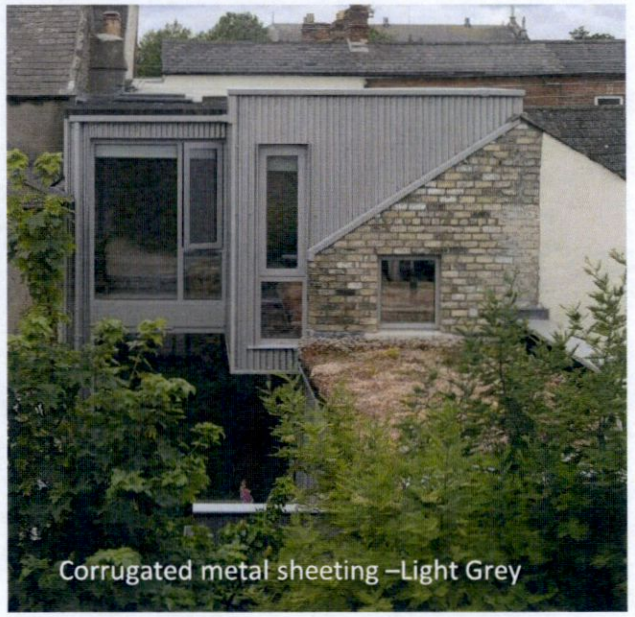
Apartment Buildings are designed in accordance with the Building Regulations, in particular Part D 'Materials and Workmanship', which includes all elements of the construction. The Design Principles and Specification are applied to both the apartment units and the common parts of the building and specific measures taken include:

Measure Description	Benefit
Daylighting to circulation areas	Avoids the requirement for continuous artificial lighting
Natural/Passive ventilation system to circulation areas	Avoids costly mechanical ventilation systems and associated maintenance and future replacement
Secure ground floor level cycle and refuse storage areas. Refuse is collected from a surface level collection point.	Avoids access lifts and any handling/moving equipment.
External paved and landscaped areas	All of these require low/minimal maintenance

2.2 Material Specification

Measure Description	Benefit
Consideration is given to the requirements of the Building Regulations and includes reference to BS 7543:2015, 'Guide to Durability of Buildings and Building elements, Products and Components', which provides guidance on the durability, design life and predicted service life of buildings and their parts. Entrance stair hall of the proposed Apartment buildings will be in a dark grey brick, external walls will be rendered in 2 tones of render (Dulux Pearl Grey and Dulux Moon Shimmer) and in corrugated metal sheeting – mild grey. The durability and performance of these are designed and specified in accordance with Figure 4; Phases of the Life Cycle of BS7543; 2015. (Please see Appendix B for this figure). The common parts are designed to incorporate the guidance, best practice principles and mitigations of Annexes of BS 7543: 2015 including: Annex A Climatic Agents affecting Durability Annex B Guidance on materials and durability Annex C Examples of UK material or component failures Annex D Design Life Data sheets	Ensures that the long-term durability and maintenance of Materials is an integral part of the Design and Specification of the proposed development.
Use of brickwork, corrugated metal sheeting, and render to envelope: Dulux Pearl Grey External render Dulux Moon Shimmer External render	Requires minimal on-going maintenance.

2.2 Material Specification

Measure Description	Benefit
Use of brickwork, corrugated metal sheeting, and render to envelope:  Dark Grey brick  Corrugated metal sheeting –Light Grey	Requires minimal ongoing maintenance
Use of factory finished and metal frame windows and doors – light grey frame to external doors/ windows.	Requires no ongoing maintenance

2.3 Landscape

	Measure Description	Benefit
Paving and Decking Materials	Sustainable, robust materials, with high slip resistance to be used for paving. The courtyard/ Pub yard areas will be paved with contemporary Concrete Block Flag Paving (600x200x50mm – natural grey) which will complement the look of the proposed buildings. Other surface materials will include Tobermore Tegula 'Natural' to footpaths, and resin concrete block paving beige - Herringbone - to parking bays.  Proposed concrete block flag paving - colour: natural grey, size: 600 x 200 x 50mm, or similar approved, staggered bond product: Pembroke flag by roadstone or similar approved.  Proposed concrete block paving product: Tobermore tegula 'natural: size 175x140x50mm  Proposed concrete block paving -to parking bays 80mm deep/ colour: beige - Herringbone	Require minimal on-going maintenance.

