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Building Life Cycle Report

Belmount Development, Navan
for
Coindale Ltd.

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1. INTRODUCTION

This Building Life Cycle Report has been prepared for the proposed residential development on lands at Belmount, Navan, in accordance with the planning guidelines *Sustainable Urban Housing: Design Standards for New Apartments (Guidelines for Planning Authorities) 2018*.

Section 6.13 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."

This report firstly assesses the factors effecting the long term running and maintenance costs and secondly outlines the measures undertaken at this stage which can affect them.

2. DESCRIPTION OF PROPOSED DEVELOPMENT

The proposed development comprises 544 dwellings and two crèches on greenfield lands at Belmount House in Navan. The dwellings comprise 260 no. houses, with the remaining 284 no. units in multi-unit buildings of apartment, duplex, simplex and maisonette form, contained in 5 no. apartment blocks, 2 no. duplex blocks and 10 no. corner blocks, varying in height from 3 to 6 storeys. It is these multi-unit buildings which are the subject of this report.

3. ASSESSMENT OF LONG-TERM RUNNING AND MAINTENANCE COSTS

3.1 Management of the Owners' Management Company's assets

A licensed Property Service Provider (PSP) will be contracted to the Owners Management Company (OMC's) that wil be formed for the members. The PSP will ensure that the interests of the members are protected by executing the block management plans efficiently. The PSP will be responsible for the good management of other support services to include finance, administration, insurance, emergency assistance support, company secretarial and communications. As governed by the Multi Unit Development Act 2011 an OMC shall not enter into a contract in excess of 3 years with any supplier. The OMC by good practice will re-tender the services received at least each 3 years.

The assets to be transferred to the OMC in accordance with the Act will include the common areas and external fabric of the multi-unit buildings as well as landscaped areas in their vicinity.

The OMC'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 Charge Budget

A service charge 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 budget will be apportioned to unit owners in a fair and equitable way in accordance with the MUDs Act, with the collection of fees into dedicated Owners' Management Company (OMC) bank accounts.

The OMC will promote competitive tendering of running and maintenance services to help minimise charges for residents. The service suppliers will be discharged the payment for their services from these bank accounts. Monthly reports of operational and financial matters will be provided to the OMC executives and annual to the members at the general meeting.

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

The proposed layouts make efficient use of the land. The buildings have been designed with a low number of Stair and Lift Cores in order to increase efficiencies and ensuring that service charges and maintenance costs faced by residents into the future are kept at reasonable levels. Lifecycle costs are also determined 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 and self-finished render are proposed to minimize the impact of façade maintenance. Balconies 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, steel and metal as well as hardscape in the semi-public and private realms will contribute to lower maintenance costs for future residents and occupiers.

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 property management company 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.

Measures are addressed under three main headings:

- **External Building Fabric Material Selection**
- **Internal Building Fabric Material Selection**
- **Energy and Building Services**
- **Landscape Material Selection**

4.1 External Building Fabric Material Selection

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.
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.
Pitched Roofs	Fibre-cement slate roofing, solid and inert.	Durable and longlasting material requires minimal maintenance and repair.
Windows and Doors	All units double glazed with thermally broken frames in uPVC or Aluminium.	Minimal ongoing maintenance
Steel Balconies	Prefinished powder-coatedand capability to be manufactured off site	Minimal ongoing maintenance.

4.2 Internal Building Fabric Material Selection

Measure	Description	Benefit
Floors – apartment stair cores and entrances	Selected anti-slip porcelain or ceramic floor tile with inset mat well 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 contract vinyl wall paper feature or selected paint finish with primer. Wall protection at heavy traffic areas with plasterboard substrate adjacent to lift cores where furniture moving will damage wall fabric. 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 or proprietary glazed panel system face fixed to stair stringer/landing edge with polished stainless steel 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 Energy and Building Services

Measure	Description	Benefit
Nearly Zero Energy Building specifications (nZEB)	The dwellings will be nearly-Zero Energy dwellings.	Reduce primary energy demand by 70% viz. 2005 standards.
BER targets	A2	Reduce primary energy demand by 70% viz. 2005 standards.
Highly insulated building fabric	Ground floors: U<= 0.12 W/m^2K External walls: U<= 0.15 W/m^2K Roof: U<= 0.11 W/m^2K Windows: U<=1.3 W/m^2K Solar transmittance >= 0.70	Effective reduction of thermal energy demand
Thermal bridging	Acceptable Construction Details employed. Thermal bridging measured, with resultant values lower than the default.	Effective reduction of thermal energy demand
Airtightness	3 to 3.5 m^3/m^2.h @ 50 Pa maximum	Effective reduction of thermal energy demand
General ventilation	Demand-controlled mechanical extract system or mechanical heat recovery system	Effective reduction of thermal energy demand
Heating / hot-water controls	Time clocks and thermostats for each heating / hot-water zone	Effective reduction of thermal energy demand
Pumping	Variable speed pumps	Effective reduction of thermal energy demand
Lighting	100% LED lighting	Effective reduction of electrical energy demand

4.4 Landscape Material Selection

The landscape design approach is to provide a variety of high-quality durable communal recreation areas for residents within the blocks which feature a range of quality tree, shrub and herbaceous planting.

Hard landscape paving and decking materials will be robust and durable and installed using proven details to minimise maintenance requirements. High slip resistance paving materials will ensure safety for all.

Proven planting details for trees, shrubs and hedging will ensure growth will be robust and future maintenance as minimal as possible.

A landscape maintenance company will be retained by the OMC(s) to ensure regular maintenance improves the quality of the living environment for all residents.

5. Building Investment Fund

In accordance with the MUDs Act, the OMC(s) will allocate a certain portion of funds towards 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**
Roofs	
Replacement felt roof covering incl. insulation to main roofs	18
Replacement parapet, fascia details	18
Replace roof access hatches	25
Specialist Roof Systems - Fall arrest	25
Waterproofing details to penthouse paved areas	12
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
Emergency lighting	20
External mains water connection	20