CONROY CROWE KELLY
Architects & Urban Designers

Building Lifecycle Report

Blocks 5 & 6 Clongriffin
For The Land Development Agency

Document No. CLN-CCK-LRD-ZZ-XX-RP-A-000011 Rev P02

June 2024

CONTENTS

1. INTRODUCTION

This Building Lifecycle Report has been prepared for the proposed multi-unit development of 2 no. apartment blocks (Blocks 5 & 6) between Park Street and Lake Street south of Belltree Avenue in Clongriffin, Dublin 13, in accordance with the planning guidelines *Sustainable Urban Housing: Design Standards for New Apartments (Guidelines for Planning Authorities) July 2023*.

Section 6.12 of the guidelines 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 to effectively manage and reduce costs for the benefit of the residents."*

Section 15.9.14 of the Dublin City Council Development Plan 2022-2028 also mandates the provision of a lifecycle report, as well as giving guidance on contents:

> *"All residential developments should include a building lifecycle report that sets out the long term management and maintenance strategy of a scheme.*
>
> *"The lifecycle report should include an assessment of the materials and finishes proposed, the ongoing management strategy, the protocol for maintenance and repair, the long term maintenance costs for residents and the specific measures that have been taken to effectively manage and reduce the costs for the benefit of residents.*
>
> *"The reports should address each of the following headings:*
> - *Assessment of Long Term Running and Maintenance Costs*
> - *Property / Owner Management Company and Common Areas*
> - *Service Charge Budget*
> - *Measures to Manage and Reduce Costs*
> - *Treatment, Materials and Finishes*
> - *Construction Methodology*
> - *Material Specification*
> - *Landscaping*
> - *Waste Management*
> - *Human Health and Well –being*
> - *Residential Management*
> - *Energy and Carbon Emissions*
> - *Transport and Accessibility*
>
> *"Compliance and acknowledgement of thSe provisions set out in the Multi-Unit Developments Act 2011 for the ownership and management of multi- unit developments should also be included."*

As per the above guidance, this report firstly assesses the factors effecting the long term running and maintenance costs, and secondly outlines the measures undertaken at this stage to manage and reduce costs.

2. DESCRIPTION OF PROPOSED DEVELOPMENT

The proposed development comprises two no. Multi-Unit Development blocks (Blocks 5 & 6) containing a total of 408 dwellings on infill lands between Park Street and Lake Street south of Belltree Avenue in Clongriffin. Block 5 contains 138 apartments, as well as ground level community, arts & culture space, on-street and covered podium parking, ancillary plant, bike storage and bin stores in a block 3-6 storeys in height. Block 6 contains 270 apartments, as well as crèche facilities, community & culture spaces, on-street and covered podium parking, ancillary plant, bike storage and bin stores in a block 4-7 storeys in height.

3. ASSESSMENT OF LONG-TERM RUNNING AND MAINTENANCE COSTS

3.1 Management of the Development's Assets

This Development is being carried out on behalf of the public Land Development Agency (LDA). The scheme is to be operated by the LDA, letting the units to residents as tenants on a cost-rental basis.

Given that the development will have a single institutional owner, with no residential unit being sold by the developer but rather all residential units being retained by the LDA and inhabited by tenants on the basis of a cost-rental tenure, the provisions of the Multi-Units Developments Act 2011 do not apply, and there will not be an Owners Management Company established. Rather, the entirety of the building, including residential units, building fabric, all common areas and landscaping in the vicinity, will remain in the ownership of the LDA.

While it is not the practice to issue separate service charges to tenants in rented accommodation, the overall running costs are still met indirectly by tenants through the amount they are required to pay in rent. If the project is to be viable, the costs of administering, maintaining and running the scheme must not exceed what is available from the moneys raised through renting the units once capital costs have been defrayed. Therefore, the principle of reviewing the design to ensure the running costs are affordable still applies. Similarly, the aim of ensuring that those private running costs (such as utilities and heating) which are borne by individual occupants, be they owners or tenants, are robustly assessed and interrogated remains valid.

