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**LIFE CYCLE REPORT
FOR
LRD Amendment Application
Lands at Ballykeeran and Cornamaddy
Townlands,
Athlone**

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1. INTRODUCTION

The purpose of this report is to provide an initial assessment of long term running and maintenance costs as they would apply on a per residential unit basis at the time of application, as well as demonstrating what measures have been specifically considered to effectively manage and reduce costs for the benefit of the residents. This is achieved by producing a Building Lifecycle Report and the residential units referred to in this report relate to apartments and duplex units.

The Sustainable Urban Housing; Design Standards for New Apartments – Planning Design Standards for Apartments Guidelines for Planning Authorities (2025) (hereafter referred to as the SUH Guidelines) introduced a requirement to include details on the management and maintenance of apartment schemes. This is set out in Section 6.11 to 6.14 - “*Operation & Management of Apartment Developments*”, specifically Section 6.13.

Section 6.13 of the SIH 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”

“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 the Apartment Guidelines for the apartment and duplex units in this development. The report is broken into two sections as follows:

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

Section 02:

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

2. PROPOSED DEVELOPMENT

The development will comprise amendments to the permitted development as per LRD permission reference 318736-23 which comprises 175no. dwellings and 130 apartments, a creche and associated site works. The proposed development incorporates the following amendments:

Alteration to the permitted phasing with phase one incorporating a total of 130no. residential units of which there 102no. dwellings and 28no. duplex apartment units, in lieu of 129no. residential units as granted.

1. Phase one incorporating 102no. 2storey dwellings with the dwelling mix comprising 57no. 3bed units and 45no. 4bed units.
2. Phase one incorporating 2no. duplex apartment blocks which comprises 12no. 1bed triplex apartments, 8no. 2bed duplex apartments and 8no. 3bed duplex apartments. (overall units in phase one increasing from 129no. residential units as granted to 130no. residential units).
3. The provision of a Creche.
4. Alterations to the site layout in phase one comprising a reconfiguration of public open spaces, communal spaces and overall site layout along with public lighting, planting and boundary treatments to include boundary walls, railings & fencing.
5. Provision of a revised road layout to serve phase one.
6. All ancillary site development/construction works to facilitate foul, water and service networks for connection to the existing foul, water and ESB networks.
7. Provision of associated site infrastructure works to include for foul, water and storm water infrastructure.
8. Provision of 2no. ESB substations.

A Life Cycle Report has been prepared and accompanies this application to demonstrate compliance with the local requirement.

3. AN ASSESSMENT OF LONG TERM RUNNING AND MAINTENANCE COSTS AS THEY WOULD APPLY ON A PER RESIDENTIAL UNIT BASIS AT THE TIME OF APPLICATION

a. 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 duplex/triplex units with communal open space are intended to be handed over to Westmeath County Council (WMCC). WMCC will then be responsible for the maintenance of the common areas. All other communal areas will then be taken in charge by WMCC

b. Service Charge Budget

The property management company in this case WMCC, has a number of key responsibilities with first and foremost being the compiling of the service charge budget for the development. 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 management company, 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 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. MEASURES SPECIFICALLY CONSIDERED BY THE PROPOSER TO EFFECTIVELY MANAGE AND REDUCE COSTS FOR THE BENEFIT OF RESIDENTS.

4.1. ENERGY AND CARBON EMISSIONS

By taking due consideration of the energy and carbon emissions associated with the individual units of the proposed development will reduce the overall impact of the development on the environment, whilst reducing individual unit running costs for residents. The following are an illustration of the energy measures that are planned for the units to assist in reducing costs for the occupants:

