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BUILDING LIFE CYCLE REPORT

RATOATH SOUTH SHD

CO. MEATH

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Services Engineers	BBSC Consulting Engineers
Environmental Consultants	Altemar
Landscape Architects	BSM

On Behalf of Beo Properties Ltd.

Revision	Date of Issue	Reason For Issue	By	Chk'd
P.00.04	16 May 2022	PLANNING	BON	BON

PROPOSED DEVELOPMENT

Summary Description

The development will principally consist of the construction of 452 no. residential units which are located in 12 neighbourhoods. Building heights ranging from 2-3 storey terraced houses and 3-4storey duplex buildings (1 storey ground floor units and 2 storey first and second floor units; 2 storey ground and first floor units and 2 storey second and third floor units) and 6-storey apartment blocks. Private open space associated with the residential units is provided in the form of rear gardens, balconies, terraces and winter gardens. The development includes a crèche with associated outdoor play areas at ground floor and at roof level; 4 no. commercial/retail units; a landscaped public open space which includes a civic plaza; communal open space in the form of communal courtyards for each neighbourhood; associated car and cycle parking serving the full development and uses therein; solar PV panels; a second phase of the Ratoath Outer Relief Road (RORR), that will run along the southern boundary of the application site join up to the existing constructed section of the RORR, with two priority controlled junctions; a series of pedestrian and cycle connections from the Fairyhouse Road (R155), Cairn Court, Glascarn Lane and the new RORR; internal road and shared surface networks including pedestrian and cycle paths; public lighting and all associated site development and infrastructural works, services provision, ESB substations, foul and surface water drainage, extension to the foul network, access roads/footpaths, lighting, landscaping and boundary treatment works and all ancillary works necessary to facilitate the development

(Full Statutory Description will be circulated separately to this report).

KEY PROJECT DETAILS:

No. of Units: 452

Site Area: 14.166 Hectares

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1 PURPOSE OF REPORT

Beo Properties Ltd. appointed BBSC, April 2021 to study the impact on building life cycles to the development as set out under SI 600/2001.

The development will be over multiple phases.

It shall comprise Houses, Masionettes, Apartments, landlord areas, Civic amenity, Creche as outlined in the Development Description above.

1.1 INTRODUCTION

The Sustainable Urban Housing, Design Standards for New Apartments – Guidelines for Planning Authorities were published in March 2018 (hereafter referred to as the Apartment Guidelines).

The Apartment 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 Apartment Guidelines 2018 requires that apartment applications shall: "shall include a building lifecycle report, which in turn includes an assessment of long term running and maintenance costs as they would apply on a per residential unit basis at the time of application" "demonstrate what measures have been specifically considered by the proposer to effectively manage and reduce costs for the benefit of residents."

This Building Life Cycle Report document sets out to address the requirements of Section 6.13 of the Apartment Guidelines.

The report is broken into following requirements as follows:

- An assessment of long term running and maintenance costs as they would apply on a per residential unit basis at the time of application
- Measures specifically considered by the proposer to effectively manage and reduce costs for the benefit of residents.

1.2 PROVISIONS OF ACT REFERENCED TO ABOVE

Operation and Management of Apartment Developments

6.11 Certainty regarding the long term management and maintenance structures that are put in place for an apartment scheme is a critical aspect of this form of residential development. It is essential that robust legal and financial arrangements are provided to ensure that an apartment development is properly managed, with effective and appropriately resourced maintenance and operational regimes.

6.12 In this regard, consideration of the long-term running costs and the eventual manner of compliance of the proposal with the Multi- Unit Developments Act, 2011 are matters which should be considered as part of any assessment of a proposed apartment development.

6.13 Accordingly, 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, as well as demonstrating what measures have been specifically considered by the proposer to effectively manage and reduce costs for the benefit of residents.

6.14 The Multi-Unit Developments Act, 2011 (MUD Act) sets out the legal requirements regarding the management of apartment developments. In this regard it is advised that when granting permission for such developments planning authorities attach appropriate planning conditions that require:

- *Compliance with the MUD Act,*
- *Establishment of an Owners Management Company (OMC) and:*
- *Establishment and ongoing maintenance of a sinking fund commensurate with the facilities in a development that require ongoing maintenance and renewal.*

6.15 Build-To-Rent and Shared Accommodation schemes, where there is a commercial entity owning, or operating and maintaining the development, may by their nature have different arrangements and obligations. Planning authorities should provide planning conditions for such developments which ensure the provision of appropriate management and maintenance structures including for the scenario where the BTR nature of a development is altered following specified period under SPPR 7(a) above.

2 RUNNING AND MAINTENANCE COSTS, LONG TERM STUDY

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

2.1 PROPERTY MANAGEMENT OF THE COMMON AREAS OF THE DEVELOPMENT

Under the Multi Units Development Act of 2011 (MUD Act) a Property Management Company will be employed to co-ordinate and carry out the activities relating to a well managed development as is required under the Act.

The 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, including communal areas of open space, residential amenity facilities and any public areas not taken in charge by the local authority, are kept within the agreed Annual operational budget.

The property management company will enter into a contract directly with the Owners Management Company (OMC) for the ongoing management of the built development.

This contract will be for a maximum period of 15 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 Multi Units Development Act 2011 (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
- Other requirements as er MUD act and future alterations to the Act as they apply

Each Apartment Block (4nr.) and the Estate as a whole excluding the Apartment shall manage the estate as five (5) separate OMC's.

2.2 SERVICE CHARGE BUDGET

The Property Management Company as part of there responsibilities, they shall in first instance compile the annual service charge budget for the development for agreement with the OMC.