Direct ownership and management of the entire scheme by a single entity also allows for certain economies of scale which accrue dividends to all residents in the form of lower operating costs and enhanced services. Items such as centralised space and water heating plant allow for easier and more cost-effective maintenance for the building operator, who as owner would otherwise be required to maintain such individual systems in every unit, while also reducing the overall heating cost and carbon footprint for all residents.

The LDA will employ appropriate development management personnel to oversee the management of the development. These development managers will be engaged at an early stage to agree a yearly budget and review the overall design to ensure that the running and maintenance costs for the development can be kept within that budget, and to ensure the block management plans are executed efficiently in order to protect the interests of the owner and residents. The development managers will be responsible for the good management of other support services to include finance, administration, insurance, emergency assistance support, secretarial and communications. Any subcontracts for maintenance let by the LDA will be retendered at least every 3 years in accordance with good practice.

The owner's operational budgets will benefit from the utilisation of a Planned Preventative Maintenance (PPM) programme. The PPM will be completed annually for each building to include the shared internal and external common areas. Consideration will be given to the ongoing maintenance of the buildings assets in an effort to protect the asset lifecycle and to identify when replacements/upgrades are required. Items covered will guide which services are required, the timing and number of occurrences of same. Typical PPM programmes will

detail the timing of the visits for fire alarm maintenance, lift maintenance, the landscaping specification, waste management protocols, along with day-to-day cleaning requirements.

3.2 Service Cost Budget

As discussed above, there will be no discrete service charges levied on residents in this scheme, with tenants' sole financial obligation in respect of their tenure being their monthly rental payments. However, an appropriate percentage will need to be harvested from the rent of each unit and ring-fenced to ensure there are sufficient funds to meet the development's lifecycle costs. Should the costs associated with running the development, such as refuse collection, maintenance, energy supply etc. increase, then this will put upwards pressure on the rental fees, which will manifest as an increased rental costs for each tenant, similar to an indirect service charge. Therefore, for ease of reference and as conceptual shorthand, the sum equivalent to a service charge required of each unit for ongoing operation and maintenance will be referred to as a service cost per residence for the remainder of this report, and treated as though it were a discrete service charge directly levied on the occupants of each unit.

A service cost budget will be compiled to put in place funding requirements as costed in the Planned Preventative Maintenance programme and also in the Building Investment Fund report. The service cost budget covers development common area cost items such as cleaning, landscape maintenance, refuse management, utility bills, insurance, maintenance of mechanical / electrical lifts/ life safety systems, security, property management fees etc.

The development managers will promote competitive tendering of running and maintenance services to help minimise overall costs and reduce rent uplift pressure for residents.

4. MEASURES TO MANAGE AND REDUCE COSTS FOR THE BENEFIT OF RESIDENTS

4.1 General Morphology

The proposed layouts make efficient use of the land, utilizing block heights of 3-7 storeys, with parking at grade in naturally ventilated covered central carparks, the roofs of which form decks for the amenity space at podium level, eliminating the need for either costly basement excavation or large land takes to accommodate surface level parking and amenity space. The resultant blocks thus achieve an average density in excess of 180 dwellings per hectare. The buildings have been designed with 6-10 apartments accessed off each core at each floor, minimising the number of Stair and Lift Cores required, thus minimising capital construction costs and maintenance costs, contributing to lower service cost per residence into the future.

4.2 Treatment, Materials and Finishes

Lifecycle costs are influenced by the durability and maintenance requirements of materials. We have selected the very highest standard of finishes across the project. Low maintenance cladding materials such as brick, self-finished render and profiled metal cladding with aluminium trims/cills/caps are proposed to minimize the impact of façade maintenance. Balcony rails and protective railings are designed to be capable of fabrication off-site, resulting in higher standard of finish, reducing damage during construction and improved durability.