Measure	Description	Benefit
BER Certificates	A Building Energy Rating (BER) certificate will be provided for each dwelling in the proposed development which will provide detail of the energy performance of the dwellings. A BER is calculated through energy use for space and hot water heating, ventilation, and lighting and occupancy. It is proposed to target an A2/A3 rating for the dwellings this will equate to the following emissions. A0 – <42 kwh/m2/yr with CO2 emissions A – <75 kwh/m2/yr with CO2 emissions	Higher BER ratings reduce energy consumption and running costs.
Fabric Energy Efficiency	The U-values being investigated will be in line with the requirements set out by the current regulatory requirements of the Technical Guidance Documents Part L, titled "Conservation of Fuel and Energy Buildings other than Dwellings". Thermal bridging at junctions between construction elements and at other locations will be minimised in accordance with Appendix D within the Technical Guidance Documents Part L. See below Table 1 of Part L, Building Regulations.	Lower U-values and improved air tightness is being considered to help minimise heat losses through the building fabric, decrease energy consumption and thus minimise carbon emissions to the environment.
Energy Labelled White Goods	The white good package planned for provision in the dwellings 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: Oven - A plus; Fridge Freezer - A plus; Dishwasher - AAA Washer/Dryer - B	The provision of high rated appliances in turn reduces the amount of electricity required for occupants.
External Lighting	The proposed lighting scheme within the development is designed and supplied by Sabre with luminaires mounted on 6 & 8 metre columns as indicated on the drawings. The luminaire selected is as per the Sabre specification. This luminaire was selected for the following reasons; 4000K CCT LED High efficiency 119 lm/W Minimum colour rendering: 70 Zero Upward Light Output Ratio (ULOR) LM80 >15 years using TM21-11 test results Driver current < 750mA Minimum IK08 impact resistance At least IP65 ingress protection Meets or exceeds all other KCC Specification criteria. 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.	The site lighting will be designed to provide a safe environment for pedestrians, cyclists and moving vehicles, to deter anti-social behaviour and to limit the environmental impact of artificial lighting on existing flora and fauna in the area.

4.2 Low energy technologies

The following low energy technologies 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 Compliance with Part L 2025, A0/A BER Rating and striving to reach the upcoming NZEB (Near Zero Energy Building) standards:

Measure	Description	Benefit
Localised Plant	High Efficiency Split System Air Source Heat Pump is proposed for each unit. The heat pump should be fully compliant with Eco-Design Labelling Directive, both EN14825 and EN16147	High efficiency heat pump offers reliable and effective solution for the development.
Pumps	All pumps serving the plant to be A rated energy efficiency.	High efficiency band for appliances ensures reduction in required primary energy
External Heat Pump Unit	Each apartment/house will be fitted with Outdoor Heat Pump Unit which shall be located externally and designed to provide space heating and DHW.	Remote access control offers the occupier to adjust the heating schedule to suit their needs.
Internal Heat Pump Unit	Each apartment/house will be fitted with a Indoor Heat Pump Unit which shall be located in utility or store and designed to provide space heating and DHW.	Remote access control offers the occupier to adjust the heating schedule to suit their needs.
Mechanical Demand Controlled Ventilation	Demand controlled ventilation (DCV) system will serve each unit to provide high indoor air quality for the occupants.	DCV has a low energy fan and senses increased humidity levels to maintain high indoor quality while using minimal amount of energy
ECAR Charging Points	Within the parking areas, 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 local centre carpark to cater for E-car demand of the residence. 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.	Providing the option of E-car charging points will futureproof the development

4.3. SELECTION MATERIALS, FINISHES & TREATMENTS

The practical implementation of the Design and Material principles has informed design of building facades, internal layouts and detailing of the proposed buildings. Both aesthetics and durability played a central role in the design process, with the element of durability directly linked with the need and associated expense for the maintenance, upkeep or potential replacement of the selected materials. This design approach has been applied in equal part to both the external building envelope and the landscaping scheme. Some of these specific design measures are outlined in the section 4.3.1 and 4.3.2.

4.3.1. BUILDINGS

All proposed 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 dwellings and the common parts of the building and specific measures taken include:

Measure	Description	Benefit
Daylighting	Window are provided to all rooms where possible providing natural daylight to circulation areas.	Avoids the requirement for continuous artificial lighting
Ventilation	Openable window sections are provided to all rooms within the development where possible providing Natural/Passive ventilation to common circulation areas. There is no common areas relating to the apartment in this development.	Openable window sections are provided to all rooms within the development providing natural daylight and ventilation throughout dwellings.
Ventilation	Natural ventilation though grills, trickle vents are provided to all habitable rooms. There is no common areas relating to the apartment in this development.	Avoids costly mechanical ventilation systems and associated maintenance and future replacement.
Landscaping	External paved and landscaped areas	All of these require low/minimal maintenance. Landscaped areas support the wider SUDS strategy for the development. Resilient landscape design shall minimize ongoing maintenance in the future.
Roofs	All roof construction to dwellings include robust roof systems to ensure longevity of the covering	Best practise in roof detailing and design protects the roof membrane and will thus minimize ongoing maintenance in the future.