The service charge budget shall at a minimum cover items such as

- Cleaning,
- Landscaping
- Refuse management
- Utility bills,
- Insurance,
- Maintenance of life safety systems
- Maintenance of Lifts
- Maintenance of common good Mechanical, electrical and security systems etc.
- Property management fee,
- Others 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 for the OMC.

The BIF report once adopted by the OMC, determines an adequate estimated annual cost provision requirement based on the needs of the development over a 30-year cycle period.

The BIF report will identify those works which are necessary to maintain, repair, and enhance the premises over the 30-year life cycle period, as required by the Multi Unit Development Act 2011.

In line with the requirements of the MUD Act, the members of the OMC will determine and agree each year at a General Meeting of the members, the contribution to be made to the Sinking Fund, having regard to the BIF report produced.

A sample format of the typical BIF report is set out in Appendix A.

Note: the detail associated with each element heading i.e. specification and estimate of the costs to maintain or repair or replace, shall be determined after the detailed design, procurement and construction of the development and therefore has not been included in this document.

3 EFFECTIVELY MANAGE AND REDUCE COSTS

This section shall list, or detail measures specifically considered by the proposer to effectively manage and reduce costs for the benefit of residents.

3.1 ENERGY AND CARBON EMISSIONS

The following are an illustration of the energy measures that are planned for the units to assist in reducing costs for the occupants.

Measure	Description	Benefit
BER Certificates	A **Building Energy Rating (BER)** certificate will be provided for each dwelling in the proposed development which will provide detail of the energy performance of the dwellings. A BER is calculated through energy use for space and hot water heating, ventilation, and lighting and occupancy. It is proposed to target an A2 rating for the apartments this will equate to the following emissions. NZEB, A2 – 25-50 kwh/m2/yr with CO2 emissions circa 10kgCO2/m2 year	Higher BER ratings reduce energy consumption and running costs which aids in reducing Fuel Poverty etc.

<table>
<tr><th>Measure</th><th>Description</th><th>Benefit</th></tr>
<tr><td>Fabric Energy Efficiency</td><td>Building Fabric Performance

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 “Conservation of Fuel and Energy Buildings other than Dwellings”. The current regulation was in effect from 1st January 2019

The dwellings built under this planning permission will be designed and constructed to meet the relevant regulation, as may be appropriate, in accordance with the transitional period. These Values are reflected in the BER Certificate</td><td>BERs indicate the overall energy performance of the building allowing a clear understanding of the dwellings energy consumption, thus allowing for better energy cost planning and achieving lower energy bills</td></tr>
<tr><td></td><td>U-values
The U-Values that will be targeted for the dwellings in this development will exceed the minimum targets set out in Part L 2011 or Part L 2019 as may be appropriate. The table below sets out the minimum requirements of each of these standards and the targets range that will be adopted for the site.

<table><tr><th>Element</th><th>U-Value Area weighted (W/mK)</th></tr><tr><td>Floor</td><td>0.18</td></tr><tr><td>Roof (Flat)</td><td>0.2</td></tr><tr><td>Roof (Pitched)</td><td>0.16</td></tr><tr><td>Walls</td><td>0.18</td></tr><tr><td>Walls to unheated lobbies</td><td>0.35</td></tr><tr><td>Windows</td><td>1.4</td></tr><tr><td>Doors</td><td>1.4</td></tr></table></td><td>Lower U-values and improved air tightness is being considered to help minimise heat losses through the building fabric, lower of energy consumption and thus minimise carbon emissions to the environment.</td></tr>
<tr><td></td><td>Thermal Bridging
Thermal bridges occur at junctions between planar elements of the building fabric and are typically defined as areas where heat can escape the building fabric due to a lack of continuity of the insulation in the adjoin elements.

Careful design and detailing of the manner in which insulation is installed at these junctions can reduce the rate at which the heat escapes.

Standard good practice details are available and are known as Acceptable Construction Details (ACDs), published by the Department of Environment.

Adherence to these details is known to reduce the rate at which heat is lost.</td><td>Reduces risk of condensation due to cold spots in walls and therefor lowers the risk of mould growth leading to better energy performances and healthier living spaces</td></tr>
</table>

Measure	Description	Benefit
	The rate at which heat is lost is quantified by the Thermal Bridging Factor of the dwelling which is entered into the overall dwelling Part L calculation. It is intended that all building junctions will either be designed in accordance with the Acceptable Construction Details or that thermal modelling will be carried out for all thermal bridges on the dwellings within proposed development. The resultant Thermal Bridging Factor will be in the range of 0.04W/m2K to 0.08W/m2K. or up to 11% of overall heat loss through elemental structures	
	Air Tightness A major consideration in reducing the heat losses in a building is the air infiltration. This essentially relates to the ingress of cold outdoor air into the building and the corresponding displacement of the heated internal air. This incoming cold air must be heated if comfort conditions are to be maintained. In a traditionally constructed building, infiltration can account for 30 to 40 percent of the total heat loss, however construction standards continue to improve in this area. In order to ensure that a sufficient level of air tightness is achieved, air permeability testing will be specified carried out on all dwellings. A design air permeability target of 2 $m^3/hr/m^2$ has been identified for the dwellings on the site.	Unwanted air movement leads to higher energy bills due to escape of warm air, this leads to better sealed buildings and lower energy costs.
Energy Labelled White Goods	The white good package planned for provision in the apartments will be of a very high standard and have a high energy efficiency rating. It is expected that the below appliance ratings will be provided: • Oven - A plus • Fridge Freezer - A plus • Dishwasher - AAA • Washer/Dryer - B The European Product Database for Energy Labelling (EPREL) has been set up under EU Regulation 2017/1369, to provide important energy efficiency information to consumers. It will also enhance market surveillance activities and enforcement, these cover the following, • Air conditioners • Cooking appliances (domestic) • Dishwashers (domestic) • Space and water heaters • Lightbulbs • Refrigeration (domestic) • Solid fuel boilers • Televisions	The provision of high rated appliances in turn reduces the amount of electricity required for occupants.

