

Development at Firhouse Inn

Building Life Cycle Report

For Proposed Residential Development at Mortons, Firhouse Inn

Firhouse Road, Dublin 24

17th September 2021

INTRODUCTION

6.11 to 6.14 of the newly published Sustainable Urban Housing; Design Standards for New Apartments – Guidelines for Planning Authorities relates to the “Operation & Management of Apartment Developments”

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 Apartment Guidelines 2018

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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

Property Management Company and Owners Management Company (OMC)

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 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 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 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 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 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 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.

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. The apartments will achieve compliance with Building Regulations Part L 2019 (NZEB) and a minimum BER of A3. | Compliance with Part L 2021 will ensure low running costs for heating, hot water generation and electric lighting. |
| Fabric Energy Efficiency | <p>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".</p> <p>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.</p> | <p>Lower U-values and improved air tightness is being considered to help minimise heat losses through the building fabric, lower energy consumption and thus minimise carbon emissions to the environment.</p> |

Table 1 Maximum elemental U-value (W/m²K)^{1,2}

| Column 1 Fabric Elements | Column 2 Area-weighted Average Elemental U-Value (Um) | Column 3 Average Elemental U-value – individual element or section of element |
|--|---|---|
| Roofs | | |
| Pitched roof | | |
| - Insulation at ceiling | 0.16 | 0.3 |
| - Insulation on slope | 0.16 | |
| Flat roof | 0.20 | |
| Walls | 0.21 | 0.6 |
| Ground floors ³ | 0.21 | 0.6 |
| Other exposed floors | 0.21 | 0.6 |
| External doors, windows and rooflights | 1.6 ⁴ | 3.0 |

Notes:
1. The U-value includes the effect of unheated voids or other spaces.
2. For alternative method of showing compliance see paragraph 1.3.2.3.
3. For insulation of ground floors and exposed floors incorporating underfloor heating, see paragraph 1.3.2.2.
4. Windows, doors and rooflights should have a maximum U-value of 1.6 W/m²K when their combined area is 25% of floor area. However areas and U-values may be varied as set out in Table 2.

| Measure | Description | Benefit |
|------------------------------------|---|---|
| Energy Labelled White Goods | <p>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:</p> <ul style="list-style-type: none"> • Oven - A plus • Fridge Freezer - A plus • Dishwasher - AAA • Washer/Dryer - B | <p>The provision of high rated appliances in turn reduces the amount of electricity required for occupants.</p> |
| External Lighting | <p>The proposed lighting scheme within the development consists of 8m and 6m pole mounted fittings as indicated on the drawings. The luminaires will be selected taking into account the following;</p> <ul style="list-style-type: none"> • Low level lighting • Minimal upward light spill • Low voltage LED lamps • Preference of SDCC <p>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.</p> | <p>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.</p> <p>Having PECU allows for the optimum operation of lighting which minimizes costs.</p> |

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 |
|--|--|---|
| Domestic Hot Water Air to Water Heat Pump | Each individual apartment will be provided with a dedicated Domestic Hot Water Air to Water Heat Pump. These units have a Coefficient of Performance (COP) of 3.21. | Hot water heat pumps have high efficiencies and contribute significantly to the element of renewables required. |
| Heat Recovery Ventilation (Mechanical) | Air is mechanically supplied to habitable rooms and extract from bathroom / kitchen areas. This area is then ducted to and from outside via a high efficiency heat exchange unit. | External air is constantly provided to the apartment at a controlled rate and is filtered minimal heat loss as a result of the heat exchange unit. |
| Electric Heating | High efficiency electric panel radiators will be provided and will include an electrical towel rail heater in the bathroom. | In achieving Part L 2021 Compliance, space heating loads are substantially reduced, this reduced load will be met by electric panel radiators installed complete with thermostats and timeclocks to optimize performance. |
| Internal Lighting | Internal Lighting will be by low energy LED lighting throughout with presence detection in circulation areas and locally controlled in apartments. | LED Lighting is very energy efficient also bulbs have a much extended life span resulting in less frequent replacement (t ≥ 40,000 hrs) . |
| ECAR Charging Points | 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 to cater for E-car demand. This system operates on a single charge point access card. A full re-charge can take from one to eight hours using a standard charge point. Further an in accordance with the requirements of TGD L 2021, infrastructure (below ground ducts / containment routes) will be provided to cater for 100% EV charging in the future. | Providing the option of E-car charging points will allow occupants to avail of the ever-improving efficient electric car technologies. |
| | | |

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 |
|--|---|
| Carparking is mostly contained within the building form, creating fully activated facades at all levels. | Avoids blank facades. |
| Open primary entrances and circulation areas. | Avoids costly mechanical ventilation systems and associated maintenance and future replacement. |
| Secure ground level cycle and refuse storage areas where possible | Avoids access lifts /ramps and any handling/moving equipment. |
| External paved and landscaped areas | All of these require low/minimal maintenance |

