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BUILDING LIFE-CYCLE REPORT
RESIDENTIAL DEVELOPMENT
CARLISLE SITE, KIMMAGE

on behalf of:

1 Terenure Land Limited

NOVEMBER 2022

p

CONTENTS PAGE

Report Prepared By;

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KEY PLAN:

INTRODUCTION

The Sustainable Urban Housing; Design Standards for New Apartments – Guidelines for Planning Authorities were updated in December 2020 (hereafter referred to as the Apartment Guidelines). The Apartment Guidelines introduced a requirement to include details on the management and maintenance of apartment schemes. This is set out in Section 6.11 to 6.14 - "Operation & Management of Apartment Developments", specifically Section 6.13.

Section 6.13 of the Apartment Guidelines 2018 requires that apartment applications shall:

"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 the Apartment Guidelines. The report is broken into two sections as follows:

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

Section 02:
Measures specifically considered by the proposer to effectively manage and reduce costs for the benefit of residents.

PROPOSED DEVELOPMENT

The proposal includes 208, one and two bedroom apartments arranged in five blocks. Two of the blocks are six storeys reducing to five and four storeys at their northern ends (Blocks 2 and 3) while Block 1 reduces from 6 to 4 storeys. Conjoined blocks numbers 4 and 5 are generally five storeys reducing to four storeys at the northern end. All five blocks are arranged along broadly north / south alignments to maximize daylight and sunlight access to the units and to the properties to the north.

The buildings on site are linked together by a south facing pedestrian green route running east / west along the southern boundary of the site overlooking the gym. The route links a communal garden at the western end of the site beside Block 1 to a public green in the south eastern corner beside Block 4/5. The gable ends of blocks one two and three form the backdrop to the pedestrian route with the main entrances to each of the blocks accessed directly from this feature.

The northern end of blocks 1,2 and 3 incorporate a covered “on grade” car park with landscaped communal spaces on the decks overhead. Two sets of large scale south facing urban steps and external stairs connect the communal decks to the pedestrian route below and provide additional opportunities for outdoor interaction between residents.

Vehicle circulation is kept separate from the key pedestrian areas with all vehicles accessing the development at the north eastern corner of the gym car park and proceeding to the northern boundary where a limited width shared surface directs vehicles east and west to car parking and service areas.

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. PROPERTY MANAGEMENT OF THE COMMON AREAS 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, including communal areas of open space and public areas, 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. This contract will be for a maximum period of 15 years and in the form prescribed by the PSRA.

The Property Management Company also has the following responsibilities for the apartment 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.
- Fair and equitable apportionment of the Annual operational charges in line with the Multi Units Development Act 2011 (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.
- Corporate Services.
- Insurance Management.
- After Hours Services.
- Staff Administration.

1.2. SERVICE CHARGE BUDGET

The property management company has a number of key responsibilities, primarily the compiling of the service charge budget for the development for agreement with the OMC. The service charge budget covers items such as cleaning, landscaping, refuse management, utility bills, insurance, 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 ("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 for the OMC. The BIF report once adopted by the OMC, 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 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 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.

SECTION 02

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 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
Fabric Energy Efficiency	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 with Appendix D within the Technical Guidance Documents Part L. See below Table 1 of Part L, Building Regulations. The building will be designed to ensure it is in compliant with the building regulation and achieving air tightness less than 3m3/(h.m2).	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.
Energy Labelled White Goods	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	The provision of high rated appliances in turn reduces the amount of electricity required for occupants.
External Lighting	The proposed lighting scheme within the development consists of mixture of 20/15 (X1/X2) Watt LED luminaires mounted on 6 metre columns and 7.25Watt LED bollards (X3) as indicated on the drawings. These Thorn luminaires were chosen for the following reasons: 4000K CCT LED High efficiency 141lm/W (X1) & 137 lm/W (X2) Minimum colour rendering: 70 Zero Upward Light Output Ratio (ULOR) LM80 >15 years using TM21-11 test results	The site lighting will be designed to provide a safe environment for pedestrians, cyclists and moving vehicles, to deter anti-social behaviour and to limit the environmental impact of artificial

	Minimum IK08 impact resistance At least IP65 ingress protection Meets or exceeds all other DCC Specification criteria. Each light fitting shall be controlled via an individual Photoelectric Control Unit (PECU). The operation of the lighting shall be on a dusk-dawn profile.	lighting on existing flora and fauna in the area.
Exhaust Air Heat Pumps	The thermal energy is extracted from the exhaust air and transferred to the supply air, space heating and domestic hot water systems.	• Reduced carbon emissions • Low fuel costs • No external condensing unit required No fossil fuel requirement

The following are Low energy technologies that are being considered for the development and during the design stage of the development the specific combination from the list below will be decided on and then implemented to achieve the A2/A3 BER Rating.