Measure	Description	Benefit
	• Tumble dryers • Tyres • Ventilation units (domestic) • Washing machines (domestic)	
External Lighting	The proposed lighting scheme within the development consists of range of luminaires, each selected to suit the specific location on the site. All fittings selected will be LED and will be mounted on columns ranging in height from 4m to 6m. 3000K CCT LED to minimise impact on wildlife. High efficiency 119 lm/W or better subject to technology at the time of installation Zero Upward Light Output Ratio (ULOR) Intelligent lighting control systems provided along pedestrian routes in sensitive woodland areas. Shading louvres included on light fittings adjacent to the most sensitive areas of the site. Meets or exceeds all other Local County Council 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.

The following are **Low energy technologies** that are being considered for the development and during the design stage of the development the specific combination from the list below will be decided on and then implemented to achieve the NZEB BER Rating as outlined above. As technology and Dwelling Energy Assessment procedures advance and change the proposed solutions will be amended to suit best practice at the time of procurement.

Measure	Description	Benefit
Demand Controlled Mechanical Ventilation	Centralised mechanical ventilation will be provided to all dwellings to ensure that the air quality within the dwellings will be adequate. The system will be designed to respond to occupancy usage patterns and to humidity levels within the dwelling.	Mechanical ventilation provides enhanced air quality in modern air tight dwellings which are otherwise designed to minimise unwanted air infiltration
PV Solar Panels	PV Solar Panels will be considered as an option for both houses and apartments in order to meet the renewable energy contribution required by Part L of the Building Regulations. These panels convert sunlight into electricity which can be used within the dwelling. The panels are typically placed on the South facing side of the building to maximise the solar exposure.	PV Solar Panels offer the benefit of reducing fossil fuel consumption and carbon emissions to the environment. They also reduce the overall requirement to purchase electricity from the grid.

Measure	Description	Benefit
Air Source Heat Pump	As part of the overall energy strategy for houses, the use of Air Source Heat Pumps will be assessed to determine their technical and commercial feasibility. These systems extract heat energy from the outside air and, using a refrigerant cycle, raise the temperature of the heat energy using a refrigerant vapour compression cycle. For apartments, there are products which incorporate air source heat pump technology, but which do not require the traditional "outdoor unit" making them suitable for apartments. These are general referred to as "Exhaust Air Heat Pumps" and are capable of extracting energy from the air within the apartment through a ducting system.	Air source heat pumps use electrical energy from the grid to drive the refrigerant cycle but do so extremely efficiently. Modern heat pumps will typically provide 4 to 5 times more heat energy to the dwelling than the electrical energy they consume.
ECAR Charging Points	Within the basement 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 basement carpark to cater for E-car demand of the residence. Ducting and on street infrastructure will also be considered for the housing development to provide EV charging facilities in on-street parking spaces. This system operates on a single charge point access card. A full re-charge can take from eight to forty eight hours using a standard charge point. Furthermore, all houses with on-curtilage parking will be wired to allow future installation of EV charging points by house purchasers.	Charging points will be provided such that 1nr Charger per Dwelling with curtilage parking Community charger (pay as you go) to apartments and at the rated of ducted provision to the remaining development as per Part L:2021 (1 in 10 spaces) Masionettes and other dwellings will be provided with community chargers 22kw in size, pay as you go where curtilage parking is not provided

3.2 MATERIALS

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

3.3 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 dwelling units and the common parts of the building and specific measures taken include:

Measure	Description	Benefit
Building Aspect / Daylight	The design, separation distances and layout of the apartment blocks and other residential units aims to maximise provision of natural daylight. Design will take account of guidance contained in Sustainable Urban Housing: Design Standards for New Apartments (Guidelines for Planning Authorities).	Reduces reliance on artificial lighting, thereby reducing costs.
Accessibility	All units will comply with the requirements of Building Regulations and Technical Guidance Documents Parts K and M	Reduces the level of future adaptation and associated costs for residents.

Measure	Description	Benefit
Ventilation	Use of natural ventilation to common areas is under consideration.	Reduce energy usage costs of ventilation systems and associated maintenance/upgrade costs.
Security	The scheme is designed to incorporate principals of passive surveillance to deter antisocial behaviour. Allowance made for inclusion of CCTV monitoring details and secure bicycle stands for apartment blocks.	Helps to reduce potential security/ management cost
Amenity Space	Provision of public and communal open space.	Encourages community and social interaction among residents.
Private Open Space	Provision of balconies and openable windows, provides access to the outdoors and allows individuals to clean windows themselves.	Facilitates interaction with outdoors. Reduces the cost and reliance on 3rd party contractors for cleaning & maintenance.

3.4 MATERIAL SPECIFICATION

The following Materials shall be applied, please refer to item 2.2 above, last paragraph.

