

# PROPOSED STRATEGIC HOUSING DEVELOPMENT

AT KILBARRY, CORK

ON BEHALF OF CORK COUNTY GAA BOARD

## BUILDING LIFECYCLE REPORT



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## Introduction

*The Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities* (March 2018, updated December 2020) outlines guidelines and policies required for development and maintenance of apartments and multi-residential units.

Clauses 6.11 to 6.14 of the Guidelines relate to the “Operations & Management of Apartment Developments”, and Clause 6.13 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, as well as demonstrating what measures have been specifically considered by the proposer of effectively manage and reduce costs for the benefit of residents.”

This Building Lifecycle Report sets out to address the requirements of these Guidelines and is divided into two sections: Section 1 will assess the long-term running and maintenance costs as they would apply on a per residential unit basis, at the time of application. Section 2 will demonstrate what measures have been specifically considered by the proposer to effectively manage and reduce costs for the benefit of residents.

**Project Description** The proposal for a new Strategic Housing Development on the lands at Kilbarry, Cork. The housing development will be comprising of 319 no. houses, duplexes & apartments. The proposed housing mix – 41 no. 1 bed units (13%), 123 no. 2 Bed Units (38%), 131 no. 3 Bed Units (41%), and 24 no. 4 Bed Units (7%). Supplementary to the units, the development is also providing a 71 childspace child creche facility. The scheme will have a on-street parking for the duplexes apartments as well as a mix of on street parking and some front curtilage parking for the houses. Secure bike storage for the units will be provided as required, within the apartment blocks E, F and G and adjacent to the duplex blocks as well as the Creche. The main entrance to the scheme is the southwest corner off the Old Whitechurch Road with a second access off the Dublin Hill via the existing road into Delaney’s GAA club, and additional pedestrian and cycle access within the open space lands to the north of the proposed housing development.

## Section 1 Assessment of Long-Term Running and Maintenance Costs

1.1 Property Management of the Common Areas of the Development As stated in the Sustainable Urban Housing Guidelines 2018 section 6.14, the Multi-Unit Developments Act, 2011 (MUD Act) sets out the legal requirements regarding the management of apartment developments. 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)
- 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. 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.

## **1.2 Service Charge Budget**

The property management company 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, landscaping, refuse management, utility bills, insurance, maintenance of mechanical / electrical lifts / life safety systems, security, property management fee, etc. to the development's common areas in accordance with the 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 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 MUD Act. 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. Note: the detail associated with the 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 2 Measures to 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 houses, duplexes & maisonettes to assist in reducing both carbon emissions and costs for the occupants.

Measure	Description	Benefit
<b>BER Certificates</b>	A Building Energy Rating (BER) certificate will be supplied for each unit in the proposed development, which provides detail of the energy performance of the dwellings. A BER is calculated assessing energy use for space and hot water heating, ventilation, and lighting and occupancy. It is proposed to target an A2/A3 rating for the houses, duplexes and apartments, which will equate to the following emissions: A2: 25-50 kwh/m <sup>2</sup> /yr with CO <sub>2</sub> emissions circa 10kgCO <sub>2</sub> /m <sup>2</sup> year	Higher BER ratings reduce energy consumption and running costs. Anticipated Ratings for this project are BER A2
<b>Fabric Energy Efficiency</b>	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: Conservation of Fuel and Energy – Dwellings 2019 (Refer to Appendix B). Thermal bridging at junctions between construction elements and at other locations will be minimised in accordance with Paragraphs 1.3.3 within TGD Part L.	Lower U-values and improved airtightness will help minimise heat losses through the building fabric, lower the energy consumption and thus minimise carbon emissions to the environment.
<b>Energy Labelled White Goods</b>	Energy Labelled White Goods The white-good package planned for provision in the apartments will be of a high standard and have a high energy efficiency rating.	The provision of high rated appliances in turn reduces the amount of electricity required for occupants.
<b>External Lighting</b>	The external lighting is designed using the lighting simulation software DIALux and is in accordance with the following: <ul style="list-style-type: none"> <li>▪ CIBSE Lighting Guide LG – 6</li> <li>▪ IS EN 12464-2</li> <li>▪ CIE Guide regarding Illumination levels and “Obtrusive Light” to neighbouring properties</li> <li>▪ HSA Regulations for Electricity</li> <li>▪ ETCI National Rules for Electrical Installations ET 10101</li> </ul>	The site lighting has been 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 lighting on existing flora and fauna in the area.

