



BUILDING LIFE CYCLE REPORT

SVRD-STW-XX-XX-RP-A-022005

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1.0. Introduction

6.10 to 6.14 of the Sustainable Urban Housing: Design Standards for New Apartments – Guidelines for Planning Authorities 2022 relates to the “Operation & Management of Apartment Developments.”

Section 6.12 of the Apartment Guidelines 2022 requires that planning applications for apartment development 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, and*
- *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 6.12 of Apartment Guidelines 2022.

2.0. Overview

St. Vincent’s apartment development will consist of the construction of 9 no. residential blocks providing a total of 811 no. residential units (including 61% standard designed apartments and 39% build to rent apartments), ranging in height from 4 to 13 storeys and a 2-storey commercial retail floorspace in Block A.

It also includes the retention and change of use of the existing hospital building (part of which is a protected structure under RPS Ref.: 2032) to provide residential amenity areas, such as community facilities, gym, café, co-working spaces, library, creche, and community hall and the demolition of the remainder of the existing buildings and associated structures on the site.

The proposal includes 1.6ha of Public Open Space consisting of a central public park for the benefit of the wider community and a new public plaza on Richmond Road. There is also a public walking / cycling trail along the landscaped perimeter of the residential development, communal gardens for residents and roof terraces in Buildings C and D-E. Further residents’ amenities are also provided within Buildings C, DE, F and G.

A single level basement comprises of car and cycle parking, bin storage, cores, plant rooms and ESB substations. Also included around the site there are set down areas, extensive landscaping, boundary treatments, lighting, heat pumps, site services and all associated site works.

3.0. Section 1

An assessment of long-term running and maintenance costs as they would apply on a per residential unit basis at the time of application.

3.1 Property/ owner 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 Owners Management Company for the ongoing management of the built development. Note: this contract will be for a maximum period of three 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.

3.2 Service Charge Budget

The property management company will be responsible for compiling the **service charge budget** for the development for agreement with the OMC. It 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, which is determined following the review of the Building Investment Fund (BIF) report prepared by the OMC. The BIF report will determine an adequate estimated annual cost provision requirement based on works which are necessary to maintain, repair, and enhance the premises over the 30-year life cycle period, as required by the Multi Unit Development Act 2011.

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.

4.0. Section 2

Measures specifically considered to effectively manage and reduce costs for the benefit of residents.

4.1. Treatment, Materials and Finishes

Consideration was given to the requirements of the Building Regulations, including 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.

The choice of materials was supported by 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

The above ensures that the long-term durability and maintenance of materials is an integral part of the design and specification of the proposed development's components.

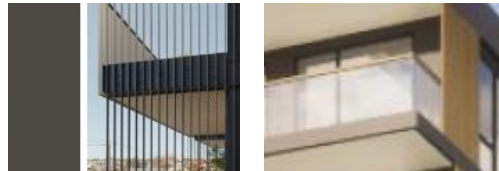
4.2. Construction Methodology

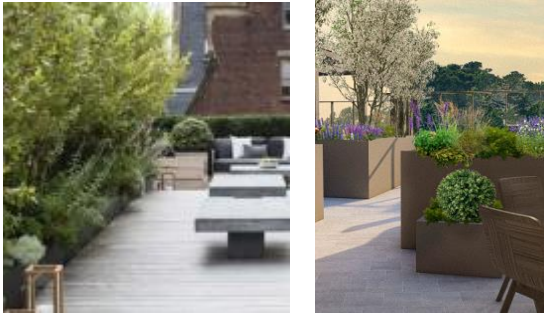
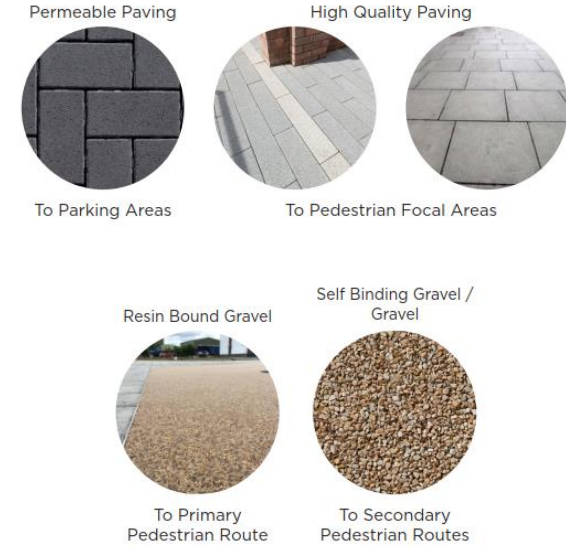
Apartment Buildings are designed in accordance with the Building Regulations, in particular Part D 'Materials and Workmanship', which includes all elements of the construction. The Design Principles and Specification are applied to both the apartment units and the common parts of the building and specific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