Building materials proposed for use on block elevations and in the public realm achieve a durable standard of quality that will not need regular fabric replacement or maintenance outside general day-to-day care. The choice of high quality and long-lasting materials such as brickwork, render and metal as well as low maintenance sedum roofing and hardscape in the semi-public and private realms will contribute to lower maintenance costs per residence.

This report reflects the outline material descriptions and examples of typical materials and systems used for schemes of this nature and their associated lifespans and maintenance requirements. All information is therefore indicative subject to detailed design development. As the building design develops this document will be updated and a schedule will be generated from the items below detailing maintenance and replacement costs over the lifespan of the materials and development constituent parts. This will enable a robust

schedule of building component repair and replacement costs which will be available to the development managers so that running and maintenance costs of the development are kept within the agreed annual operational budget.

A general outline of the primary materials used in the scheme can be found below.

Measure	**Description**	**Benefit**
Brickwork facade	Primary facade cladding material used. Lifecycle of 100+ years. Mortar pointing has shorter lifecycle of 25-50 years.	Extremely durable, with low maintenance requirements. Preventative maintenance by monitoring mortar joint deterioration ensures longevity of material.
Profiled Metal Cladding	Metal facade panels on galvanised metal rainscreen support system with typical life expectancy of 25 years.	Aesthetic impact, durability and weathering. Annual inspection and cleaning every 5 years.
Render	Only to internal courtyards and selected areas of street elevations. Pigmented render system with lifecycle of circa 25 years. Cleaning of algae and other staining is recommended annually by property maintenance team.	Finish does not require repainting every few years.
Flat Roofs	TPO or similar roofing membrane with 22-30 year lifespan installed to manufacturer's proven details. Appropriate protection for access to ensure maintenance of any roof equipment will be carried out without any damage to the membrane. Regular maintenance checks by property maintenance team.	Proven roofing system with regular maintenance prevents needs for repairs and additional cost to residents.
Sedum Roofs	Extensive Green Roof System. Average life cycle of 13-35 years. Life cycle extended with robust proven detailing and appropriate regular maintenance quarterly every year.	Attenuation of storm water runoff reducing cost of on-site attenuation plant and reducing burden on rainwater goods. Increased thermal and sound insulation, reducing running costs and increasing biodiversity and aesthetic appeal.
Windows and Doors	All units double glazed with thermally broken frames in Aluminium. Painted timber doors at own-door ground floor apartments	Minimal ongoing maintenance
Steel Balcony rails and protective railings	Prefinished powder-coated and capability to be manufactured off site	Minimal ongoing maintenance.

Internal Building Fabric Material Selection

Measure	Description	Benefit
Floors – apartment stair cores and entrances	Selected anti-slip porcelain or ceramic floor tile with inset matwell at entrance doors as required. Life span of 20-25 years.	Low maintenance and easily cleaned.
Floors – lobbies/corridors	Selected carpet inlay on underlay. 13 years life span typically. Regular cleaning by property maintenance team.	Attractive aesthetic for residents and flexibility to change in the future.
Walls	Selected paint finish with primer. Finish lifespan of 2-10 years, regular maintenance required.	Attractive aesthetic for residents and flexibility to change appearance in the future.
Ceilings	Selected paint finish with primer to skimmed plasterboard ceiling.	Decorative and durable finish.
Internal balustrades and handrails	Painted metal balustrade face fixed to stair stringer/landing edge with metal brackets and clamps to manufacturers installation details.	Durable finish.
Internal Doors and Frames	Selected primed and painted solid internal doors. Glass and aluminium door system to glazed entrances.	Durable finish with regular inspection and maintenance.

4.3 Construction Methodology

It is envisaged that this scheme will be tendered as a design-build project. The design proposed for Blocks 5 & 6 allows for the successful bidder to elect for either precast or in-situ construction, having assessed which is more cost effective and thus likely to have the greatest capacity to reduce capital costs. Utilizing precast construction would eliminate the use of shuttering on site, speed up the construction process by allowing for structure to be manufactured off site, decrease the number of trades required on site and greatly reduce wastage of materials.