Measure	Description	Benefit
Natural Ventilation	Natural ventilation is being evaluated as one ventilation strategy to minimise energy usage and noise levels.	The main advantages of natural ventilation are: • Completely passive therefore no energy required. • Reduced environmental impact as minimal equipment disposal over life cycle.
Mechanical Ventilation Heat Recovery	Mechanical heat recovery ventilation (MVHR) will be considered to provide ventilation with low energy usage.	• MVHR provides tempered fresh air to occupied spaces. • Heat is removed from exhaust air stream and transferred into the fresh air supply stream negating the need to use energy to heat the air • MVHR also reduces the heating load on the boiler plant by eliminating cold air infiltration
PV Solar Panels	PV Solar Panels are being considered for the development to offer a secondary source of electrical energy. The panels are typically placed on the South facing side of the building for maximum electricity generation	• PV Solar Panels offer the benefit of reducing fossil fuel consumption and carbon emissions to the environment. They also reduce the overall requirement to purchase electricity from the grid.
ECAR Charging Points	E-Car chargers will be provided to 10% designated E-car charging car park spaces. Ducting will be provided to all remaining car parking spaces. Ducting shall be provided from a local landlord distribution board to designated E-car charging car park spaces. This will enable the management company the option to install a number of E-car charging points within the carpark zones to cater for E-car demand of the residence. This system	Providing the option of E-car charging points will futureproof the development

	operates on a single charge point access card. A full re-charge can take from one to eight hours using a standard charge point. Furthermore, all houses with on-curtilage parking will be wired to allow future installation of EV charging points by house purchasers.	

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 buildings.

2.2.1 BUILDINGS

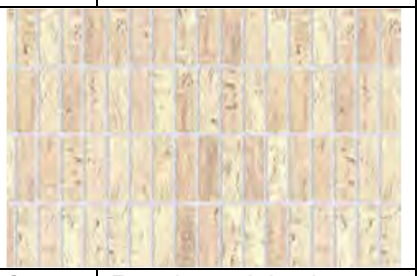
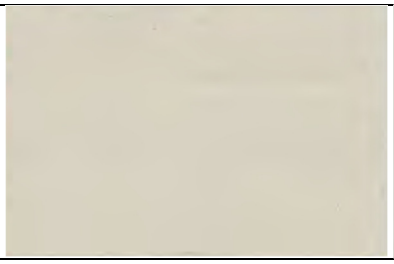
All proposed buildings are designed in accordance with the Building Regulations, in particular Part D 'Materials and Workmanship', which includes all elements of the construction. The Design Principles and Specification are applied to both the apartment units and the common parts of the building and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