Measure Description	Benefit
Provision of daylight to circulation areas where possible.	Avoids the requirement for continuous artificial lighting.
Provision of natural ventilation system to all landlord corridors.	Avoids costly mechanical ventilation systems and associated maintenance and future replacement.
Location of ca. 50% of the collection areas at ground level.	Reduces the need for handling/moving equipment through ramps or access lifts.
Provision of low-maintenance external paved and landscaped areas.	All of these require low/minimal maintenance.
Location of the heat pump array at ground floor level.	Allows for easier maintenance and replacement as necessary.

4.3. Material Specification

The practical implementation of the Design and Material principles has informed design of building facades, internal layouts and detailing of the proposed apartment buildings.

Measure Description - External materials		Maintenance requirements/ Benefit
Brickwork		Choice of robust materials reduces on-going maintenance and repairs. While bricks have a high embodied energy, they are an extremely durable material. Brickwork in this application is expected to have a lifespan of 50-80 years. The mortar pointing however has a shorter lifespan of 25-50 years
Aluminum cladding		Aluminium cladding was chosen for some locations for its aesthetic impact, durability and weathering properties. Its lifespan is 45-65 years, and it requires little maintenance, contributing to lower ongoing maintenance costs. Long term cleaning requirements should be taken into consideration.
Factory finished timber alu-clad windows and doors		Aluminium is a durable and low maintenance material with an average lifespan of 45-60 years. The addition of the aluminum cladding extends timber windows' typical lifespan of 35-50 years by 10-15 years and reduces the amount of maintenance while the timber component is reducing the embodied carbon content of a window comparing to fully aluminium windows.
Clear glass and metal powder coated balcony balustrades.		Glass and metal are expected to have a 25 to 45-year lifespan. The use of those robust materials reduces on-going maintenance and need for repairs.
Green roofs		The natural soft finishes of green roofs can provide visual amenity for residents where roof areas are visible or accessible. Extensive roof (with a sedum blanket) is proposed on all roofs without terraces. Quarterly maintenance visits will include inspection of drainage layer and outlets and removal of any blockages to prevent ponding, inspection of vegetation layer for fungus and decay and weeding as necessary. No irrigation will be required, while attenuation reduces the burden on vulnerable rainwater goods, resulting in fewer elements that could require replacement or repair.

Roof terraces		Roof level communal open spaces in blocks C and D-E will have light weight precast concrete/ stone paving slabs on support system or timber decking. Quarterly maintenance will include inspection of drainage layer and outlets and removal of any blockages, inspection of all metalwork and fixings for loosening or degradation, check for displacement of slabs and mortar decay and removal of organic matter.
Fall Arrest System for Roof Maintenance Access		Fall protection systems are a standard system, provided for safe maintenance of roofs and balconies where there is not adequate parapet protection. A FPS must comply with relevant quality standards and requires annual maintenance.
High-quality paving		High-quality paving materials, with robust and proven details require no on-going maintenance.
Measure Description - Internal materials		Maintenance requirements/ Benefit
Floor finishes – common areas	Selected anti-slip porcelain or ceramic floor tile with inset matwells.	Materials chosen for durability and low maintenance.
Wall finishes – common areas	Selected paint finish with primer to skimmed plasterboard.	Regular maintenance required, damp cloth to remove stains and replacement when damaged.
Ceiling finishes – common areas	Selected paint finish with primer to skimmed plasterboard ceiling on M/F frame. Acoustic Ceiling to lift core and apartment lobbies. Moisture board to wet areas.	Regular maintenance required, damp cloth to remove stains and replacement when damaged.
Internal Handrails & Balustrades	Proprietary glazed panel system or metal balustrade face fixed to stairs stringer/ landing slab to manufacturer's details and specifications.	Materials chosen for durability and low maintenance.
Internal Doors and Frames/ Architraves	Selected white primed and painted/ varnished solid internal doors, or hardwood veneered internal doors.	Materials chosen for durability and low maintenance.