4.3.2 MATERIAL SPECIFICATION

Measure	Description	Benefit
Durability	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. All common parts of the proposed buildings, 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: •Annex A Climatic Agents affecting Durability •Annex B Guidance on materials and durability •Annex C Examples of UK material or component failures •Annex D Design Life Data sheets	Ensures that the long-term durability and maintenance of Materials is an integral part of the Design and Specification of the proposed development.
Rainwater drainage	Central rain water gullies at roof level to collect rain water will be used where flat roofs are proposed. Gullies connected with fusion welded HDPE pipework routed within the building in risers to GF level and into local storm drain network	High level of craftsmanship and material quality will reduce the maintenance requirements
Roof Accessories	Detailed design will indicate what services will penetrate through the roof.	
Roof Construction	Roof construction to buildings includes mainly prefabricated timber structures. Waterproofing provided by a cement tile.	Best practise in roof detailing and design protects the roof membrane and will thus minimize ongoing maintenance in the future.
External Walls	The architectural approach to the scheme proposed the extensive use of robust materials of brickwork and render to the building envelope. All external walls shall be combination of brick, render and metal panels	These traditional materials will require minimal on-going maintenance and have a longer life-cycle expectancy
External Windows & Doors	Use of PVC / alu clad windows and doors. All windows shall be double glazed windows with a combined thermal transmittance not greater than 1.2W/m ² K. All windows shall comply with BS EN ISO 10077-1: 2006 - 'Thermal performance of windows, doors and shutters.	Requires no on-going maintenance.
Balconies	Galvanized and powder coated steel frame and surrounding balustrade for external stairs & balconies.	Requires no on-going maintenance.
Internal Floors	Detailed interior design will include combination of wood, tiles and carpet	High level of craftsmanship and material quality will reduce the maintenance requirements
Internal Walls	Taped and jointed internal partition walls, reinforced concrete walls with dry lined face at party wall locations	High level of craftsmanship and material quality will reduce the maintenance requirements
Internal Ceilings	Suspended ceiling made up of metal stud work and plasterboard which is taped and jointed	High level of craftsmanship and material quality will reduce the maintenance requirements
Internal Carpentry & joinery	Fitted kitchens and fitted wardrobes to all bedrooms	High level of craftsmanship and material quality will reduce the maintenance requirements
Internal Balustrades	All internal balustrades & handrails to be sand blasted, primed and painted	High level of craftsmanship and material quality will reduce the

& handrails		maintenance requirements
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4.4 LANDSCAPING

Measure	Description	Benefit
Site Planning	Generous and high-quality landscape with ecological corridors designed within the proposed development. Pedestrians prioritized over the car. Significant tree planting and soft landscaping within courtyards and public spaces	Natural attenuation and landscape maintenance preferable
Paving Materials	Use of robust materials with high slip resistance to be used for paving. Durable and robust equipment (e.g. play, exercise, fencing etc.) to be used throughout.	Required ongoing maintenance significantly reduced through use of robust materials installed proven details.
Planting details	Proven trees staking details. Shrub, hedging, herbaceous and lawn installation planting details provided.	Correctly installed planting will develop into well established and robust soft landscape reducing future maintenance.

4.5 WASTE MANAGEMENT

Measure	Description	Benefit
Construction and Environmental Management Plan	The application is accompanied by an Construction and Environmental Management Plan prepared by AWN Consulting Ltd.	The report demonstrates how the scheme has been designed to comply with best practice.
Resource and Waste Management Plan	The application is accompanied by an Resource and Waste Management Plan prepared by AWN Consulting Ltd.	The report demonstrates how the scheme has been designed to comply with best practice.
Storage of Non-Recyclable Waste and Recyclable Household Waste	Bins for commercial properties are located adjacent and ease of access for waste collection truck is considered.	Easily accessible by commercial premises users.
	Inclusion of location for centralised bin storage system on ground floor to serve the buildings. Domestic waste management strategy: Grey, Brown and Green bin distinction. Competitive tender for waste management collection.	Easily accessible by all residents and minimises potential littering of the scheme Helps reduce potential waste charges.
Composting	Organic waste bins to be provided throughout.	Helps reduce potential waste charges.

4.6 HEALTH & WELL BEING

Measure	Description	Benefit
Sunlight & Daylight	The design, separation distances and layout of the dwellings have been designed to optimize the ingress of natural daylight/sunlight to the proposed dwellings to provide good levels of natural light. Refer to Sunlight Daylight and Shadow Assessment prepared by JAK.	Enhancing wellbeing of the residents. Reduces reliance on artificial lighting thereby reducing costs.
Accessibility	All units will comply with the requirements of Part M/K and a universal access statement is provided within the design statement of this submission.	Reduces the level of adaptation, and associated costs, potentially necessitated by residents' future circumstances.
Security	The scheme is designed to incorporate passive surveillance to be the main security strategy	Help to reduce potential security/management costs
Natural Amenity	Landscaped green areas located throughout the development.	Proximity and use of parks promotes a healthy lifestyle
	Generous green spaces as part of the development. Great care shall be taken to preserve and retain existing townland hedgerow boundary.	Facilitates community interaction, socialising and play – resulting in improved wellbeing. Protection of biodiversity around the development minimizes impact and creates sense of place.

