

Building Life Cycle Report

for

Development at the Site of the Former Royal Oak Public House, Finglas Road & Old Finglas Road, Glasnevin

Dublin 11

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1 Preamble

1.1 General

The purpose of this report is to provide an initial 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 to effectively manage and reduce costs for the benefit of the residents.

This is achieved by producing a Building Lifecycle Report for the proposed development **at the Site of the Former Royal Oak Public House, Finglas Road & Old Finglas Road, Glasnevin, Dublin 11**

1.2 Compliance

The This Building Lifecycle Report has been developed in accordance to the guidelines as per the Sustainable Urban Housing: Design Standards for New Apartments (Guidelines for Planning Authorities), under section 28 of the Planning & Development Act 2000 (as amended). Within the new guidelines, new guidance is to be provided on residential schemes.

The 2018 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 is to include a statement of the aim of certainty regarding their long-term management and maintenance structures.

This certainty is to be provided via legal and financial arrangements supported by effective and appropriately resourced maintenance and operational regimes. The guidelines introduced a requirement to include details on the management and maintenance of apartment scheme.

2 Proposed Development

2.1 Description of the Development

The housing development will consist of the following (i) removal of existing carpark, associated areas of hard-standing surface and construction materials on site;(ii) construction of a Build-To-Rent residential development within a new part six, part seven, part eight, part nine storey over basement level plant room apartment building comprising 103 no. apartments (10 no. studio, 33 no. one-bedroom & 60 no. two-bedroom) all of which have direct access to private amenity space, in the form of a balcony or terrace, and shared access to 450.9sq.m of internal resident's amenities, 1,061sq.m of external communal amenity space (1st floor & 7th floor roof terraces) and 365sq.m of public open space (public terrace and landscaped area at ground level); (iii) provision of 48 no. vehicular parking spaces (including 3 no. mobility parking spaces and 5 no. electric charging spaces), 2 no. motorcycle parking spaces, 222 no. bicycle parking spaces, bin stores, switch room and ESB substation at ground floor/undercroft level; (iv) provision of 1 no. new vehicular entrance and 7 no. new pedestrian entrances to the development and associated public amenity areas from Old Finglas & Finglas Road, 3 no. pedestrian entrances will provide access to the provided public open space, 2 no. pedestrian entrances will provide direct access to 2 no. ground floor level apartments and 2 no. pedestrian entrances will provide direct access to the apartment building; and, (v) all ancillary works including landscaping, boundary treatments, provision of internal footpaths, provision of foul and surface water drainage, green roofs and all site services, site infrastructure and associated site development works necessary to facilitate the development. A Natura Impact Statement has been prepared in respect of the proposed development.

3 Property Management of the Development

3.1 Property Management Arrangements

At an early stage of the development a property management company will be engaged to ensure the following:

- All property management functions are dealt with for the development;
- 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 be required to enter into a contract directly with the Owner’s Management Company (OMC) for the ongoing management of the built development for a maximum period of 3 years, and in the form prescribed by the Property Services Regulatory Authority (PRSA)

The Property Management Company will also be required to have the following responsibilities for the apartment development once constructed:

- Timely formation of an OMC, which will be a company limited by guarantee having no share capital;
- It will be required that 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 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

The following actions will also be required of the Property Management Company;

Transfer of documentation in line with Schedule 3 of the MUD Act	Estate Management
Third Party Contractors Procurement and management	Insurance Management
After Hours Services	Staff Administration
OMC Reporting	Accounting Services
Corporate Services	

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3.1 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 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 30year 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

4 Measures to effectively manage & reduce costs for the benefit of the residents

4.1 Energy & Carbon Emissions

By considering the energy and carbon emissions associated with the individual units of the proposed development will reduce the overall impact of the development on the environment, whilst reducing individual unit running costs for residents. 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” - 2021. 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	Lower U-values and improved air tightness is being considered to help minimise heat losses through the building fabric, decrease 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: <ul style="list-style-type: none"> • 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 Architectural lighting for the public spaces. There is already will lit public roads adjacent to the proposed site and so minor external lighting is required.	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 lighting on existing flora and fauna in the area