2.2.2 Material Specification

| 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 parts of the proposed Apartment buildings and, 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:</p> <ul style="list-style-type: none"> 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 | <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, sheet metal cladding and rough cast render to envelope</p> |  | <p>Requires no on-going maintenance.</p> |
| <p>Use of factory finished and alu clad windows and doors, and powder coated steel and glass balconies</p> | | <p>Requires no on-going maintenance.</p> |
| | | |

2.3 Landscape

| | Measure Description | Benefit |
|-------------------------------------|--|--|
| Green Roofs | <p>Use of green roofs and traditional roof coverings with robust and proven detailing to roof elements.</p>  | <ul style="list-style-type: none"> • 'Green' roofs help reduce urban heat island effects • They can create habitat for flora and fauna in an area that could otherwise be empty • They aid biodiversity, encouraging a wider spread of species • Soft landscaping reduces the risk of flooding by retaining large proportions of rainfall and reducing rainwater run-off (SuDS) • Green roofs help blend a building into its surroundings and can partly replace the permeable land surface lost to building works • Vegetation assists in reducing gaseous pollutants and dust particles • Attenuation reduces the burden on vulnerable rainwater goods, resulting in fewer elements that could require replacement or repair. • Green roofs can help protect waterproofing layers from UV damage and thermal movement • |
| Paving and Decking Materials | Use of robust, high quality paving and decking materials, with robust and proven details | Permeable paving details can help attenuate storm water. |
| Materials | Sustainable, 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. | Robust materials and elements reduce the frequency of required repair and maintenance. |

2.4 Waste Management

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

| Measure | Description | Benefit |
|---|--|--|
| Construction and Operational Waste Management Plan | The application is accompanied by a Construction and Operational Waste Management Plan | The report demonstrates how the scheme has been designed to comply with best practice. |
| Storage of Non-Recyclable Waste and Recyclable Household Waste | Domestic 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. | 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 | The design, separation distances and layout of the apartment blocks have been designed to optimize 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: <ul style="list-style-type: none"> • CCTV monitoring details • Car registration recognition at entrance gate • Secure bicycle stands – covered by CCTV • Routine access fob audits | Help to reduce potential security/management costs. |

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 | <p>Once a purchaser completes their sale, a homeowner box will be provided which will include:</p> <ul style="list-style-type: none">• 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 | Measure Description | Benefit |
|---|---|---|
| Access to Public Transport (LUAS / Light Rail) | <p>The site is located ca. 2.8 kilometres from Red Line LUAS services at Tallaght. Connection to Tallaght from the site can be made via the 75/75A, 49 and 65.</p> | <p>The presence of LUAS services serving Tallaght allows greater access from the proposed development site to a number of locations along the Red Line in southwest Dublin and access to the important transport node of Heuston Station, making rail an attractive mode of transport for residents and visitors to the proposed development and thus decreasing reliance on the private car as a means of transport. It is also noted that with the proposed implementation of integrated ticketing as part of the <i>BusConnects</i> program, along with an increase in the frequency of bus services connecting the site to Tallaght, Red Line services will be increasingly attractive to residents and visitors to the proposed development.</p> |
| Access to Public Transport (Bus Services) | <p>The immediate area of the application site is served by three bus routes, one of which, the 75/ 75A, serves a stop on Firhouse Road to the immediate west of the site and connects the site to Tallaght and Dun Laoghaire via Sandyford/ Stillorgan. The 49 and 65b serve a bus stop on Ballycullen Road ca. 150 metres to the south of the subject site, while the 54a and 77a serve bus stops on the N81 to the north of the site. The routes operating in the application site's immediate vicinity (< 150 metres) offer a cumulative peak frequency of one bus every 8.5 minutes. The high frequency, 24-hour bus route 15 serves St. Colmcille's Way, ca 1.2 kilometres to the south of the subject site.</p> <p>As part of the <i>BusConnects</i> redesign of the Dublin Bus network, substantial changes are proposed to the bus services in the application site's vicinity. The 75/ 75A will be replaced by orbital route S6 which will operate between Tallaght and Blackrock DART Station. This orbital route will enable greater access to numerous other bus routes, both radial and orbital, the Luas Red Line at Tallaght, and Luas Green Line at Dundrum. The F1 route will replace bus services operating on Ballycullen Road and will maintain direct access to Dublin City Centre. The F1 route will combine with routes F2 and F3 forming the F-spine, thus</p> | <p>The available bus routes, including orbital routes, provide access to major employment and education destinations in across South Dublin, Dublin City Centre and North Dublin. The frequencies of these bus routes also mean that bus travel as a mode of transport is a viable option at all times of day for residents and visitors to the proposed development, thus decreasing reliance on the private car. As part of the <i>BusConnects</i> redesign of the Dublin Bus network, there will be a marked increase in the provision and therefore the attractiveness of bus travel.</p> |