Measure	Description	Benefit
Design & Material Selection	Materials selected and chosen with due consideration to their durability, design life and maintenance requirements. Consideration given to Buildings Regulations, with particular reference to BS 7543:2015 'Guide to Durability of Buildings and Building Elements, Products and Components'. Consideration given where possible to use of recycled materials and those awarded an Environmental Products Declaration.	Longevity, durability. Minimises ongoing maintenance and replacements requirement.
Building Envelope	The main façade is primarily of buff brick and light grey render to the various building envelopes. Bike and bin stores will be by means of marine grade perforated sheet metal.	These traditional materials will require minimal on-going maintenance and have a longer life-cycle expectancy.
External Windows & Doors	Use of factory finished Aluminium windows and doors is to be applied to the development.	Requires little or no maintenance aside from regular housekeeping.
Balconies & Railings	Use of Stainless steel balconies & railings will be applied to the development	Requires little or no maintenance aside from regular house-keeping.
Roofs, Sloped	House shall be means of Natural Slates.	These traditional materials will require minimal on-going maintenance and have a longer life-cycle expectancy.
Roofs, Flat	Flat roof shall drain to other on site SUDS compatible areas as per Ratoath Development Plan, current edition and County Development Plan section 6.10.1	Reduces risk of major flood events

Measure	Description	Benefit
Electric Car Charging Points	Design includes for ducting to cater for designated electric car charging points. Charging to be provided from a local landlord distribution board. System would operate under management of the Operating Management Company and via use of charge point access card. As per County Development Plan section 5.7.5	Provides option for residents to move to greener, more cost efficient modes of transport.
Mechanical Demand Controlled Ventilation	Consideration given to use of mechanical ventilation for residential units by way of Demand Controlled Ventilation	Improved air quality and reduced space heating costs.
Low Energy LED Lighting	To be used in residential units and landlord areas.	Lower energy consumption, leading to lower costs and lower carbon emissions.
Condensing Boilers	Not considered, for the following reasons, The Climate Action Plan 2019 and Interim Climate Actions 2021 include actions to improve Energy Efficiency in Buildings has directed that Oil boilers are banned in new homes from 2022 and gas boilers from 2025.	Fossil Fuel and the associated carbon emissions are to be phased out
Exhaust Air Heat Pump	Consideration given to use as they can provide up to 100% of the heating requirements of a dwelling. Can also work in conjunction with underfloor heating	Reduced energy consumption and running costs. Sustainable energy source.
PV Solar Panels	PV Panels convert energy in sunlight into electrical power which can be used in the home. May not be practical to install for each individual residential unit but consideration given to PV electrical power generation for public common areas.	Reduced energy consumption and running/service charge costs.

3.5 LANDSCAPE

The following highlights the measures applied to landscaping of the development.

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
Green Roofs	Use of green roofs and traditional roof coverings with robust and proven detailing to roof elements.	Attenuation reduces the burden on vulnerable rainwater goods, resulting in fewer elements that could require replacement or repair.
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 with 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.

3.6 WASTE MANAGEMENT

The following measures relate to control of development waste and the integration with existing local waste handling streams

Measure	Description	Benefit
Construction and Demolition Waste Management Plan	Details regarding Construction and Demolition Waste Management Plan prepared by OCSC Ltd.	The Construction and Demolition Waste Management Plan demonstrates how the scheme has been designed to comply with best practice.
Operational Waste Management Plan	The application is accompanied by an Operational Waste Management Plan, refer to document issue sheet.	The report demonstrates how the scheme has been designed to comply with best practice.
Storage of Non-Recyclable Waste and Recyclable Household Waste	Residential waste storage allows for a weekly (seven day) storage capacity for MDR, food, glass and residual (i.e. nonrecyclable). Residential bins will be provided within dedicated storage rooms within the core of each residential block.	Easily accessible by all residents and minimises potential littering of the scheme
	Domestic waste management strategy: Grey, Brown, Green and or Blue bin distinction. Competitive tender for waste management collection.	Helps reduce potential waste charges.
Composting	Organic waste bins to be provided throughout.	Helps reduce potential waste charges.
Litter	The MUD agency shall undertake litter collection	This shall the development is kept in a litter free and reduce unwanted plastic pollution

3.7 MANAGEMENT

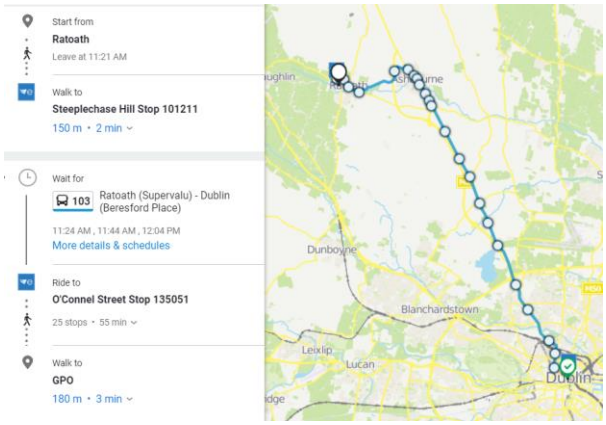
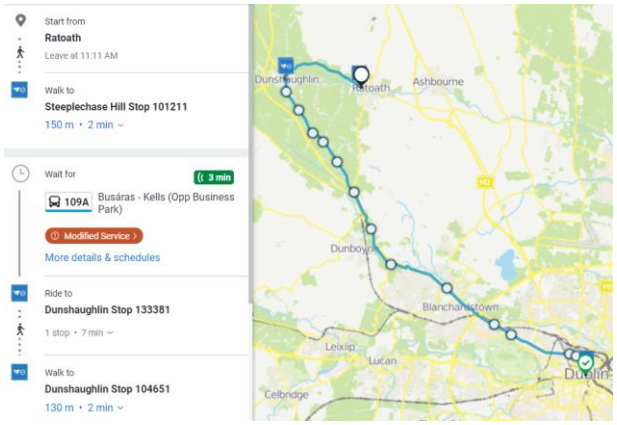
Consideration has been given to the ensuring the homeowners have a clear understanding of their property