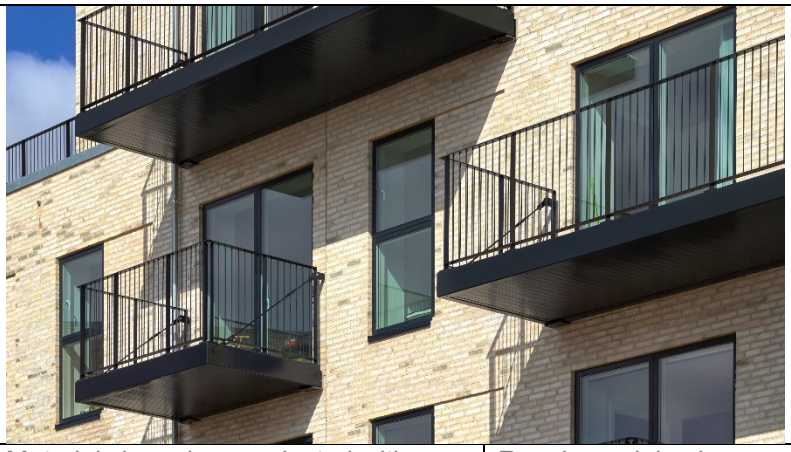
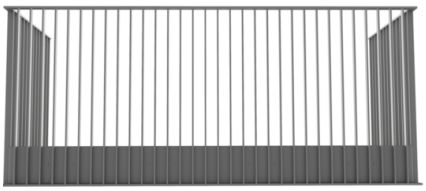
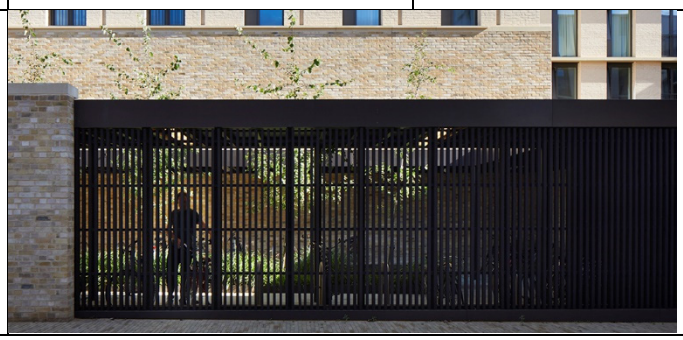
Measure	Description
Openable window sections are provided to all habitable rooms within the development providing natural daylight to areas of regular use and circulation.	Avoids the requirement for continuous artificial lighting
Openable window sections are provided to all habitable rooms within the development providing Natural/Passive ventilation to common circulation areas.	Avoids costly mechanical ventilation systems and associated maintenance and future replacement.
Natural ventilation though grills and louvres are proposed to provide fresh air to under deck parking areas.	Avoids costly mechanical ventilation systems and associated maintenance and future replacement
External paved and landscaped areas	All of these require low/minimal maintenance

2.2.2 MATERIAL 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 durable render 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.

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
Blockwork and Brickwork to the building envelope	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'	Requires minimal maintenance and does not require regular replacement
	 	
Durable Synthetic Render Finish	Synthetic Render limits the risk of traditional render including cracking, colour fading and algal growth	Requires minimal maintenance and does not require regular replacement
	 	
Installation of factory finished double glazed aluminium windows and doors	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'	Requires minimal maintenance and does not require regular replacement

		
Installation of factory finished steel & glazed balconies	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’	Requires minimal maintenance and does not require regular replacement
		
Installation of factory finished steel louvres / railing	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’	Requires minimal maintenance and does not require regular replacement
		

2.3 LANDSCAPE

Measure	Description	Benefit
Site Planning	Generous and high-quality landscape with ecological corridors designed within the proposed development. Pedestrian priority over vehicular traffic where possible. Significant tree planting and soft landscaping within courtyards and public spaces.	Natural attenuation and landscape maintenance preferable
Hard Landscaping	Use of robust materials with high slip resistance to be used for paving. Durable and robust equipment (e.g. play, exercise, fencing etc.) to be used throughout. 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. Designated car parking including accessible & visitor car parking reduces the travel distances for visitors with reduced mobility.	Required ongoing maintenance significantly reduced through use of robust materials installed with proven details. Plenty of room for cycles and pedestrians along with car spaces provide a good balance between pedestrians and car users. Wheelchair user-friendly.
Soft Landscaping	The use of native and strategically located non-native plants will provide optimum biodiversity and aesthetic values. This varied profile is designed to provide a diverse landscape	Low-cost, availability, ease of establishment and reduced requirements for maintenance. Ecological contribution in an urban setting.
Planting Details	Proven tree staking details. Shrub, hedging, herbaceous and lawn installation planting details provided.	Correctly installed planting will develop into well established and robust soft landscape reducing future maintenance.
Balcony and Decking Materials	Use of robust high-quality materials and detailing to ensure sustainability.	Ensures the longevity
Green Roofs	Use of green roofs and traditional roof coverings with proven detailing to roof elements.	Attenuation reduces the burden on vulnerable rainwater goods, resulting in fewer elements that could require replacement or repair.

