

JV TIERNEY & CO

MECHANICAL ELECTRICAL & SUSTAINABLE ENGINEERS

SUSTAINABILITY/ENERGY REPORT

PLANNING STAGE

CLAREMONT DEVELOPMENT HOWTH

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**SUSTAINABILITY/ENERGY STATEMENT
CLAREMONT DEVELOPMENT
HOWTH, COUNTY DUBLIN**

PLANNING STAGE

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1. Introduction

The proposed development at Claremont will consist of;

The proposed development will occur at a site bounded to the south by the Howth Road, to the east by a private dwelling, to the north by the DART line, and to the west by Local Authority lands. The site incorporates the former Techrete manufacturing facility, the former Beshoff's Motors showroom, and the former Howth Garden Centre.

The proposed development will include the demolition of all structures on site (c.8,162sqm GFA) and excavation of a basement. The proposed development comprises of the provision of a mixed use development of residential, retail/restaurant/cafe uses and a creche in 4 no. blocks (A to D), over part basement. Blocks A, B, C and D with a height up to a maximum of seven storeys of apartments over lower ground floor and basement car parking levels (a total of eight storeys over basement level). The residential component will consist of 512 no. residential units. The proposed development includes the provision of two vehicular entrances on to Howth Road, excavation of basement to provide for car parking, plant, waste storage and ancillary use. Additional car parking spaces shall be provided at lower ground floor level. A total of 439 no. car parking spaces and 1,335 no. bicycle parking spaces, including 49 no. bicycle spaces to cater for the retail units and creche shall be provided. One vehicular access is located at Block A, serving car parking spaces. The second is at Block C, providing access to the basement, residential and retail parking, and a service area for the retail units. A service route will be provided along part of the northern perimeter of the site with access from the western end of the site at a junction with Howth Road and at the main vehicular entrance at Block C;

A publicly accessible walkway/cycleway to the north of the site shall be provided at podium level. A civic plaza will be provided between Blocks D and C, and a landscaped park to the west of Block A. A channel to the sea for the Bloody Stream with associated riparian strip shall be incorporated as a feature within a designed open space between Blocks A and B. Communal gardens will be provided for Blocks A, B and C;

The residential component consists of 512 no. residential units, which includes 4 no. studio, 222 no. one bed, 276 no. two bed, 10 no. three bed apartments, and communal facilities of 708 sqm. Ground floor units onto the Howth Road will have own door access. The units will be served by balconies or terraces on all elevations;

Block A, with a maximum height of seven storeys of apartments over lower ground level car park (a total of eight storeys), will provide for 234 residential units, with residents' amenities to include a gym, residents' lounge, residents' support office, and 2 no. residents' multi-purpose rooms. Block B, with



a maximum height of seven storeys of apartments over lower ground floor and basement car park (a total of eight storeys over basement), shall provide for 154 no. units, residents' lounge, residents' multi-purpose room, and creche of 236 sqm with outdoor play area. Own door access will be provided at ground floor. Block C, with a maximum height of seven storeys over basement car parking (a total of seven storeys) will provide for 83 no. residential units in two wings over a retail unit and Block D, with a maximum of 6 storeys over basement, shall provide for 41 no. residential units over retail units; The commercial component in Blocks C and D consists of 4 no. units with 2,637 sqm gross floor area. In Block C, it consists of a 1,705 sqm anchor unit, accessed from the civic plaza. In Block D, it consists of a restaurant (243 sqm) and retail unit (603 sqm) and café (86 sqm). The restaurant and retail units are accessed from Howth Road, and the café is accessed from the upper level of the civic plaza.

The proposed development includes the provision of public and communal open space, green roofs, landscaping, boundary treatments, set down locations, substations, meter rooms, waste management and all ancillary site works, including upgrading of the public paths along Howth Road and relocation of bus stop in new setback with a bus shelter. Two set down areas are provided at either end of the site;

The gross floor area of the proposed development is 48,252 sqm (excluding enclosed car parking) on a site of 2.68 ha.

The strategy to sustainable design at the Claremont development site will be to use robust, passive, cost effective measures to create an efficient and healthy environment within the planned apartment spaces. The development provides an opportunity to create environmentally sound and energy efficient apartments and commercial spaces by using an integrated approach to design, planning, construction and operation.

Sustainable development promotes resource conservation of our limited natural resources. The design strategies employed will include a whole life cycle approach to management and planning of the development, energy efficiency with specific focus on reducing the carbon footprint, improving the environmental quality of the building spaces, material selection and use, waste management, water management and conservation and enhancing the ecological value of the site.

The development is being designed to achieve 'A Rated' BER's (Building Energy Rating) for the apartments.

There are many significant drivers for sustainable design:-

- The increasing cost required to provide services such as energy and water.



- Stricter energy targets set under the Building Regulations now and into the future by designing spaces to be compliant with the new NZEB standards.
- Objective to take account of the impacts of climate change.
- The desire to provide energy efficient building development to demonstrate energy awareness and efficiency of use.
- Fingal County Development Plan 2017-2023 to reduce carbon emissions in line with Council objective En04.

This sustainable and energy report is submitted to demonstrate that the proposed development will achieve a very high level of environmental and energy efficiency and will meet the objectives of the Fingal County Development Plan 2017-2023.