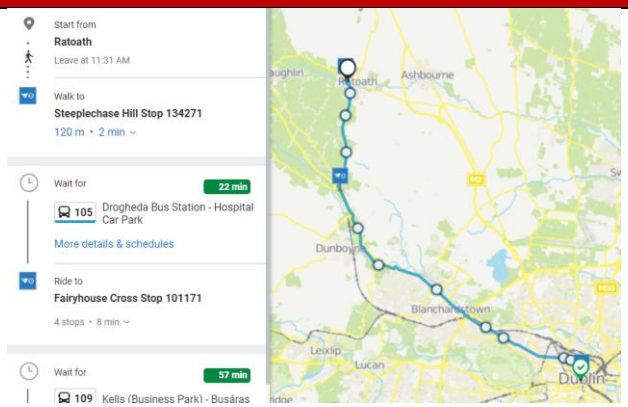
Measure	Description	Benefit
Home User Guide	Once a purchaser completes their sale, a homeowner box will be provided which will include: **Homeowner manual** – this will provide important information for the purchaser on details of their new property. It typically includes details of the property such 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.

Measure	Description	Benefit
Commercial Records	Under the MUD Act the Building safety file shall be handed to the MUD agency for there action in maintaining the building and its systems	This shall ensure that all systems in the building are in working and well maintained order

3.8 TRANSPORT

The following highlights the transport links available to the development.

Measure	Description	Benefit
Access to Public Transport (Bus Services)	Ratoath is currently serviced by more than 80 out bound and 80 incoming bus arrivals and departures by the following operators, • Ashbourne Connect to IFSC, Central Dublin, South City Dublin, • Bus Eireann 103, 105, 109A (Airport-DCU), M3 Parkway, Irish Rail Train Station is approximately 9.4km, 11 minute drive to the park and ride facility from Ratoath village   105 links Ratoath Village to Parkway Train Station	The availability, proximity and ease of access to public transport services contributes to reducing the reliance on the private motor vehicle for all journey types.

Measure	Description	Benefit
		
Greenway	A green way is to be provided running from Ratoath village which is accessible by bicycle or electric bicycle, refer to Architects Design statement for further information.	Cycle to work schemes allow for purchase of electric bikes to facilitate no car travel
Permeable Connections	Provision and subsequent maintenance of dedicated pedestrian and cycle infrastructure along the proposed links as per Architects Design Statement. Permeable connections through the blocks to connect to the wider network of pedestrian and cycle infrastructure.	Ensure the long-term attractiveness of walking and cycling to a range of local education, retail and community facilities and services.
Bicycle Storage	The provision of high quality secure and sheltered bicycle parking facilities, for both short term and long-term parking requirements.	Accommodates the uptake of cycling and reducing the reliance on the private motor vehicle.
E-car Facilities	Ducting will be provided from a local landlord distribution board to designated E-car charging car park spaces.	To accommodate the growing demand for E-car which assist in de-carbonising society and reducing oil dependency.

3.9 EV CAR CHARGING

Section / Policy	Commentary pertaining to proposed development
11.11.2 EV Charging Points The Climate Action Plan, 2019 acknowledges that the pricing structure for EV vehicles is a major factor in consumers decision making. However the Plan also acknowledges the importance of 'ensuring the EV Charging network underpins public confidence.'19 The Council will encourage the provision of EV charging points in all developments for future proofing. **DM OBJ 166** All car parks shall include the provision of necessary wiring and ducting to be ; capable of accommodating future Electric Vehicle charging points, at a rate of 10% of total space numbers. **DM OBJ 167** In any car park in excess of 20 spaces where public access is available, one fully functional charging point for Electric Vehicles shall be provided in accordance with IEC 61851 Standard for Electric Vehicle Conductive Charging Systems.	Each House with own parking to be provided with EV Charging All Charging infrastructure to Part L current edition. For Maisonettes and Apartments 1 in 10 of car parking spaces shall be provided with car chargers, 3.7kw in size. In Large Car Parking areas over 20 car spaces and subject to analysis by ESB Networks etc. will be provided with or provision for future fast charging. These chargers are commercial in nature and exceed ESBN guidelines for domestic levels of connection Note that latest generation of chargers require 350kw AC to be supplied as fast as the vehicle

can accept i.e. 920kw per full hour or empty to full 77kw battery charge in 18mins at 800Volts DC (Kia EV6 for example)

- In summary, Charging points will be provided such that
- 1nr Charger per Dwelling with curtilage parking
- Community charger (pay as you go) to apartments and at the rated of ducted provision to the remaining development as per Part L:2021 (1 in 10 spaces)
- Masionettes and other dwellings will be provided with community chargers 22kw in size, pay as you go where curtilage parking is not provided

Ducting will be provided for all site car parking in accordance with Part L 2021 section 1.4.6.

APPENDIX A:

The following is a sample BIF

The BIF table below illustrates what would be incorporated for the calculation of a Sinking Fund.

SAMPLE BUILDING INVESTMENT FUND (SINKING FUND) CALCULATIONS

Reference	Element	Life Expectancy years	Amount €
1.00	**Roofs**		
1.01	Replacement felt roof covering incl. insulation to main roofs/ overhaul to green roofs.	18	
1.02	Replacement parapet details	18	
1.03	Replacement/ repairs to facias	18	
1.04	Replace roof access hatches	25	
1.05	Specialist Roof Systems - Fall arrest	25	
1.06	Overhaul waterproofing details to penthouse paved areas	12	
2.00	**Elevations**		
2.01	Recoat metal panels to penthouse apartments	25	
2.02	Minor repairs and preparation for decorations of rendered areas	18	
2.03	Replace exit/ entrance doors	25	
2.04	Replace Rainwater goods	25	
2.05	Recoat powder coated Finishes to balconies / Grills to Basement vents	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 nosing's	12	
3.08	Replace ceramic floors tiles Entrance lobbies	20	
3.09	Fixed Furniture & Equipment - Provisional Sum	18	
3.10	Letter boxes	10	
4.00	**Car Parking**		
4.01	Repaint parking spaces & Numbering	7	
4.02	Replace Bike stands	25	
4.03	Replace access control at entrance & core entrances	12	
5.00	**M&E Services**		