Play areas / Incidental Play Areas	Durable and robust equipment along with natural play elements to be used.	Ensures the longevity, maintainability, and play value.
Sustainable Drainage	A range or SUDS measures proposed within site (permeable paving, attenuation) along with significant soft landscape areas which will cater for natural infiltration.	Reduces the volume of irrigation required

2.4 WASTE MANAGEMENT

The following measures illustrate the intentions for the management of Waste.

Measure	Description	Benefit
Operational Waste Management Plan	This application is accompanied by an Operational Waste Management Plan prepared by Traynor Environmental Ltd.	The report demonstrates how the scheme has been designed to comply with local, regional, and national waste legislation along with best practice
Storage of Non-Recyclable Waste and Recyclable Household Waste	Inclusion of centralised waste storage areas, with enough space to accommodate a weekly collection of bins	Easily accessible by all residents, minimises potential littering of the scheme, reduce potential waste charges and not limit waste contractor selection
	Domestic waste management strategy: General waste, mixed recyclable, glass recycling and organic bin distinction	Helps reduce potential waste charges and not limit waste contractor selection
	Security restricted waste storage rooms	Reduce potential for fly tipping by residents and non-residents
	Well signed waste storage rooms and bins	Help reduce potential cross contamination of waste and reduce waste charges.
Composting	Organic waste bins to be provided in waste storage areas.	Helps reduce potential waste charges

2.5 HEALTH & WELL BEING

The following are illustrations of how the health and well-being of future residents are considered.

Measure	Description	Benefit
Natural / Day Light	Public Open Space located south of Block 5.	Proximity and use of open space promotes a healthy lifestyle & sense of community Proximity and use of external green spaces promote a healthy lifestyle.
	Communal Open Space located to the west of Block 1 and to west of Block 5.	Facilitates community interaction, socialising and play – resulting in improved wellbeing. Proximity and use of external green spaces promote a healthy lifestyle.
	Generous communal amenity spaces incorporated between the apartment blocks	A diverse range of open space generates more opportunities for community engagement in terms of recreation and activities.
Accessibility	All units will comply with the requirements of Part M/K and a universal access statement is provided within the design statement of	Reduces the level of adaptation, and associated costs, potentially necessitated by residents'

	this submission.	future circumstances.
Security	The scheme is designed to incorporate passive surveillance with the following security strategies likely to be adopted: • CCTV monitoring details • Secure bicycle stands – covered by CCTV • Routine access fob audits	Help to reduce potential security/management costs.

Measure	Description	Benefit
Natural Amenity	Public Green located south and east of Block 5.	Proximity and use of open space promotes a healthy lifestyle & sense of community Proximity and use of external green spaces promote a healthy lifestyle.
	Communal Green located to the west of Block 1.	Proximity and use of open space promotes a healthy lifestyle & sense of community. Proximity and use of external green spaces promote a healthy lifestyle.
	Generous communal amenity spaces incorporated between the apartment blocks	Facilitates community interaction, socialising and play – resulting in improved wellbeing. Proximity and use of external green spaces promote a healthy lifestyle.
	Roof Amenity Space located on Blocks 2 & 3	Facilitates community interaction, socialising and play – resulting in improved wellbeing

2.6 MANAGEMENT

Consideration has been given to the ensuring the homeowners have a clear understanding of their property

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 as informed as possible so that any issues can be addressed in a timely and efficient manner.

2.7 TRANSPORT

Measure	Description	Benefit
Access to Public Transport (Bus Services)	The subject site and surrounding lands are currently very well serviced by public transport. The nearest Dublin Bus scheduled services operate generally to and from Dublin city centre and along Kimmage Road West and Kimmage Road Lower. These include the following services: - 9 from Charlestown to Limekiln Avenue; - 15A from Merrion Square to Limekiln Avenue; - 17 from Rialto to Blackrock Station; - 17D from Rialto to Dundrum Luas;	The availability, proximity and ease of access to high quality public transport services contributes to reducing the reliance on the private motor vehicle for all journey types.
Permeable Connections	The public open space in the southeast corner provides a significant new connection along the length of the eastern boundary of the gym car park. There is also the possibility of future connections to the Nora Dunne gallery to the south, subject to agreement with the owners of that property. Provision and subsequent maintenance of dedicated pedestrian and cycle infrastructure on-site, and their connectivity with the public road network providing convenient access to local services including shops, schools, restaurants and doctor's surgeries.	Ensure the long-term attractiveness of walking and cycling to a range of local education, retail and community facilities and services.
Bicycle Storage	The provision of high quality secure and sheltered bicycle parking facilities, for both short term and long-term parking requirements.	Accommodates the uptake of cycling and reducing the reliance on the private motor vehicle.
E-car Facilities	E-Car chargers will be provided to 10% designated E-car charging car park spaces. Ducting will be provided to all remaining car parking spaces.	To accommodate the growing demand for E- car which assist in decarbonising society and reducing oil dependency.