2.3 Landscape

	Measure Description	Benefit
Materials	Durable and hardwearing equipment (e.g. benches, play equipment etc.) to be used throughout. The proposed communal open space will offer a high quality landscape design, a proposed concrete block flag paving along the communal courtyard/ pub yard, proposed recycled composite timber picnic tables, concrete bench units with timber slat top seating, and a stainless steel Embankment slide for kids.  Proposed 475mm high concrete bench unit with timber slat top seating  Proposed stainless steel Embankment slide - situated on soil mounding, 1.5m high, by Kompan. Product code: COR711501-1530  Proposed recycled composite timber picnic tables	Robust materials and elements reduce the frequency of required repair and maintenance.

2.4 Waste Management

Measure	Description	Benefit
Storage of Non-Recyclable Waste and Recyclable Household Waste	Waste Management Plan will be provided for prior to commencement of development – see Further Information Cover Letter accompanying this application; Pub and Domestic waste are going to be separate; Pub & Residential Waste Management strategy: 1) Grey, Brown and Green bin distinction 2) Competitive tender for waste management collection	Helps reduce potential waste charges.
Composting	Organic waste bins to be provided throughout and Pub and Domestic waste are going to be separate;	Helps reduce potential waste charges

2.5 Health and Well being

Measure	Description	Benefit
Natural/Daylight	The design, separation distances and layout of the apartment blocks have been designed to optimise the ingress of natural daylight/sunlight to the proposed dwellings to provide good levels of natural light.	Reduces reliance on artificial lighting thereby reducing costs.
Accessibility	All units will comply with the requirements of Part M/K.	Reduces the level of adaptation, and associated costs, potentially necessitated by residents' future circumstances.
Security	The scheme is designed to incorporate passive surveillance with the following security strategies likely to be adopted: • CCTV monitoring at security sensitive areas of the development • Routine access fob audits	Help to reduce potential security/management costs.
Fire Safety	The Operator will be responsible for the preparation of a comprehensive fire risk assessment and the maintenance and servicing of the fire alarm panel and communal sprinkler system in the development including plant in individual apartments.	Ensures ongoing compliance with Part B

2.6 Management

Measure	Description	Benefit
Home User Guide	Once a purchaser completes their sale, a homeowner box will be provided which will include: • Homeowner manual – this will provide important information for the purchaser on details of their new property. It typically includes details of the property such as MPRN and GPRN, Information in relation to connect with utilities and communication providers, Contact details for all relevant suppliers and User Instructions for appliances and devices in the property. • A Residents Pack prepared by the OMC which will typically provide information on contact details for the Managing agent, emergency contact information, transport links in the area and a clear set of rules and regulations.	Residents are clearly informed of their obligations in regard to the use of the property and other residents at the outset so that any issues can be addressed in a timely and efficient manner. Residents are encouraged to engage with each other and their immediate environment in order to develop a sense of community that contributes to positive social environments

2.6 Transport

Measure	Description	Benefit
Access to Public Transport (Bus Services)	• The subject site extends to 0.33 hectares and is located at the corner of the Main Street in Rathcoole. The lands are situated approximately 23km south west of Dublin City Centre, and benefit from a central location within Rathcoole and the services and amenities offered within. • The lands pertaining to the subject site enjoy access to a wide range of services at such a strategic location within close proximity to schools, local shopping and public transport being offered within the area and the surrounding environs. The site is located within walking distance of Holy Family National school, Lisheen Nursing homes, Church, Bank of Ireland and other convenience stores. • The site on Main Street, Rathcoole, is in close proximity to a number of village amenities and services. Rathcoole Shopping Centre is located to the south and Tesco Express is south-west of the site. The number 69 and 69X serve Rathcoole from Hawkins Street on an hourly basis, the bus stop is located 100m from the subject site. The N7 Naas Dual carriageway is located 200m to the rear of the site. Access to the N7 Naas Dual carriageway is via a roundabout located approximately 300 to the east of the subject site.	The proximity, frequency and range of destinations served by these local bus services enhance the accessibility levels of the proposed residential development in addition to providing a viable and practical sustainable alternative to journeys undertaken by the private motor car.
Bicycle Storage	The provision of high quality secure bicycle parking facilities, for both short term and long-term parking requirements. A total number of 68 bicycle parking spaces are provided along 1no. bike shelter (44 spaces) and surface parking distributed over the development (24 spaces).	Accommodates the uptake of cycling and reduces the reliance on the private motor vehicle.

ITEMS INCLUDED IN A TYPICAL BIF

The BIF table below illustrates what would be incorporated for the calculation of a Sinking Fund.