Reference	Element	Life Expectancy years	Amount €
5.01	General - Internal re-lamping	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	15	
5.05	Replace manual break glass units/ disabled refuge call points	15	
5.06	Replace Fire alarm panel	15	
5.07	Replace lift car and controls	15	
5.08	Replace AOV's	25	
5.09	Replace security access control installation	15	
5.10	Sump pumps replacement	15	
5.11	External Mains Water connection	20	
5.12	Electrical Mains and Sub Mains distribution	20	
5.13	Emergency Lighting	15	
5.14	Overhaul and/or replace Waste Pipes, Stacks & Vents	20	
5.15	Per Block Water Booster Pumps and Tanks	15	
6.00	Exterior		
6.01	External boundary treatments - Recoat powder coated Finishes to railings	12	
6.02	Bin store, cycle store and plant - redecoration	6	
6.03	15 year cutback and thinning of trees	15	
6.04	Replace CCTV	12	
6.05	External handrails and balustrades	18	
6.06	Replace external signage	18	

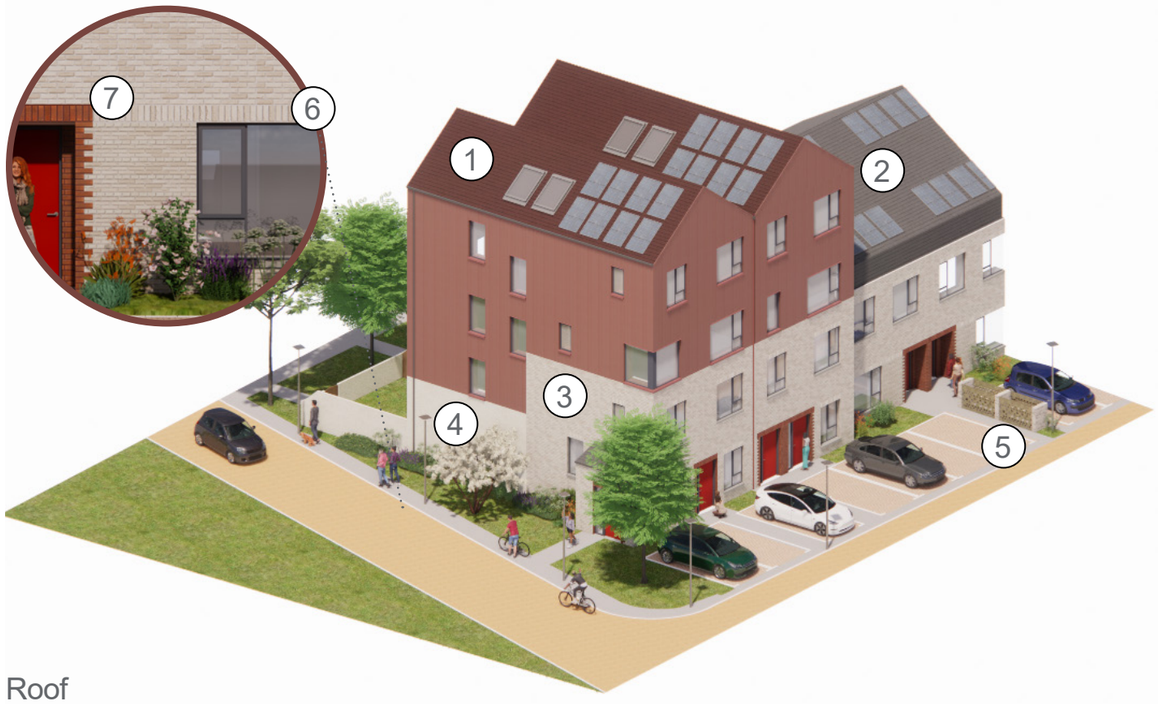
Note: Specification to be finalized at Detail Design Stage.

Note: Technology changes to be reflected by MUD Agency

APPENDIX 2 – SAMPLE MATERIAL

Refer to the Architects Report for a full list and description of materials proposed to be employed in the development. Materials Palette extracts from the Architects report is indicated below.