APPENDIX A:

Figure 1- TGD Part L 2017, Table 1

Table 1 Maximum elemental U-value [1] (W/m^2K)

Column 1 Fabric Elements	Column 2 Area – weighted Average Elemental U-Value (U_m)	Column 3 Average Elemental U-value Individual element or section of element
Roofs[2] Pitched roof - Insulation at ceiling - Insulation on slope Flat roof	 0.16 0.16 0.20	 0.3
Walls[2]	0.21	0.6
Ground Floors[2,3]	0.21	0.6
Other exposed floors[2]	0.21	0.6
External personnel doors, windows[4] and rooflights[6]	1.6[5]	3.0
Curtain Walling	1.8	3.0
Vehicle access and similar large doors	1.5	3.0
High usage entrance door[7]	3.0	3.0
Swimming Pool Basin[8]	0.25	0.6

Notes:

1. The U-value includes the effect of unheated voids or other spaces.
2. Reasonable provision would also be achieved if the total heat loss through the roof, wall and floor elements did not exceed that which would be the case if each of the area weighted average U-value (Um) for these elements set out in Column 2 were achieved individually.
3. Where the source of space heating is underfloor heating, a floor U-value of 0.15 W/m^2K should generally be satisfactory.
4. Excludes display windows and similar glazing but their impact on overall performance must be taken into account in EPC and CPC calculation.
5. In buildings with high internal heat gains a less demanding area-weighted average U-Value for the glazing may be an appropriate way of reducing overall primary energy and CO_2 emissions. Where this can be shown then the average U-value for windows can be relaxed from the values given above. However values should be no worse than 2.2 W/m^2K.
6. This is the overall U-value including the frame and edge effects, and it relates to the performance of the unit in the vertical plane so, for roof-lights, it must be adjusted for the slope of the roof as described in Sect 11.1 of BR 443
7. High Usage Entrance door means a door to an entrance primarily for the use of people that is expected to experience larger volumes of traffic, and where robustness and/or powered operation is the main performance requirement. To qualify as a high-usage entrance door the door should be equipped with automatic closers and except where operational requirements preclude it, be protected by a lobby.
8. Where a swimming pool is constructed as part of a new building, reasonable provision should be made to limit heat loss from the pool basin by achieving a U Value no worse than 0.25 W/m^2K as calculated according to BS EN 13370

Appendix B:

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) CALCULATIONS		
Ref	**Element**	**Life Expectancy**	**Amount**
1.00	Roofs		
1.01	Replacement felt roof covering incl. insulation to main roofs/ overhaul to green roofs.	18	
1.02	Replacement parapet details	18	
1.03	Replacement/ repairs to facias	18	
1.04	Replace roof access hatches	25	
1.05	Specialist Roof Systems - Fall arrest	25	
1.06	Overhaul waterproofing details to penthouse paved areas	12	
2.00	Elevations		
2.01	Minor repairs and preparation for decorations of rendered areas	18	
2.02	Replace exit/ entrance doors	25	
2.03	Replace Rainwater goods	25	
2.04	Recoat powder coated Finishes to balconies / Grills to Basement vents	20	
2.05	Periodic replacement and overhauling of external fixings	5	
2.06	Replace Balcony floor finishes	25	
3.00	Stair cores & lobbies (3No. Cores)		
3.01	Decorate Ceilings	7	