	Building Investment Fund (Sinking Fund)	
Ref	Element	Life Expectancy
1.00	Roofs	
1.01	Replacement felt roof covering incl. insulation to main roofs	18
1.02	Replacement parapet details	18
1.03	Replace roof access hatches	25
1.04	Specialist Roof Systems - Fall arrest	25
2.00	Elevations	
2.01	Replace exit/entrance doors	25
2.02	Replace rainwater goods	25
2.03	Repair render	18
2.04	Periodic replacement and overhauling of external fixings	5
3.00	Stair Cores and Lobbies	
3.01	Decorate Ceilings	7
3.02	Decorate Walls	7
3.03	Decorate Joinery	7
3.04	Replace fire doors	25
3.05	Replace carpets (stairwells and lobbies)	12
3.06	Replace entrance mats	10
3.07	Replace nosings	12
3.08	Fixed furniture and Equipment	18

04|APPENDIX A

	Building Investment Fund (Sinking Fund)	
Ref	Element	Life Expectancy
4.00	M&E Services	
4.01	Central Boilers	12
4.02	CHP Engine	12
4.03	Circulating Pumps	15
4.04	HIU Apartment Heat Exchangers	10
4.05	Exhaust Air Heat Pump	10
4.06	Replace internal light fittings	18
4.07	Replace External light fittings	18
4.08	Replace smoke detector heads	18
4.09	Replace manual break glass units	18
4.10	Replace Fire alarm panel	18
4.11	Replace lift car and controls	25
4.12	Replace AOV's	25
4.13	Replace security access control installation	15
4.14	External Mains water connection	20
4.15	Electrical Mains and Sub Mains distribution	20
4.16	Emergency Lighting	20

04|APPENDIX A

	Building Investment Fund (Sinking Fund)	
Ref	Element	Life Expectancy
5.00	Exterior	
5.01	External boundary treatments –Recoat powder coated finishes to railings	60
5.02	15 year cutback of trees. Overhaul landscaping generally	20
5.03	Replace CCTV system	12
5.04	External handrails and balustrade	18

Phases of the Life Cycle of BS7543;2015

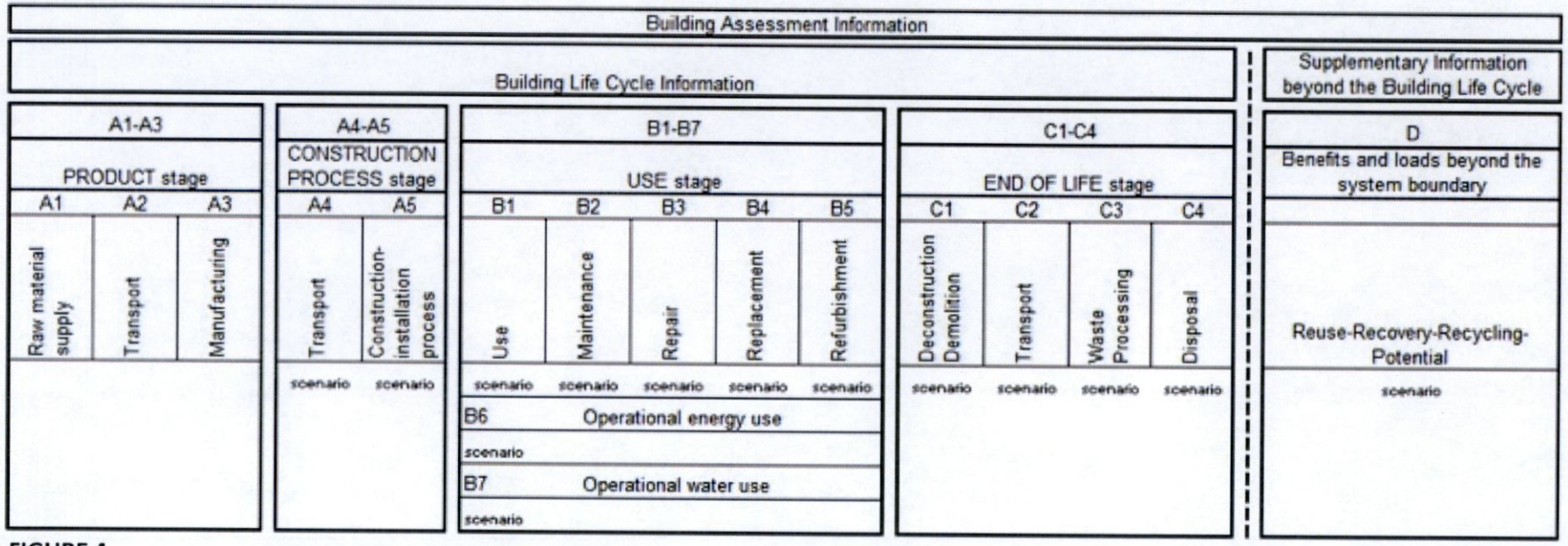


FIGURE 4

KEY

1. Highest severity of consequence of failure
2. Anticipated severity of consequence of failure
3. Lowest severity of consequence of failure
4. Minimum service life
5. Most likely service life
6. Maximum service life