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

Measure	Description	Benefit
<b>Natural Ventilation</b>	Natural ventilation is being evaluated as a ventilation strategy to minimise energy usage and noise levels	Advantages of natural ventilation include: <ul style="list-style-type: none"> <li>• Low noise impact for occupants and adjacent units.</li> <li>• Completely passive therefore no energy required with associated.</li> <li>• Minimal maintenance required.</li> <li>• Reduced environmental impact as minimal equipment disposal over life cycle.</li> <li>• Full fresh air resulting in healthier indoor environment.</li> </ul>
<b>Mechanical Ventilation Heat Recovery</b>	Mechanical heat recovery ventilation will be considered to provide ventilation with low energy usage.	Mechanical Heat Recovery Ventilation provides ventilation with low energy usage. The MVHR reduces overall energy and ensures a continuous fresh clean air supply.
<b>PV Solar Panels</b>	PV solar panels are being considered which converts the electricity produced by the PV system (which is DC) into AC electricity. The panels are typically placed on the south facing side of the building for maximum heat gain and in some instances, can also be used to assist the heating system.	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.
<b>Air to Water Heat Pump</b>	Air to water heat pumps are being evaluated for use in the houses, duplex and apartments.	Air to water heat pumps are a highly efficient source used for space heating and domestic hot water services in the development. This is particularly the case where combined in new build housing where air tightness and insulation levels are very high.
<b>ECAR Charging Points</b>	72 EV charging points are located throughout the shared parking within the scheme. Ducting shall be provided from a local landlord distribution board to all other shared car park spaces for future EV points fitted by others. This will enable the management company the option to install E-car charging points around the development to cater for E-car demand of the residence in accordance with the City Council's Development Plan policy.	Providing the option of E-car charging points will allow occupants to avail of the ever-improving efficient electric car technologies.

## 2.2 Buildings

The duplexes apartments and houses are all designed in accordance with the Building Regulations, in Particular Part D Materials and Workmanship which include all elements of the construction, where the design principles and specification are applied to both the residential units and the common areas of the building.

Specific design measures being investigated are:

Design Measure	Benefit
<b>Daylighting to stair cores &amp; protected lobbies</b>	Avoids the requirement for continuous artificial lighting. Natural
<b>Natural / passive ventilation system</b>	Avoids costly mechanical ventilation systems and associated maintenance and future replacement
<b>Secure basement level cycle storage areas accessed both internally and directly from the outside, with direct access to bicycle routes</b>	Encourages cycling by providing greater accessibility and ease of use
<b>Roof construction includes significant areas of traditional pitched roofs including traditional tiled coverings, as well as a green roof to the creche</b>	Minimises ongoing maintenance
<b>External paved and landscaped areas</b>	These will require low / minimal maintenance

## 2.3 Materials

The proposal seeks to meet the requirements of the Building Regulations with particular reference to BS 7543:2015, 'Guide to Durability of Buildings and Building Elements, Products and Components', which provides guidance on the design life and predicted service life of buildings and their parts, ensuring that the long-term durability and maintenance of materials is an integral part of the specification of the proposed development.

The scheme is designed and specified in accordance with Phases of the Life Cycle of BS7543; 2015 Figure 04 (Appendix C). 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.

Materials chosen including brickwork, render systems, powder-coated aluminium framed double-glazed windows and doors, metal rainscreen cladding, glazed balustrades, powder-coated aluminium railings and steel frame deck all require minimum on-going maintenance and reduce ongoing associated costs.

Measure Description	Benefit
<p>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</p> <p>All common areas of the scheme, and their durability and performance are designed and specified in accordance with Figure 4: Phases of Life Cycle BS 7543:2015. The common parts are designed to incorporate the guidance, best practice, principles and mitigations of Annexes of BS 7543:2015 including-</p> <p>Annex A- Climatic Agents affecting durability</p> <p>Annex B- Guidance on materials and durability</p> <p>Annex C- Design Life data sheets</p>	<p>Ensures that the long-term durability and maintenance of materials is an integral part of the design and specification of the proposed development.</p>
<p>Use of brickwork and pigmented render systems to envelope</p>	<p>Requires no ongoing maintenance</p>
<p>Factory finished and alu-clad windows and doors, and powder coated steel balconies</p>	<p>Requires no ongoing maintenance</p>



## 2.4 Landscape

High quality landscape design strategies and the use of robust materials are employed to minimise ongoing maintenance and ensure the costs to the residents are reduced. Refer to DMNA Landscape Design Statement for further detail.