| | | |
|------------------------------|--|---|
| | <p>providing a high frequency bus service between Terenure Road West and Finglas via Dublin City Centre.</p> <p>The A3 will operate via the N81 to the north of the subject site and will combine with the A1 at Templeogue and the A2 and A4 at Terenure Road East to form the high frequency A-spine between Terenure Road East and Whitehall on the northside of Dublin, via Dublin City Centre.</p> <p>Routes D5, 82 and X47 (peak hour only route) will also operate via the N81 and provide alternative routes to Dublin City Centre.</p> <p>The A1 will replace route 15 on St. Colmcille's Way to the south of the proposed development site. The S8 orbital route will also operate along St. Colmcille's Way between Tallaght and Dun Laoghaire.</p> | |
| Permeable Connections | <p>The proposed development site will facilitate permeability through the site between Mount Carmel Park and Firhouse Road via the provision of high-quality pedestrian infrastructure along pedestrian desire lines. The provision of a footpath along the eastern boundary of the proposed development site will also enhance permeability for pedestrians along Mount Carmel Park. Pedestrian provisions at the proposed site access junction will also facilitate and prioritise pedestrians accessing and moving within the site.</p> | <p>All proposed pedestrian infrastructure is well-connected to the surrounding area and accommodates existing and proposed pedestrian desire lines, presenting walking as a viable and safe means of transport for both residents and visitors.</p> |
| Bicycle Storage | <p>Provision of high-quality secure bicycle parking facilities to serve residents, visitors, staff, creche users and customers. These facilities are appropriately provided within secure cycle parking areas within the basement car park (for residents and staff) and at surface level (for visitors, customers and creche users). All cycle parking is proposed in locations which are conveniently accessible.</p> | <p>Conveniently accessible and secure cycle parking and a plentiful provision of visitor cycle parking will accommodate the uptake and increase the attractiveness of cycling as a viable and flexible alternative to private car use for a range of trip types. In combination with the extensive greenway/cycling network proposals in the vicinity of the subject site, it is predicted that cycling will be incredibly attractive to all development users.</p> |
| Motorcycle Parking | <p>The implementation of secure and attractive motorcycle parking facilities for residents.</p> | <p>Reduces the reliance on the private car.</p> |

Appendix A:

ITEMS INCLUDED IN A TYPICAL BIF

The BIF table below illustrates what would be incorporated for the calculation of a Sinking Fund. It is based on Block 001 in the development which consists of 47 apartments over 4 floors.

| BUILDING INVESTMENT FUND (SINKING FUND) CLAY FARM P2 - Block One (Specification to be finalised at detailed design stage) | | | |
|---|---|-----------------|--|
| Ref | Element | Life Expectancy | Yearly estimate of costs year 1 to year 30 |
| 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 | Decorate rendered panels to apartments | 18 | |
| 2.02 | Minor repairs and preparation for decorations of rendered areas | 18 | |
| 2.03 | Replace exit/ entrance doors | 25 | |
| 2.04 | Replace Rainwater goods | 25 | |
| 2.05 | Recoat powder coated Finishes to balconies | 20 | |
| 2.06 | Periodic replacement and overhauling of external fixings | 5 | |

| | | | |
|-------------|--|----|--|
| 2.07 | Replace Balcony floor finishes | 25 | |
| 3.00 | Stair cores & 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 & lobbies) | 12 | |
| 3.06 | Replace entrance mats | 10 | |
| 3.07 | Replace nosings | 12 | |
| 3.08 | Replace ceramic floors tiles | 20 | |
| 3.09 | Fixed Furniture & Equipment - Provisional Sum | 18 | |
| 4.00 | Basement Car Park | | |
| 4.01 | Remove/ Replace ceiling insulation | 25 | |
| 4.02 | Repaint parking spaces & Numbering | 7 | |
| 5.00 | M&E Services | | |
| 5.01 | General - Internal relamping | 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 | 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 | |
| 6.00 | Exterior | | |
| 6.01 | Entrance Gate - motor renewal | 12 | |
| 6.02 | Entrance Gate & pedestrian gate - redecoration | 60 | |
| 6.03 | External boundary treatments - Recoat powder coated Finishes to railings | 60 | |
| 6.04 | Replace cobbleblock areas | 18 | |
| 6.05 | 15-year cutback & thinning of trees. Overhaul landscaping generally | 20 | |
| 6.06 | Replace CCTV provision | 12 | |
| 6.07 | External Handrails and balustrade | 18 | |

Appendix B:

Phases of the Life Cycle of BS7543; 2015

Figure 4 Phases of the life cycle

