

Myrtle Square and Convent Lane Greening (Ref: 2471)

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Climate Integration Report	(ii) Design - Detail	3 rd May 2022	A

1. Introduction:

Climate change action is embedded and integrated into the entire project and is being further considered in the tender and construction. It is hoped that this project will be a catalyst for the businesses and residents to develop further climate led projects. The overall vision is for Dun Laoghaire to become a low carbon, climate resilient and sustainable town with greening at its core.

2. Alignment with National Policy on Climate Action:

The Climate Action Plan 2021 sets a roadmap for taking decisive action to halve emissions by 2030 and reach net zero no later than 2050. This will be through various means including electricity, enterprise, buildings, transport, agriculture, land use, circular economy. A just transition and citizen engagement is a key aspect of the plan as is adaption.

The science is indisputable and the effects of climate change are already clear. Extreme weather events are becoming more frequent with devastating consequences. Climate change is here and is already impacting our world, with risks to global security including food supplies. Ireland is also at risk of more frequent storms and flooding.

The Myrtle Square & Convent Lane Greening project will fundamentally alter the streetscape, greening and softening key areas, giving priority to pedestrians over car traffic, encouraging biodiversity and creating a new civic space to allow for relaxation, play and community events in the centre of Dún Laoghaire Town. The proposal for place-making through greening will help to stimulate increased demand for residential development. This will be high density and integrated with commercial and office use.

Dún Laoghaire Town has the existing infrastructure and spatial pattern that lends itself to the development of sustainable communities as envisaged in the National Planning Framework and in the National Climate Action Plan. In this regard, it is served with good public transport that includes DART, strong bus network and Aircoach. The Town's urban form and density imbue it with a sustainable urban character with the potential for place-related measures to reduce energy demand and emissions.

3. Alignment with Local Policy on Climate Action:

DLRCC's existing Climate Change Action Plan 2019-2024 sets out a range of climate-related policies that the Council is implementing, including energy and resource reduction, flood resilience, and transport. Nature-based solutions are a key area for action. The Project aligns with the Council's broader strategy to increase vegetative cover and add quality public open space in the built environment. New urban

forests and transforming grass lands and roadside verges to meadows significantly increase biodiversity and local capacity for carbon capture and cooling of the air.

The Project will implement nature-based solutions by expanding the urban tree canopy and increasing green infrastructure and sustainable urban drainage. These are critical for local climate change mitigation and adaptation as emphasised in the Plan. These actions will help to prevent flooding and erosion, regulate temperatures, absorb carbon, and filter pollutants from the air. By delivering this place-making through greening with a range of amenities, the project will not only increase green infrastructure in a densely built-up environment but will also add value by increasing recreational amenities for residents and employees on the doorstep of their homes and workplaces.

The DLR Climate Change Action Plan 2019-2024 identifies the main climate risks facing Dún Laoghaire-Rathdown and includes both the Council's and the current levels of greenhouse gas emissions across the Council's administrative area. In response to this baseline, the Plan put forward a range of actions that are ongoing or planned within the Council, under five key areas - Energy and Buildings, Transport, Flood Resilience, Nature-Based Solutions and Resource Management. This project will fully align with that plan and incorporate as many actions/initiatives as possible. This is summarised under the five action areas as follows:

Energy & Buildings:

- In the demolition process at Myrtle Square, the re-use and recycling of materials which would normally go to landfill will be strongly considered.
- Robust and responsibly sourced materials will be used to reduce the carbon footprint.
- LED lighting, smart lighting and smart metering will be used throughout the project areas.

Transport:

- 20 on-street car-parking spaces will be removed supporting a target to reduce the prevalence of private cars and replaced with greening and play elements.
- A traffic through-route will be removed, emphasising the priority for pedestrians and cyclists to use the space, improving noise and air quality and allowing space to congregate.
- Restricting delivery times to establish a safe, enjoyable public space while Convent Lane will provide a safer route to the Dominican Convent School.
- Ample bike parking stands will be provided and will include capacity for bike-sharing schemes.
- The project will align with the Design Manual for Urban Roads & Streets (DMURS) to improve safety and place-making.
- Air quality and noise monitors have been in place for some time in Myrtle Square and this data will be compared to the measured data once the works are complete for some time.

Flood Resilience:

- These projects will manage all the rainfall runoff and use the rainfall to add to the greening through rain gardens and other SUDS measures attenuating 40% of all rainfall events.

- Rainwater that does make it to the drainage system will be filtered through foliage, roots and soil.

Nature Based Solutions:

- Biodiversity and ecosystems will be enhanced through greening and pollinator-friendly planting schemes into the heart of the town.
- Tree cover will be maximised through street trees and groves to create an urban forest with an emphasis on native tree species. There are a total of 66 trees being planted throughout the scheme which will provide the following impacts; carbon sequestration, filtering the air, local temperature regulation and the support of wildlife.
- The I-tree system was used to calculate the scientific benefits of the trees within the project. Some of the main benefits include:
 - 7,053kg of carbon sequestered in a 30-year period
 - 2.3kg of microscopic particulate pollution removed every year
 - 725kg of oxygen produced every year
 - 10.5m³ of rainfall run off intercepted in the leaf canopy per year
- Integrated SUDS will eliminate the requirement for irrigation systems.
- The heat island effect will be measured through before and after monitors which will provide an accurate figure of the impact of the greening on this urban environment.

Resource Management:

- The project team are committed to interrogating materials and construction methods to reduce the carbon footprint during the build process.
- Climate change innovations will be used in the Award Criteria when assessing contractor bids for works.
- The project will provide real time information relating to climate change using smart technology to inform, educate and inspire the town's population.
- A re-fillable drinking water font will reduce single use plastics.
- Engagement with the local community will be part of a comprehensive place transformation where residents and businesses transition to more sustainable lifestyles including their choices of modes of transport and their active use and appreciation of a 'growing' natural environment in their locality.

Summary:

With this project, DLR seeks to make a meaningful impact to address the climate challenges facing people on a local and broader global level. It is the intention to create an urban environment within Dun Laoghaire that is a highly desirable destination. This will be achieved by placing nature centrally and by using nature-based solutions at every opportunity. Myrtle Square will be an exemplar of greening and nature in an urban setting and illustrate how such a green environment will be conducive to a healthy, enjoyable and desirable lifestyle.

As much as possible, the team have looked to push the environmental credentials of this project. This project is very timely as it has the potential to improve the economic, the overall quality and the public image of Dun Laoghaire Town. The project seeks to perpetuate and encourage other greening initiatives in the town by businesses, community & public as well as other DLR projects.