4.2 Low Energy Technologies

Measure	Description	Benefit
Photovoltaics Panels (PV)	PV Solar panels are being considered whereby DC electricity created by the PV system is converted to AC electricity. Panels are typically south facing for maximum heat gain	PV solar Panels reduce the energy usage and therefore reduce carbon emissions. They reduce the amount of electricity required to be provided by the grid.
Combined Heat & Power (CHP)	Use of CHP technology generates electricity & generates electricity & captures waste heat from apartments & re-used throughout the development	Energy efficiency can be used for space heating & domestic units and therefore reducing energy usage and carbon emission
Heating & Hot Water (EAHP)	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 & uses this to provide heating to the radiators & domestic hot water. The installation of EAHP is self-contained within each apartment. The requirements are minimal and consist of an ESB connection & standard mains water connection	An exhaust air heat pump can provide reduce consumption for heating for an apartment by up to 50%, when compared with conventional heating systems
Air Source Heat Pumps (ASHPs)	Utilise grid supplied electricity to extract thermal energy from a heat source (ambient air) Lower consumption of energy, and therefore lower carbon emissions. Approximately 40-50% of heat supplied via heat pump can be considered renewable.	Use of energy produced via heat pump reduces carbon emissions
Low Energy LED	Lighting all lighting to be designed in compliance with Part L requirements. Lighting for each unit to be designed & specified in each unit & common areas to include LED lighting.	Reduced energy consumption, heat gain, increased life span & therefore lower carbon emissions
Natural Ventilation	Natural ventilation is considered to minimise energy usage and noise levels	Advantages include the following: <ul style="list-style-type: none"> • Passive, therefore no energy required in its use • Low noise impact for residents • Minimal maintenance • Minimal equipment over lifespan vs. mechanical • Influx of fresh air & healthier environment
Heat Recovery Ventilation (HRV)	Provision of ventilation for the proposed development provided via means of HRV, whereby outgoing air is heats up incoming air. Ventilation provision in new dwelling needs to reflect the consequences of well insulated and airtight buildings. The mandatory air tightness level that a dwelling must achieve will be 5 m ³ /m ² .hr or better and where the air tightness is 3 m ³ /m ² .hr or below then a mechanical ventilation system must be used.	Outgoing warm air is used to warm incoming air. Reduced energy usage decreases carbon emissions

ECAR Charging Points	ECAR Charging Points It is proposed to install ducting for the provision of E-car charging points. There will be an option for management to install a no. of e-Car charging points, and for further car parking spaces to be adapted to e-charging points at a time in the future.	Providing option of E-car to allow as part of future proofing of development. E-car ownership reduces carbon emissions. Smart Building Technology It is anticipated there will be a provision of significant resident controls to include aspects of the following: •Smart heating systems facilities •Integration with external services providers
Smart Building Technology	It is anticipated there will be a provision of significant resident controls to include aspects of the following: - Smart Heating Systems Facilities - Integration with external services providers	

4.3 Building Design Approach

Buildings are designed in accordance with the Building Regulations, in particular Part D ‘Materials & Workmanship’, which includes all elements of the construction.

The Design Principles are applied to both the apartment units & the common areas to building; in addition, soft & hardscape in the public, semi-public and private realm will also contribute to lower maintenance costs for the future owners and residents.

Materials have been selected with a view to longevity, durability & low maintenance. It is anticipated that a sinking fund allowance would account for future major maintenance & upgrade costs. A 10 year Planned Preventative Maintenance (PPM) strategy will determine the extent of sinking fund required

Measure	Description	Result
Design in accordance with Building Regulations & reference to BS 7543: 2015 ‘guide to Durability of Buildings & Building Elements, Products & Components’	Materials have been selected with a view to longevity, durability & low maintenance. Consideration has been given to the Building Regulations & includes reference to BS 7543: 2015 ‘guide to Durability of Buildings & Building Elements, Products & Components’. 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 the long term durability and maintenance of materials is an integrated part of the design and specification of the proposed development