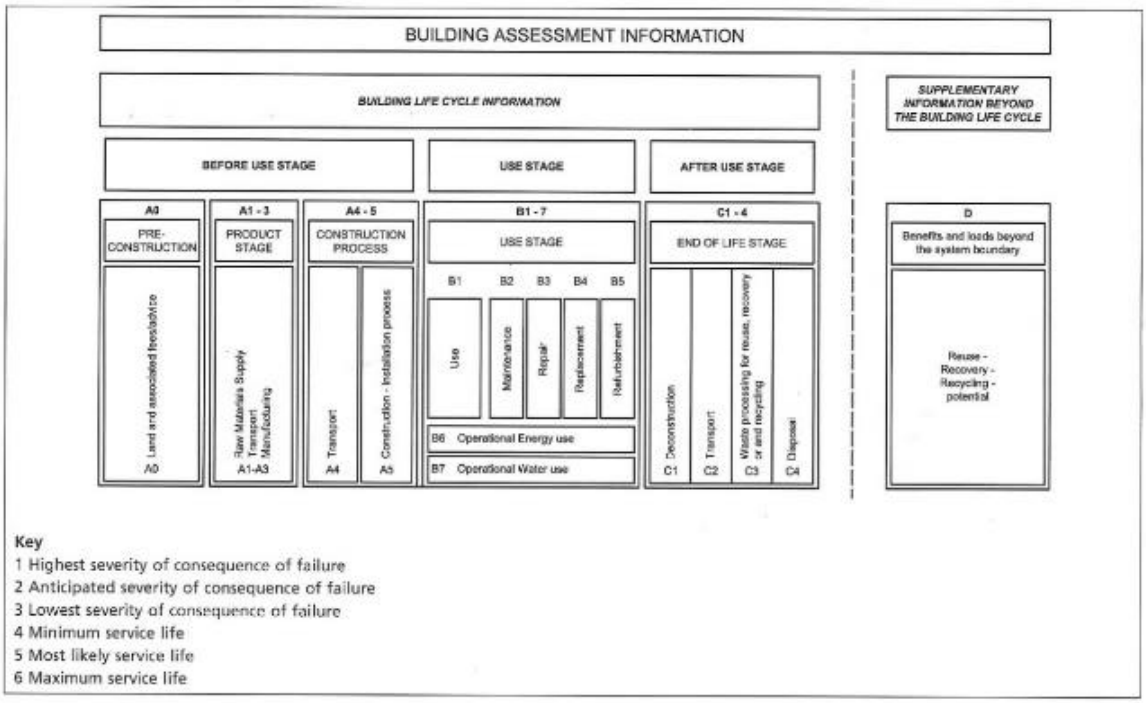
3.02	Decorate Walls	7	
3.03	Decorate Joinery	7	
3.04	Replace fire doors	25	
3.05	Replace carpets (stairwells & lobbies)	12	
3.06	Replace entrance mats	10	
3.07	Replace nosing's	12	
3.08	Replace ceramic floors tiles Entrance lobbies	20	
3.09	Fixed Furniture & Equipment - Provisional Sum	18	
4.00	Deck Covered Car Parking		
4.01	Repaint parking spaces & Numbering	7	
4.02	Replace store doors, ironmongery & digi-locks	15	
4.03	Replace Bike stands	25	
4.04	Replace basement access control at entrance & core entrances	12	
5.00	M&E Services		
5.01	General - Internal re-lamping	7	
5.02	Replace Internal light fittings	18	
5.03	Replace External light fittings (lights at entrance lobbies)	18	
5.04	Replace smoke detector heads	18	
5.05	Replace manual break glass units/ disabled refuge call points	18	
5.06	Replace Fire alarm panel	18	
5.07	Replace lift car and controls	25	
5.08	Replace AOV's	25	
5.08	Replace security access control installation	15	
5.09	Sump pumps replacement	15	
5.10	External Mains Water connection	20	
5.12	Electrical Mains and Sub Mains distribution	20	

5.13	Emergency Lighting	20	
5.14	Overhaul and/or replace Waste Pipes, Stacks & Vents	20	
6.00	Exterior		
6.01	External boundary treatments - Recoat powder coated Finishes to railings	60	
6.02	Replace external signage	18	
6.03	Replace cobblelock areas	18	
6.04	15-year cutback & thinning of trees. Overhaul landscaping generally	20	
6.05	Replace CCTV provision	12	
6.06	External Handrails and balustrade	18	

APPENDIX C:

Phases of the Life Cycle of BS7543; 2015

Figure 4 **Phases of the life cycle**



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