4.4. Landscaping

Measure	Description	Benefit
Site Layout & Design	Generous and high-quality landscaped areas have been designed within the proposed development, that include surface water attenuation, provision of SUDS and soft and hard landscaping.	They provide an improved environment and access to natural elements within the development. Robust materials and elements reduce the frequency of required repair and maintenance.
Green Roofs	The extensive and intensive green roofs are used throughout the development.	Attenuation provided by the green roof reduces the burden on rainwater goods, resulting in fewer elements that could require repair.
Soft Landscaping	A selection of native trees and planting is proposed.	The use of native trees reduces the need for maintenance and additional watering.

4.5. Waste Management

Measure	Description	Benefit
Operational Waste Management Plan	The application is accompanied by an Operational Waste Management Plan (OWMP) prepared by AWN. Its implementation will ensure a high level of recycling, reuse and recovery at the development. All recyclable materials will be segregated at source to reduce waste contractor costs and ensure maximum diversion of materials from landfill. The design of the storage areas will provide sufficient capacity for the estimated quantity of segregated waste. Residents will be required to segregate waste into the following main waste streams: • Dry Mixed Recycling, • Mixed Non-Recyclables, • Glass, • Organic waste. Provision will be made in all residential units to accommodate 3 no. bin types to facilitate waste segregation at source. Bins stores will be located either in the basement car park or at locations at surface level and residents will be responsible for delivery of their own waste bags.	The report demonstrates how the scheme has been designed to comply with best practice, which will reduce the waste charges. The storage areas will be easily accessible by all residents, minimising the potential littering of the scheme.

4.6. Human 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	The development complies with the requirements of Parts M and K of building regulations. In addition to this, 126no. units are designed to comply with requirements of QHSNO11 Universal Design of the DCC Development Plan.	Reduces the level of adaptation, and associated costs, potentially necessitated by residents' future circumstances.
Landscaping	The design of communal spaces between the blocks supports appreciation for the outdoors and connection to nature. The courtyard spaces will be inviting and encourage leisure use and social interaction with flexible lawn areas and lush greenery. There will be opportunities for active leisure in the communal and publicly accessed landscaped areas.	Encourages interaction with the outdoors to promote a healthy lifestyle.
Roof terraces	Roof level communal open spaces are provided in blocks C and D-E, providing amenity space for residents to relax, engage and socialise. Those spaces will cater for varying sizes of gatherings from individuals to small groups. An outdoor gym terrace will encourage and promote health and wellbeing.	Encourages interaction with the outdoors to promote a healthy lifestyle.
Security	The scheme is designed to incorporate passive surveillance and it is planned that there will be static on-site security provided during specified hours (determined following a security audit prior to occupancy). It is planned that the security personnel will carry out regular patrols of the internal and external residential and commercial areas. The development will be well-lit at all entrances along with the CCTV coverage and recording in key circulation areas, monitored from the reception area. Provision will be in place for camera maintenance and routine checks in accordance with manufacturer guidelines. It is planned that the building will have a smart access system which will be operated through pre-registered user cards and mobile phones, with each resident provided with a door entry fob which will be registered to their name and address. Each apartment will have its own intercom equipment that will be connected to the multiple call points at pedestrian entries. Visitors to the building will be encouraged to dial directly to the apartments via the door entry system and will not be permitted access into the residential amenity areas without this access being permitted. Alternatively, a wireless arrangement will be provided, with mobile phone notification The layout of the scheme and design of the building elevations will ensure passive surveillance over the communal and public open spaces.	To improve the sense of security and reduce potential security/ management costs.
Placemaking	The development is designed to create a variety of attractive spaces to be used by pedestrians and cyclists and to allow for connections with surrounding amenities.	Encourages interaction with the outdoors to promote a healthy lifestyle.