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Brickwork to the building envelope	Brickwork to the building envelope Materials have been selected with a view to longevity, durability & low maintenance. Consideration has been given to the Building Regulations & includes reference to BS 7543: 2015 'guide to Durability of Buildings & Building Elements, Products & Components'. Requires minimal maintenance & does not require replacement	Using robust materials reduces ongoing maintenance & repairs
Installation of factory finished powder coated & Alu-clad windows, doors & curtain walling	Materials have been selected with a view to longevity, durability & low maintenance. Consideration has been given to the Building Regulations, & includes reference to BS 7543: 2015 'guide to Durability of Buildings & Building Elements, Products & Components'	Using robust materials reduces ongoing maintenance & repairs
Clip on balconies with galvanised steel handrails & glazed balustrades	Materials have been selected with a view to longevity, durability & low maintenance. Consideration has been given to the Building Regulations, & includes reference to BS 7543: 2015 'guide to Durability of Buildings & Building Elements, Products & Components'	Using robust materials reduces ongoing maintenance & repair

4.4 Landscape Materials

Buildings are designed in accordance with the Building Regulations, in particular Part D 'Materials & Workmanship', which includes all elements of the construction.

The Design Principles are applied to both the apartment units & the common areas to building; in addition, soft & hardscape in the public, semi-public and private realm will also contribute to lower maintenance costs for the future owners and residents

Measure	Description	Result
Site Planning	Generous and high-quality landscape with within the proposed development. Significant tree planting and soft landscaping within public spaces	Natural attenuation and landscape maintenance preferable
Green Roofs	Use of green roofs and roof gardens with robust and proven detailing to roof elements	Attenuation reduces the burden on vulnerable rainwater goods, resulting in fewer elements that could require replacement or repair.
Paving Materials	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.	Required ongoing maintenance significantly reduced through use of robust materials installed proven details.
Planting details	Proven trees 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 landscape

4.5 Waste Management

Measure	Description	Result
Resource Waste Management Plan	The application is accompanied by a Resource Waste Management Plan prepared by Curtin Consulting Ltd.	The Plan demonstrates how the scheme will comply with national, regional, and local waste legislation along with best practice resource and waste management.
Operational Waste Management Plan	The application is accompanied by an Operational Waste Management Plan prepared by AWN Consulting Ltd.	The Plan demonstrates how the scheme has been designed to comply with national regional, and local waste legislation, waste bye-laws, along with best practice.
Storage of Nonrecyclable Waste and Recyclable Household Waste	Inclusion of 2 no. centralised communal waste storage areas for apartments with sufficient space to accommodate weekly storage of bins for dry mixed recyclable, organic waste and mixed non-recyclable waste. Glass will also be provided for in shared WSAs.	Easily accessible by all residents, facilities management personnel and the waste contractor(s), minimises potential littering of the scheme, reduce potential waste charges and does not limit waste contractor selection.
	Domestic waste management strategy (Apartment Units): Dry mixed recyclable, glass, mixed non-recyclable waste and organic waste segregation.	Helps reduce potential waste charges and does not limit waste contractor selection.
	Security restricted waste storage rooms (Apartments).	Reduce potential for fly tipping by residents and non-residents.
	Well signed waste storage rooms and waste receptacles.	Help reduce potential cross contamination of waste and reduce waste charges.
Composting	Organic waste receptacles to be provided in the communal WSAs. Residents will provide their own organic waste receptacles.	Helps reduce potential waste charges and compliance with national policy and legislation regarding segregation of biodegradable waste.