Value engineering is actively encouraged in the design-build process once a successful bidder is appointed. This will help maintain positive pressure on capital construction costs and identify potential modifications in construction or materials which will lead to savings in lifecycle running and maintenance costs, reducing the annual cost per residence.

4.4 Material Specification

Final specification for materials will be decided at detailed design stage, in conjunction with the successful Design-Build bidder. As the scheme is to be let and operated by the LDA, they will be liable not only for up front capital costs as with a typical build-to-sell developer, but also all lifecycle costs. It is therefore intended that material specification will balance up-front cost against possible reduced lifecycle maintenance and running costs, on the basis of the Value Engineering process outlined above, with the aim being to ensure greatest cost efficiency over the lifetime of the building while maintaining the required performance specifications set out in the building regulations and elsewhere. As discussed above, the outline specification of long-life materials proposed for use externally and internally will reduce the need for costly or intensive maintenance while also facilitating delivery of a high efficiency thermal envelope which should serve to reduce maintenance and running costs and limit service costs per residence. Coupled with the construction methodology, the material specification should facilitate streamlined, lean construction where off site production is maximised and on-site wastage and congestion is curtailed, reducing capital costs.

4.5 Landscaping

A landscape design report prepared has been included with this application. In designing the landscape layouts and specifying materials, a keen awareness of the proposed landscape capital budget, in-use insurance costs and yearly maintenance budget has been paramount.

Hard Landscaping

Hard Landscape Materials will be selected to balance up-front cost with minimised ongoing required maintenance and with a view to reducing carbon footprint to the greatest extent possible. Sustainable, slip resistant paving will be selected. All furniture will optimise durability, robustness and low maintenance.

Soft Landscaping

Species selection will favour native species and species which can thrive in the Irish climate with the least amount of required maintenance and inputs of nutrients. Planting on the podium deck will be in imported soil, and so will favour smaller species. Native trees will be planted at grade in the verges around the blocks.

Biodiversity & Sustainability

Species will be selected with a view to their utility to pollinators in line with the All Ireland Pollinator Plan. Mown lawns will be utilised only where specifically required for amenity or safety, with more ecologically rich meadow grass used as the default form of grass cover elsewhere. Native species will be selected to form a supportive vertical matrix of plant species from ground covers to trees to encourage native ecological diversity.
Sedum planting is to be laid on green roofs atop blocks. This will have multiple benefits:

- minimal maintenance required
- enhanced ecological biodiversity
- provides stormwater attenuation, staggering surge outfall and reducing the size required for rainwater goods and attenuation infrastructure on site, thus reducing capital and maintenance costs
- enhanced thermal and acoustic performance.

4.6 Waste Management

Measures to minimise ongoing waste charges in use have been incorporated into the design and management for the development:

- An Operational Waste Management Plan will be produced with key findings transmitted through the Final Management Plan and Resident's handbook
- Waste collection is to be competitively tendered
- Centralised ground floor bin stores allow for the convenient and cost-effective marshalling of waste for collection, with space provided to facilitate the separation of general waste, organic waste and household and glass recycling
- Bin stores will feature durable material finishes with low energy light fittings on timers and floors laid to falls to gulleys to allow for simple, cost-effective maintenance.

4.7 Human Health & Wellbeing

Promotion of human health and wellbeing is the central guiding principle behind the design of the overall site layout, common areas and the individual units.

Accessibility

All parts of the development, including external private and semi-private amenity spaces and bin and bike storage facilities will be fully accessible in line with Part M & Part K. All dwellings will have lift access. Accessible parking has been provided at each block.