4.7. Residential management

Measure	Description	Benefit
Home User Guide	The following information will be forwarded to residents: - 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.	Provides information to residents so that any issues can be addressed in a timely and efficient manner.

4.8. Energy and Carbon Emissions

Energy efficient building fabric		
Measure	Description	Benefit
Fabric Energy Efficiency	The preliminary energy rating provides a calculation for space and hot water heating, ventilation and lighting. It is proposed to target an A2 rating for the apartments, which will equate to emissions of 25-50 kWh/m²/yr with CO₂ emissions circa 10kg CO₂/m² year. The U-values proposed as well as thermal bridging at junctions and the quota for renewable energy provision are designed as a minimum to satisfy the requirements set out by the Technical Guidance Documents Part L 2022, Conservation of Fuel and Energy Buildings other than Dwellings. In addition to that is planned that the overall energy performance of all units will exceed the requirements of the above regulations by a minimum of 10%, to align with the EU Taxonomy. Design of the scheme targets both HPI Gold and BREEAM Excellent certification.	Lower than required U-values and improved air tightness would help minimise heat losses through the building fabric, reduce energy consumption and minimise carbon emissions.

Table 1 Maximum elemental U-value (W/m ² K) ^{1, 2}		
Column 1 Fabric Elements	Column 2 Area-weighted Average Elemental U-value (U _m)	Column 3 Average Elemental U-value – individual element or section of element
Roofs		
Pitched roof		
- Insulation at ceiling	0.16	0.3
- Insulation on slope	0.16	
Flat roof	0.20	
Walls	0.18	0.6
Ground floors ³	0.18	0.6
Other exposed floors	0.18	0.6
External doors, windows and rooflights	1.4 ^{4,5}	3.0

Energy efficient products and services		
Measure	Description	Benefit
Energy Labelled Appliances	The appliances package planned for provision in the apartments will be durable and energy efficient. It is expected that the below appliance ratings will be provided: • Oven - A • Fridge Freezer – min C • Dishwasher – min C • Washer/Dryer – A	The provision of high rated appliances reduces the amount of electricity required.
External Lighting	The proposed site lighting is designed to ensure that the criteria set out in all relevant standards are met or exceeded, that sufficient illumination is provided to key areas such as entrances and paths and the requirements for security are satisfied. The design minimises the environmental impact through elimination of glare, sky glow and obtrusive light (light spill). It is proposed to illuminate the walkways and footpaths across the development using 'Type X4' 3-metre pole mounted luminaires and 'Type X5' 6 metre pole mounted luminaires. The pole mounted luminaires have an asymmetric and wide light distribution to give the walkway an even light distribution. Lighting will be also provided to the vehicle entrance roads across the development using 'Type 'X3' 6-metre mounted luminaire.	The external lighting has been designed to provide a safe environment for pedestrians, cyclists and moving vehicles, to deter anti-social behavior and to limit the environmental impact of artificial lighting on existing flora and fauna in the area.
Air Source Heat Pump	The scheme will avail of a centralised air source heat pump (ASHP) arrangement, consisting of centralised wet based heat network serving the entire residential development, with Heat Interface Units (HIUs) located within each apartment.	A low-energy design was developed and analysed for the centralised heating and hot water system using air source heat pumps. The centralised energy strategy also ensures compliance with renewable energy requirement for the non-domestic areas of the building (landlord areas/ circulation etc.)
Mechanical Heat Recovery Ventilation	Mechanical heat recovery ventilation (MVHR) will provide ventilation to the apartments with low energy usage.	The MVHR reduces overall energy use and ensures a continuous fresh clean air supply at controlled humidity.
ECAR Charging Points	In alignment with the Dublin Development Plan 2022-2028 it is proposed to provide e-car charging points for 50% of all parking spaces, with ducting provided from a local landlord distribution board to designated e-car charging car park spaces. This system will operate on a single charge point access card. A full re-charge can take from one to eight hours using a standard charge point. Ducting will also be provided to all remaining parking spaces to enable the installation of further points in the future. The infrastructure will be installed to enable 100% e-car charging in the future.	Providing the option of e-car charging points will allow occupants to avail of the efficient electric car technologies.