Measure	Description	Benefit
<b>Site Layout and Design</b>	<ul style="list-style-type: none"> <li>• High quality mature landscape with emphasis on biodiversity.</li> <li>• Pedestrians are prioritised over the car</li> <li>• Tree planting and soft landscaping within streets, courtyards and public spaces.</li> <li>• SUDs drainage system and landscape maintenance preferable.</li> </ul>	Provides for high levels of water absorption and natural attenuation on site to slow water discharge and minimise any risk of localised water pooling.
<b>Materials</b>	Use of robust, high quality paving and decking materials, with robust and proven details. Durable and robust equipment (e.g. play, exercise, fencing etc.) to be used throughout.	Require minimum on-going maintenance and reduces frequency of required repair.
<b>Planting</b>	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 diversity of landscape	Low-cost, availability, ease of establishment and reduced requirements for maintenance.
<b>SUDS and NBS</b>	It is proposed to use Sustainable Urban Drainage Systems (SUDS) and Nature Based Systems (NBS) for managing stormwater for the proposed development. These systems are environmentally beneficial, causing minimal or no long-term detrimental damage. They are often regarded as a sequence of management practices, control structures and strategies to efficiently and sustainably drain surface water while minimising pollution and managing the impact of water quality of local water bodies.	<ul style="list-style-type: none"> <li>• Attenuate Stormwater run-off at source and site control areas</li> <li>• Reduce stormwater run-off leaving site</li> <li>• Reduce pollution impact and improve water quality of water bodies</li> <li>• Replicate the natural characteristics of rainfall runoff for the site</li> <li>• Recharge the groundwater profile</li> <li>• Biodiversity and ecology benefits</li> <li>• Protect natural flow regimes in watercourses</li> </ul>

## 2.5 Waste Management

The intentions for the management of waste include:

Measure	Description	Benefit
<b>Storage of Non-Recyclable Waste and Recyclable Household Waste</b>	Domestic waste management strategy: Grey, Brown, and Green bin distinction. Competitive tender for waste management collection	Helps reduce potential waste charges and disposal to landfill.
<b>Composting</b>	Organic waste bins to be provided throughout.	Helps reduce potential waste charges and disposal to landfill where organic waste breakdown and release methane

## 2.6 Health and Wellbeing

All of the housing in the development has been designed with the health and wellbeing of the user in mind. Separation distances, layout of the units, circulation, provision of internal resident's amenity rooms, and private amenity spaces have all been carefully considered and tested to optimise the ingress of natural daylight/sunlight to the proposed dwellings, in addition to the provision of generous glazed windows and doors. This will reduce reliance on artificial lighting, and thereby reduce costs. The development has been designed to meet Part M building regulation requirements and the considered layouts enable easy access for all within the units themselves, the circulation, amenity, and shared courtyard areas. The external communal areas all enjoy favourable orientation and passive surveillance from overlooking units – creating comfortable and secure places to be. Play areas and pocket parks are located centrally within the scheme, meaning children at play will be overlooked by units. The site is linked via the existing access road to the east to Dublin Hill where existing bus services into Cork City are located. Cycle routes are provided along the proposed link road and through the new open space park area to the north to connect to neighbouring lands which are earmarked for development and to the old Whitechurch Road. The scheme will have public and private bike storage to encouraging cycling as an easy and healthy mode of transport.

## 2.7 Management

Consideration has been given to ensure the homeowners have a clear understanding of their property. Once a purchaser completes their sale, a homeowner box will be provided which will include:

- Homeowner manual which 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 will be as informed as possible so that any issues can be addressed in a timely and efficient manner.

## 2.8 Transport

The following are illustrations of how well connected the proposed scheme to the benefit of potential occupants.

Measure	Description	Benefit
<b>Access to Public Transport (Bus Services)</b>	Local Bus services operate in close proximity to the subject development site. Local bus stops for Cork City bus services are available from Dublin Hill which is accessed from the via the existing link road to the east.	These bus services provide access to a range of additional destinations and facilities. The proximity, frequency and range of additional destinations served by these bus routes enhance the accessibility of the proposed residential development in addition to providing viable and practical sustainable alternative to journeys undertaken by the private motor car.
<b>Permeable Connections</b>	The proposed development is directly adjacent to the Old Whitechurch Road and connect via this road to the surrounding communities and facilities in the local area. The development also connects to Dublin Hill with pedestrian connections to the facilities here also. Finally the development links to the new public park proposed to the north and the adjoining IDA lands to the northeast which are zoned for development.	Ensure the long-term attractiveness of walking and cycling to a range of local education, retail and community facilities and services.
<b>Bicycle Storage</b>	The provision of high-quality secure bicycle parking facilities to the duplex shared communal spaces and internalll to the apartments buildings.	Accommodates the uptake of cycling and reducing the reliance on the private motor vehicle
<b>E-Car Facilities</b>	Ducting will be provided from a local landlord distribution board to designated E-car charging car park spaces	To accommodate the growing demand for E-car vehicles which assist in de-carbonising society and reducing oil dependency.