Natural Light / Daylight
The design, separation distances and layout of units and common areas have been designed to optimize the ingress of natural light. The number of dual aspect units has been maximised, with single aspect north facing units minimised, while large format glazing has been utilised throughout to reduce the need for artificial lighting where possible and promote wellbeing by ensuring high levels of natural lighting within dwellings.

Security
Both blocks offer excellent passive surveillance over entrance points, on-street vehicle and bike parking and landscaped areas to promote resident's security while minimising active security costs. Access to individual cores and to covered vehicle and bike parking areas will be by secure fob, with CCTV installed as required.

Natural Amenity
All units enjoy secure private outdoor amenity space to promote health and wellbeing. Landscaped areas at podium level provide high quality shared semi-private amenity space, with communal seating to foster community interaction, socialising and playing, to enhance quality of life and promote health and wellbeing. Both blocks are adjacent to large format public amenity space at Belltree Park, and in close proximity to the wider community and sports facilities in Father Collins Park.

Community Amenity
Both blocks contain ground level community, arts and culture space, while Block 6 has a ground floor childcare facility. They are also within easy walking distance of the wider retail and commercial offering on Clongriffin Main Street and Station Square. Such close and ready access to social and commercial facilities promotes improved quality of life and wellbeing while fostering community formation and participation.

4.8 Residential Management

A resident's user guide will be made available to each resident. This guide will contain information on utility provision, MPRNs, advice on the use of any individualised plant or appliances and devices such as thermostats, radiators and ventilation systems, information on local transport and amenity provisions, the agreed regulations for living in the development, contact numbers and emails for key personnel such as maintenance and security personnel etc.

Active involvement of residents in the management of the block will be encouraged. As the block is being retained by a single landlord, active management of allocation of resources such as accessible, EV and regular car parking can be centrally guided according to demand.

4.9 Energy and carbon emissions

A Part L compliance report detailing design energy usage targets and measures taken to reduce energy consumption has been prepared for this development by Delap & Waller.

Selection of materials and building systems will seek to balance capital cost, sustainability and carbon footprint against reduced energy consumption, carbon emissions and service costs in use. High performing materials or elements such as insulating materials, glazing, membranes, external cladding etc. will be selected where their use will provide tangible reductions in life cycle carbon emissions and energy use sufficient to justify their initial levels of embodied carbon or up-front cost.

Proposed design U-Values for individual elements of the building fabric will exceed Part L 2022 requirements in the case of floors, flat roofs and windows / glazing. The target Air Permeability value will exceed Part L requirements, while a calculated Thermal Bridging Factor below the typical default value will also be utilised.

It is envisaged that the scheme will contain centralised plant for space and water heating, utilising group Air to Water Heat Pumps, which transfer heat to a central reservoir of water,

which then circulates throughout the scheme in a closed circuit, with a heat exchanger in each apartment which transfers heat from this central circuit to the individual unit's hot water and space heating circuit. Using such centralised systems as opposed to individual unit systems achieves efficiencies of scale which can be passed on to residents in the form of reduced operating costs, and also allows for the large-scale carbon reductions achieved through such sustainability measures.

Units in the scheme have been designed to avoid the need for active cooling, which represents a potential energy cost saving to residents.

All light fittings within the scheme will have low energy light bulbs. Units are designed to maximise natural lighting and reduce the need for artificial lighting where possible.

Power generated through solar photovoltaics will be used to heat and light communal areas within the residential components of the scheme, thus reducing operating costs per residence. Lighting in communal area will also utilise PIR to turn off automatically when not required, further reducing running costs.