4.7 MANAGEMENT

Measure	Description	Benefit
Home User Guide	Once a purchaser completes their sale, a homeowner box will be provided which will include: 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. The documents will include simple guides for using the building services aim to inform the building occupants on effective strategies to use less resources, efficient appliances, efficient use of their heating/hot water controls and efficient transport/ commuting.

4.8 TRANSPORT

Detailed review on the impact of the development is included in Traffic & Transport Assessment Report prepared by NRB.

Measure	Description	Benefit
Access to Public Transport (IRISH RAIL)	Athlone Train Station is located approximately 5km to the north west of the proposed development. This equates to an approximate 8 mins drive from the development to the train station and provides linkages to Dublin City Centre and Galway City.	The train provides an alternative high frequency public transport option to the bus for commuting to the city centre. 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)	A number of bus routes service the proposed development via the city centre located to the north of the site. These services include:	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.
Permeable Connections (Walking & Cycling)	Provision and subsequent maintenance of dedicated pedestrian and cycle infrastructure on-site, and their connectivity with the public road network providing convenient access to local services including shops, schools, restaurants and doctor's surgeries. The proposed cycle path is located adjacent to the proposed development. It is proposed to provide direct access to the greenway from the development.	Ensure the long-term attractiveness of walking and cycling to a range of local education, retail and community facilities and services.
Bicycle Storage	Ensure the long-term attractiveness of walking and cycling to a range of local education, retail and community facilities and services.	Accommodates the uptake of cycling and reducing the reliance on the private motor vehicle and encourages use of amenity spaces provided to stimulate a more vibrant and active series of open spaces.
Motorcycle Parking	The implementation of secure, attractive, best practice motorcycle parking facilities for residents.	Reduces the reliance on the private motor vehicle in parallel with reducing oil dependency.
E-car Facilities	Ducting shall be provided to serve a minipillar adjacent to future 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 car parking layout to cater for E-car demand of the residence. A full re-charge can take from one to eight hours using a standard charge point.	To accommodate the growing demand for E-car which assist in decarbonising society and reducing oil dependency. providing the option of E-car charging points will allow occupants to avail of economically efficient and environmentally friendly electric car

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 a Dwellings A in the development.

BUILDING INVESTMENT FUND (SINKING FUND) ESTIMATION

Example Dwellings

Specification to be finalized at detailed design stage.

REF	ELEMENT	LIFE EXPECTANCY
1	ROOFS	
1.01	Replacement roof covering incl. insulation to main roofs	25
1.02	Replacement parapet details	18
1.03	Replace roof access hatches	25
1.04	Specialist Roof Systems - Fall arrest	25
2	ELEVATIONS	
2.01	Decorate plaster finishes to apartment core & bin storage	18
2.02	Minor repairs and preparation for decorations of rendered areas (if applicable)	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	STAIR CORES & LOBBIES (N/A)	
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
5	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
5.1	External Mains Water connection	20
5.12	Electrical Mains and Sub Mains distribution	20
5.13	Emergency Lighting	20
6	EXTERIOR	
6.01	Repaint car parking	12
6.02	New tarmac	60
6.03	External boundary treatments - Recoat powder coated Finishes to railings	60
6.04	Replace cobble block areas	18
6.05	10 year cutback & thinning of trees. Overhaul landscaping generally	10
6.06	Replace CCTV provision	12
6.07	External Handrails and balustrade	18

APPENDIX B: PHASES OF THE LIFE CYCLE OF BS7543; 2015

<i>Table 1 - Categories of Design Life for Buildings (from BS 7543:1992)</i>			
Category	Description	Building Life	Examples
1	Temporary	Up to 10 yrs	Site huts; temporary exhibition buildings
2	Short life	Min. 10 yrs	Temporary classrooms; warehouses
3	Medium Life	Min. 30 yrs	Industrial buildings; housing refurbishment
4	Normal life	Min. 60 yrs	Health, housing and educational buildings
5	Long life	Min. 120 yrs	Civic and high quality buildings

APPENDIX C: PHASES OF THE LIFE CYCLE OF BS7543; 2015