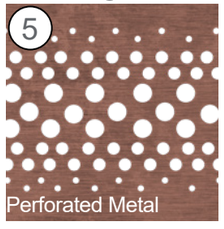
Material Palette A

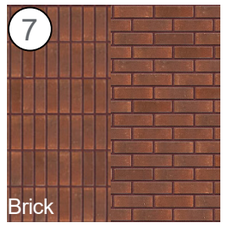


Roof

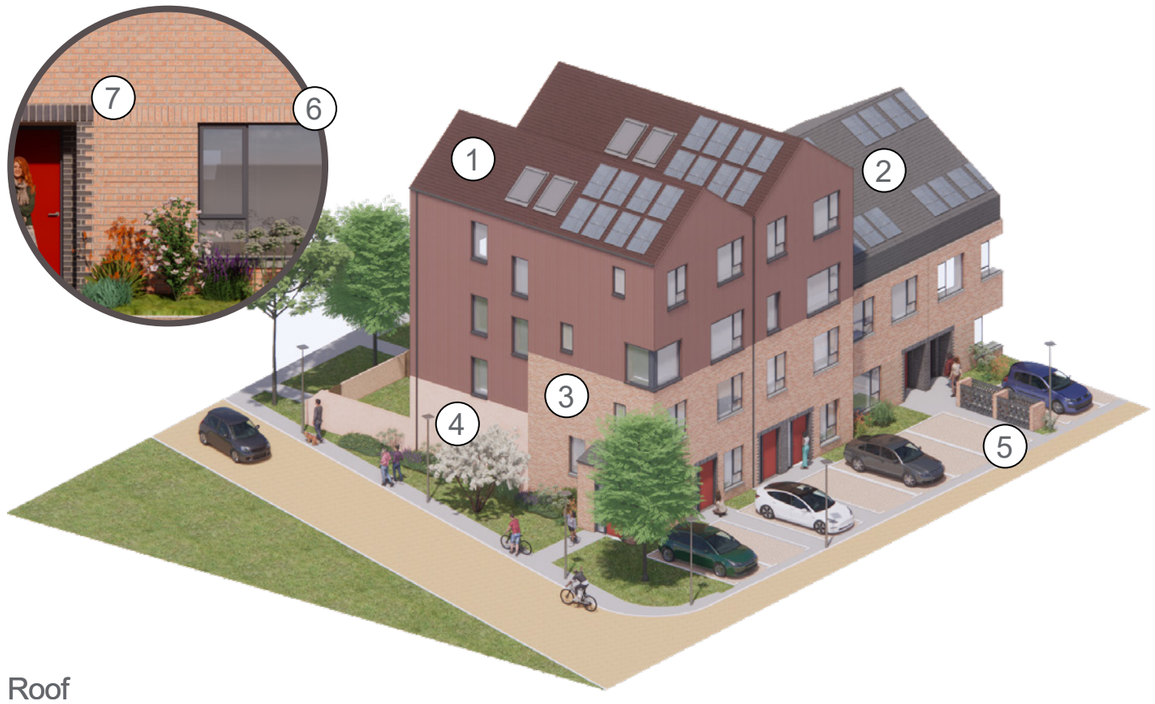
Walls

Detailing



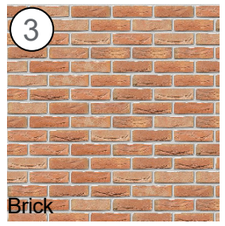


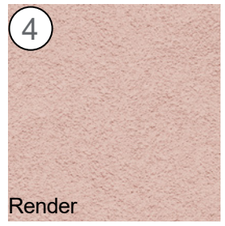
Material Palette B



Roof

Walls





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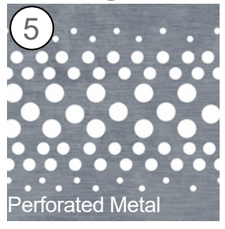
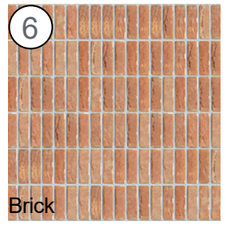
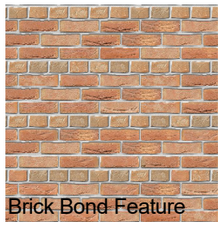
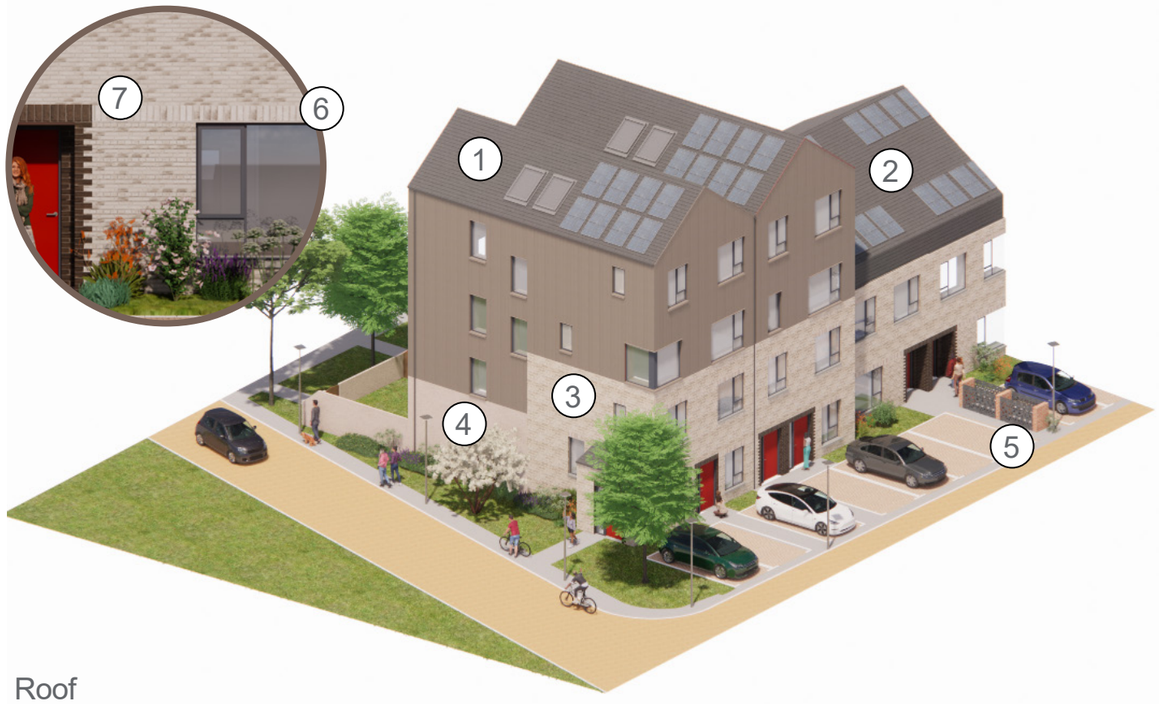