4.9. Transport and Accessibility

Measure	Measure Description	Benefit
Access to Public Transport: DART	The proposed residential development is located within: • 1.6km (20-minute walking distance/ 6-minute cycle) of Drumcondra Rail Station, and • 1.7km (22-minute walking distance/ 7-minute cycle) of Clontarf DART Station.	The availability, proximity and ease of access to high quality public transport services contributes to reducing the reliance on the private motor vehicle for all journey types.
Access to Public Transport: Bus Services	The proposed residential development is within: • 650m walking distance of Drumcondra Road QBC / proposed Bus Connects 'A Spine', via the proposed connection through Grace Park Wood to the northwest, • 850m walking distance to the bus stops on Drumcondra Road via Richmond Road, • 550m walking distance to the Fairview Strand Bus routes to the east via the main entrance from Richmond Road • 275m walking distance to the bus stop on Phillipsburg Avenue	These bus services provide access to a range of additional destinations then those serviced by the railway services. The proximity, frequency and range of additional destinations served by these local buses enhance the accessibility levels of the proposed residential development in addition to providing a viable and practical sustainable alternative to journeys undertaken by the private motor car.
Permeable Connections	Provision and subsequent maintenance of dedicated pedestrian and cycle infrastructure on-site, and their connectivity with adjoining third party lands and the off-site networks.	Ensure the long-term attractiveness of walking and cycling to a range of local education, retail and community facilities and services.
Bicycle storage and facilities	Resident bike stores will be located in both the basement car park and at surface level adjacent to building entrances in secure, locked enclosures accessible to residents only. Visitor bicycle parking will be provided by way of Sheffield stands throughout the development. The cargo bike parking, electric bike chargers and a bicycle repair bay are all located in the basement.	The provision of secure bicycle storage and facilities encourages the uptake of cycling and reducing the reliance on the private motor vehicle.
Motorcycle Parking	Motorcycle parking spaces will be located in the basement.	Motorcycles use smaller amount of fuel.

Appendix A

List of items included in a typical Building Investment Fund report.

The template table below lists elements to be incorporated for the calculation of a Sinking Fund.

	BUILDING INVESTMENT FUND (SINKING FUND)		
Ref	Element	Life Expectancy	Yearly estimate of costs year 1 to year 30
1.00	Roofs		
1.01	Extensive green roof system, incl insulation to apartment block roofs	25	
1.02	Intensive green roof system, incl insulation to roof terraces and podium terraces over basement	25	
1.03	Felt roof covering incl. insulation to main roofs	18	
1.04	Parapet details	18	
1.05	Roof access hatches	25	
1.06	Specialist roof systems - fall arrest	25	
2.00	Elevations		
2.01	Brick	80	
2.02	Mortar pointing	50	
2.03	Entrance doors	25	
2.04	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/ porcelain floors tiles	25	
3.09	Fixed furniture & equipment	18	
4.00	Basement Car Park		
4.01	Remove/ Replace ceiling insulation	25	
4.02	Repaint parking spaces & numbering	7	
5.00	Building Services		
5.01	Distribution network	60	
5.02	Electrical boards	30	
5.03	Water tanks	35	
5.04	Booster pumps	15	
5.05	Lifts	35	
5.06	Fire alarm	20	
5.07	Replace Internal landlord light fittings	18	
5.08	Replace External light fittings	18	
5.09	Replace smoke detector heads	18	