4.10 Transport and Accessibility

Pedestrian / Cycle Accessibility

The scheme's location in the heart of Clongriffin means gives residents ready access to all of Clongriffin's amenities and retail and commercial facilities on foot. The scheme design provides for pleasant, safe and user-friendly new public pedestrian footpaths to the perimeter of sites which plug into the wider Clongriffin pedestrian network. Within the scheme itself, pedestrian wayfinding from unit front doors to the public realm is simple and intuitive. Walking is a free and environmentally conscious mode of transport that can contribute to resident's health, wellbeing and quality of life, as well as generating footfall, economic and social activity within the wider community. Commercial and retail outlets on Main Street are a 150-600m walk away. The site is adjacent Belltree Park, while Father Collins Park is a 350m walk away, Station Square is 150-250m away, while the sports facilities at the Trinity Sports & Leisure Club are 600m away. Gaelscoil Ghráinne Mhaol is a 750m walk while Grange Community College is an 800m walk.

Cycle parking within the scheme is being provided at a rate of 1 cycle space per bedroom and 1 visitor space per 2 units. Residents' cycle parking is located in secure and covered central bike stores which are readily accessible to the internal residential circulation cores and with cycle-in access from the public street.
Under the 2022 Greater Dublin Area Cycle Network Plan Clongriffin Main Street is designated as a Secondary Route, connecting into the Primary Radial Route into the city at the Grange Road via the Hole in the Wall Road. There is a further Leisure Greenway Route which runs immediately north of the scheme, connecting into Belltree Park and with a proposed link into Father Collins Park.
The area of the north city and county between Malahide and Fairview and as far west as Whitehall, Santry and the fringes of Swords are within a 30 minute cycle of the scheme.

Public Transport

The proposed new residential units enjoy easy access to the wide range of integrated public transport options available within Clongriffin. The development is 150m away from the bus stops on Clongriffin Main Street which currently serve Dublin Bus' no.15 bus route, with services into the city centre and on to Ballycullen every 5-12 minutes during peak times. Clongriffin Dart Station is 350m away, with regular DART services into the city and north to Balbriggan and mainline services on the Drogheda / Dundalk to Dublin route.
Under the BusConnects Plan Clongriffin will be served by 3 spine routes, one orbital route and one local route.

Car Parking.
The scheme is located within Zone 2 of Dublin City Council's Development Plan Map J. Car Parking is provided at a rate of 0.63 spaces per unit. A total of 260 car parking spaces are proposed. Of these, 50% will be operational as EV charging spaces, while all remaining spaces will be ducted to allow for easy installation of future charging infrastructure. Allowing for EV charging future-proofs the scheme against costly future retrofit, while the high proportion of EV spaces provided at the outset will allow residents switch to EV cars from the outset, without any lag between purchase and obtaining sufficient charging infrastructure.

5. BUILDING INVESTMENT FUND

While the provisions of the MUDs Act 2011 will not apply to this development, in the interests of good practice the development managers will identify a certain portion of rental receipts required to generate a sinking fund, in order to adequately resource long-term replacement of components. The Building Investment Fund table below illustrates what could be incorporated in the calculation of a Sinking Fund:

Element	**Life Expectancy (Years)**
Roofs	
Replacement felt roof covering incl. insulation to main roofs	18
Replacement sedum roofs incl. insulation to green roofs	13-35
Replacement parapet, fascia details	18
Replace roof access hatches	25
Specialist Roof Systems - Fall arrest	25
Waterproofing details to penthouse paved areas	18
Elevations	
Brick Re-pointing	80
Metal Panels - recoating	25
Minor repairs to render areas	18
Replace exit/entrance doors	25
Replace rainwater goods	25
Replace balcony floor finishes	25
External Areas/Car Parking	
External handrails and guarding	18
Surface finishes	18
Check drains for accumulation of debris and other sediments	6
Repaint parking spaces and numbering	7
Replace bike stands	25
Replace access control at entrances	12
M&E Services	
Internal re-lamping common areas	7
Replace internal light fittings	18
Replace external light fittings	18
Replace smoke detector heads	18
Replace manual break glass units	18
Replace fire alarm panel	18
Replace lift car and controls	25
Replace AOVs	25
Replace shared heat pumps & centralised heating plant	15
Replace PV Panels	20
Replace individual unit MVHR units	15
Emergency lighting	20
External mains water connection	20