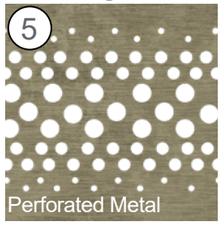
Material Palette C



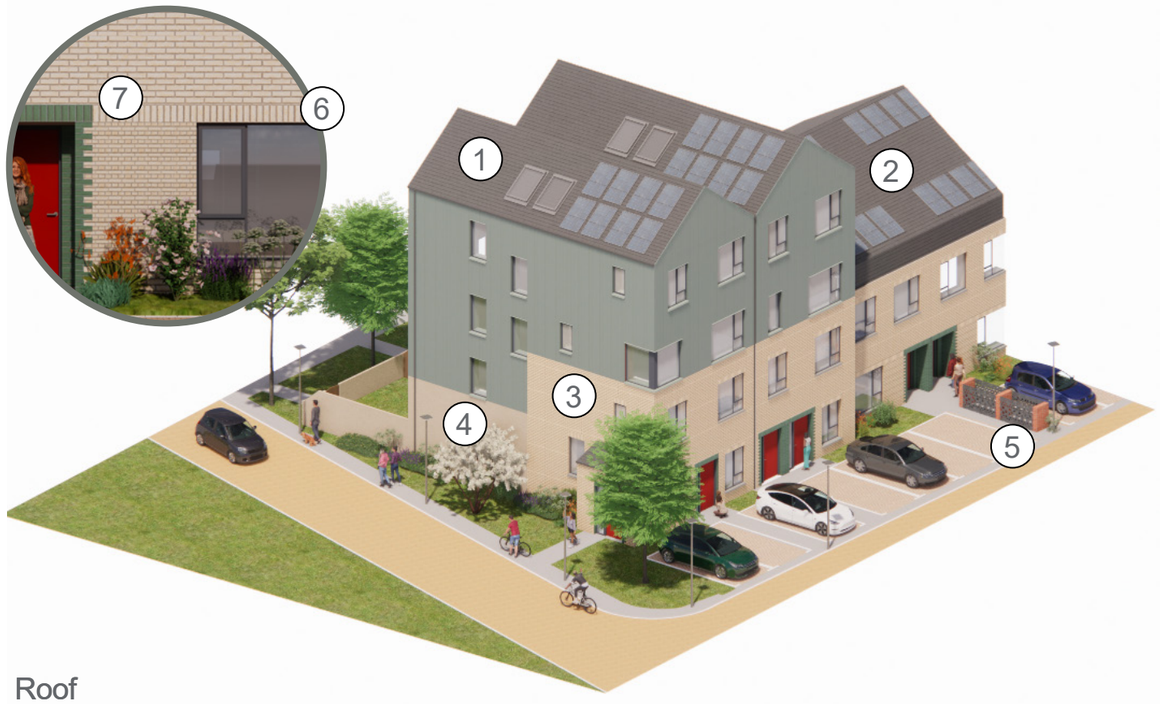
Roof

Walls

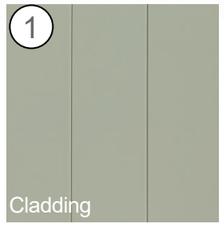
Detailing



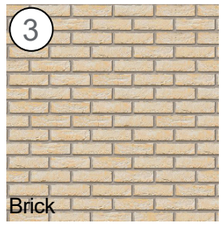
Material Palette D



Roof



Walls



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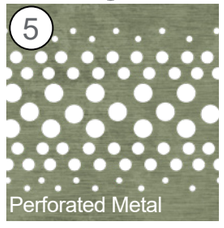
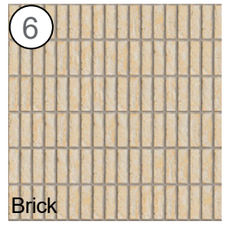
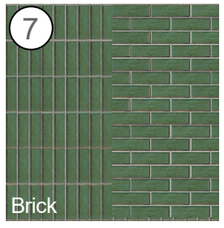
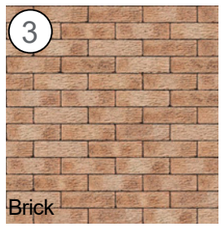






Apartment Building

Walls



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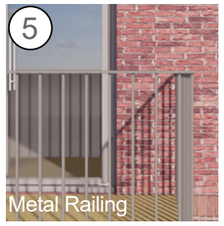

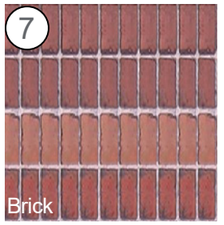

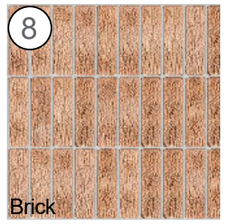

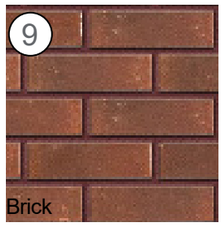

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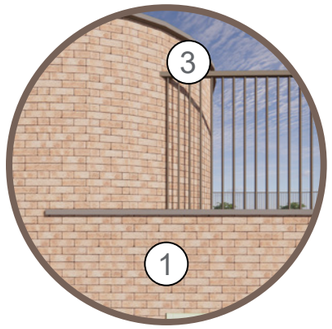

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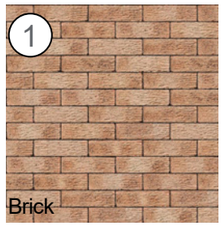

Detailing