4.6 Health & Well Being

Measure	Description	Result
Natural daylighting to apartments & common areas	The design has considered separation distances, massing & position & layout of buildings to optimise ingress of natural daylight/sunlight to the proposed to maximise the levels of daylight received within the building	Reduces running & maintenance costs of electrical lighting Reduced frequency of replacement of lights and fittings Improved quality of internal spaces
Natural-/Passive ventilation system to apartments, circulation areas, & other common areas.	Provided where practicable. Reduced Natural/Passive ventilation to apartments to ensure airtightness requirements are met	Reduced installation, running & maintenance costs; Reduced frequency of replacement of mechanical equipment. Improved quality of internal spaces
Accessibility	Proposed development including internal and external areas designed to be in compliance with Technical Guidance Documents Parts M & K	Access throughout the development for residents and to provide access for people with accessible requirement, and limited mobility, to include wheelchair users, people with push chairs, etc
Residents open space	Areas to have permeable paving where possible, landscaping & play equipment Facilitates interaction with outdoors. Benefit in improved mental & physical health by providing usable external spaces which can also be viewed, and to provide recreational areas for all residents to benefit from, including children's play area	Public open space Areas to have permeable paving where possible & landscaping Contributes to the built environment in a positive way in regard to views and interaction
Security	The scheme is designed to incorporate passive surveillance with the following security strategies for possible future installation: <ul style="list-style-type: none"> • CCTV monitoring in security sensitive areas • Routine access for security audits 	
Fire Safety	The management will be responsible for the preparation of a comprehensive fire risk assessment & the maintenance & servicing of the fire alarm panel & communal sprinkler system in the development including plant in individual apartments	Ensures that ongoing compliance with Building Regulation Part B

4.7 Transport

Measure	Description	Result
Access to Public Transport	The application is accompanied by Transport Assessment Report & a Mobility Management Plan/Travel Plan prepared by NRB Consulting	The NRB report demonstrates how the scheme has been designed to comply with best practice.
Bicycle Storage for residents and visitors	<p>Provision of high-quality secure bicycle parking facilities to accommodate long & short-term bicycle parking.</p> <p>The application is accompanied by Transport Assessment Report & a Mobility Management Plan/Travel Plan prepared by NRB Consulting</p> <p>Refer to Tyler Owens drawings which accompany this application for location of bicycle parking arrangements</p>	<p>Accommodates the uptake of cycling & reduces reliance on private car ownership Reduced carbon emissions</p> <p>The NRB report demonstrates how the scheme has been designed to comply with best practice.</p>

5 Appendix A Typical Building Investment Fund (BIF)

The BIF Table is indicative of the type of information that would be incorporated for the calculation of a sinking fund. It is indicative of the type of construction methods used. This is a none-exhaustive list, and is for reference purposes only

Item	Element	Life Expectancy (Years)
	ROOFS	
	Replacement green roof covering incl. insulation to main roofs	25
	Replacement parapet details	18
	Replace roof access hatches	25
	Specialist Roof Systems - Fall arrest	25
	ELEVATIONS	
	Decorate plaster finishes to apartment core bin storage	18
	Minor repairs and preparation for decorations of rendered areas (if applicable)	18
	Replace exit/ entrance doors	25
	Replace Rainwater goods	25
	Recoat powder coated Finishes to balconies	20
	Periodic replacement and overhauling of external fixings	5
	Replace Balcony floor finishes	25
	STAIR CORES & LOBBIES	
	Decorate Ceilings	7
	Decorate Walls	7
	Decorate Joinery	7
	Replace fire doors	25
	Replace carpets (stairwells & lobbies)	12
	Replace entrance mats	10
	Replace nosing's	12
	Replace ceramic floors tiles	20
	M&E SERVICES	
	General - Internal re-lamping	7
	Replace Internal light fittings	18
	Replace External light fittings (lights at entrance lobbies)	18
	Replace smoke detector heads	18
	Replace manual break glass units	18
	Replace Fire alarm panel	18
	Replace lift car and controls	25
	Replace AOV's	25
	Replace security access control installation	12

	EXTERIOR	
	Repaint car parking	12
	New tarmac	60
	External boundary treatments - Recoat powder coated Finishes to railings	60
	Replace cobble block areas	18
	10 year cutback & thinning of trees. Overhaul landscaping generally	10
	Replace CCTV provision	12
	External Handrails and balustrade	18

6 Appendix B Phases of Life Cycle BS7543; 2015