2. Energy Strategy Approach

In developing the vision for the ‘Sustainability/Energy Strategy’ for the Claremont development, the incorporation of sustainable strategies into the project deliverables has encouraged the commitment to sustainable design at a very early stage with the Client and Design Team to ensure a ‘best in class’ development. This approach seeks to ensure that the development meets the principles of the Government’s ‘National Climate Change Policy’, Fingal County Development Plan (2017-2023) energy objectives (including EN 09) with regard to Climate Change and Renewable Energy and that it exceeds the requirements of the Building Regulations Part L/NZEB and maximises the reduction in Carbon Dioxide (CO₂) emissions thus demonstrating the Client’s commitment to Climate Change.

At the core of the design strategies three key elements have been incorporated into the design namely:

- I. The building is designed to be compliant with the NZEB standard with due regard to the *DECLG ‘Towards nearly Zero Energy Buildings in Ireland - Planning for 2020 and Beyond’* document.
- II. Part L 2019 standards for Dwellings to incorporate the requirements of the NZEB standard.
- III. The achievement of ‘A Rated’ BER’s for the apartments.

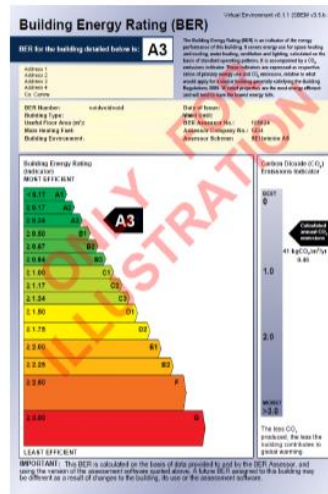
thus, ensuring that the buildings will meet the requirements as set out by Fingal County Council in their development plan.

The sustainable strategy will seek to incorporate appropriate and effective economic and environmental measures. In this respect, consideration will be given to the following:-

- Development of a flexible design to enhance each apartment’s longevity.
- Targeting natural daylight factors that meet CIBSE recommendations. Good natural daylight creates a positive living environment and contributes to the well-being of the occupants. The provision of high-performance glazing on the elevations which maximises the use of natural daylight will enhance the visual comfort of the occupants. The high-performance glazing will also ensure that the thermal performance of the apartment is not compromised, while allowing the building occupants to enjoy the benefit of the glazed views.
- Façade studies in conjunction with the Architect using computer modelling techniques to enhance the daylight factors, ventilation and solar benefits specific to the Claremont site thus maximising the air quality and daylight within the apartment buildings.
- The target for the development is to achieve an **“A” Building Energy Rating (BER)** for the apartments. This will demonstrate that the apartments have been designed to ensure energy



efficiency and provide the owner/user with a degree of certainty over their energy and carbon footprint.



- Maximising the use of passive design measures to take advantage of the site constraints/orientation including using high performing window elements, use of enhanced fabric u-values in excess of Part L coupled with the delivery of an enhanced air permeability rate. These measures are critical to improving and meeting the low carbon and energy efficiency targets outlined above.
- The design of energy efficient M&E systems and plant that are high efficiency and registered on the SEAI Triple E register of products - Heat Pumps, Lighting (LED efficiency), etc. that will minimise the consumption of energy and maximise the air quality within the buildings:
 - Efficient use of natural light to offset the use of artificial light.
 - Use of high efficiency light fittings, LED lights, etc. for dimming, presence/ absence detection.
 - Lighting Management Plan that uses automatic presence/absence detection in the Landlord spaces.
 - High efficiency heating plant including a centralised plant space supported by Heat Pumps/ CHP to contribute to meeting the renewable energy requirements of the Part L Regulations.
- Use of renewable technologies to meet the NZEB standard such as Heat Pumps/CHP plant based on optimum technical and economic considerations which will off-set Primary Energy



consumption and reduce the carbon footprint in line with the Fingal County Development Plan 2017-2023.

- Use of Dynamic Thermal and Energy Simulation techniques to confirm a low energy and carbon footprint design for the apartment buildings. The design incorporates significant areas that will operate under natural ventilation principles and will be checked for compliance with Part L of the Building Regulations for the impact of overheating. Additionally, the spaces will also be checked for the impact of Climate Change using the 2020/2050 CIBSE accredited weather file and the spaces will be confirmed to meet the compliance criteria.
- Extend the sustainable approach from the Building to the Site throughout the construction and handover process.
- Reduce Reuse and Recycle throughout the design, construction and operational phases of the development to ensure that the project maximises the recycling and reuse of materials while reducing the quantum of waste diverted to landfill.
- An integrated Water Management and Conservation approach that incorporates the use of low water consumption equipment to ensure the minimal use of potable water, efficient sanitary appliances (e.g. low water WC cisterns & taps).
- Encouraging the use of public transport by using the principles of environmental assessment methodologies to reduce the reliance on cars and encourage a shift to more carbon lowering modes of transport.
- Whole life cycle approach to the selection of materials used in the building with specific regard to the impact on the carbon footprint.



3. Conclusion

The additional investment required to deliver an energy efficient and climate change adaptive design in line with the Fingal County Development Plan 2017-2023 will add benefit to the sustainability of the Claremont development at Howth and holistically forms part of an industry wide approach to reduce carbon consumption and emissions and to comply with building regulations. These benefits ensure less energy, less services and therefore less resources are needed to operate and will make the buildings more energy and environmentally efficient and will ensure that it is a more sustainable development into the future.

This Report was prepared by:



Signed:

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Date: 22-11-2019

