Dun Laoghaire Rathdown County Council

Proposed Urban Greening at Corrig Road, Sandyford

Infrastructure Design Report

(Planning Submission)

2511-DOB-XX-SI-RP-C-0001

February 2026

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Document Control

Document:	Infrastructure Design Report (Planning Submission)
Project:	Proposed Urban Greening at Corrig Road, Sandyford
Client:	Dun Laoghaire Rathdown County Council
Job Number:	DOBA2511
File Origin:	Z:\Projects\DOB&A Projets\2025 Projects\DOBA 2511 - DLRCC Sandyford Civic Park\08 Reports & Specifications\8.1 Reports\8.1.1 IDR

Document Checking:			
Author:	Alan Lambe	Signed:	

Issue	Date	Status	Issued to	Copies	Checked for Issue
S2.P01	19.12.2025	Issue 1	Client & Design Team	1E	
S2.P02	19.12.2025	Issue 2	Issued for Planning	1E	

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1 Introduction

Donnachadh O'Brien & Associates Consulting Engineers Ltd. (DOBA) have been instructed by Urban Agency, on behalf of Dun Laoghaire Rathdown County Council (DLRCC), to prepare an Infrastructure Design Report (IDR) to accompany a Part 8 planning application for a proposed Urban Greening project on lands at Corrig Road and Carmanhall Road, Sandyford Industrial Estate, Sandyford, Co. Dublin.

The IDR is structured as follows:

- **Section 2** summarises the attributes of the Existing Site,
- **Section 3** includes the Proposed Development Description,
- **Section 4** outlines the existing and proposed water supply infrastructure for the subject site,
- **Section 5** provides details on the existing and proposed roads infrastructure serving the subject site

2 Existing Site

The existing brownfield site, as illustrated in **Figure 1** below, contains 3 no. existing buildings and associated hardstanding areas and is bound to the south and east by existing commercial / industrial sites, to the west by Corrig Road and to the north by Carmanhall Road in the Sandyford Industrial Estate, Co. Dublin. The site topography generally slopes from south to north towards the Carmanhall Road from +89.00m at the south end of the application site to +84.50m along Carmanhall Road to the north. The existing site layout is indicated on the engineering drawings **C-0001**.

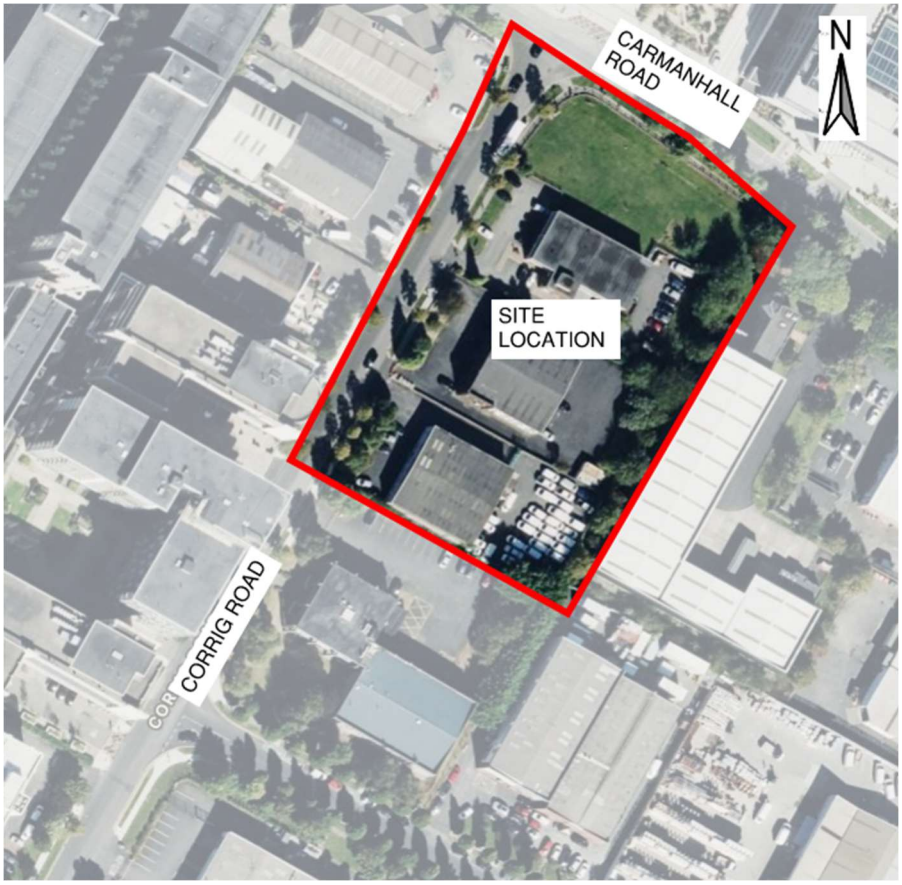

Figure 1 Existing Site Location (*Source: Irish Grid Reference Finder)*

3 Proposed Development Description

Dún Laoghaire-Rathdown County Council (DLR), in partnership with the Sandyford Business District, proposes the development of Sandyford Civic Park, a new 0.96-hectare civic and recreational urban park located at the corner of Corrig Road and Carmanhall Road, Sandyford, Dublin 18. The project responds to the identified need for high-quality public open space within Sandyford and supports the district's ongoing transformation from a traditional business park into a vibrant, mixed-use urban centre, as set out in the Sandyford Urban Framework Plan.

As part of the EU-funded IB-Green programme, the development integrates green-blue infrastructure, extensive planting, opportunities for sustainable drainage, and measures to mitigate urban heat stress. The project prioritises material reuse and circularity, with demolition arisings intended for reuse within the park where feasible.

The design for Sandyford Civic Park—being developed by Urban Agency (along with an extensive design team; Langan Consultant Engineers, Landscape QS, Malone Group, Donnachadh O'Brien Engineers, O'Herlihy Access Consultancy, Gordon White Associate Engineers) following extensive public and stakeholder engagement—combines a formal civic square for events and gatherings with a softer, biodiverse landscape for relaxation, play, and passive recreation. The scheme balances hard and soft landscaping, incorporates sculptural and artistic elements, and emphasises sustainability and climate resilience in accordance with DLR's Climate Action Plan.

The proposed development includes the following key elements:

- Demolition of Buildings No. 27 and No. 28, Corrig Road, with materials reused on-site where possible.
- Adaptation of Building No. 26, Corrig Road, into a covered open sports and recreation structure.
- A new amphitheatre in the north-western portion of the park, providing a partially covered community meeting and event space.
- A viewing tower integrated into the north-western corner of the park, designed to act as a visual landmark when viewed from Sandyford Central and Carmanhall Road, and to assist pedestrian orientation and wayfinding.
- A naturalistic forested edge along the eastern boundary, with dense planting transitioning to a more urban landscape character towards the west.

- A large central lawn area providing a flexible green space for informal recreation and community use.
- Reduction in the width of Corrig Road to calm traffic speeds, improve pedestrian safety, and enhance the setting of the park.
- Planted buffering along Corrig Road and Carmanhall Road, including the extension of the existing tree line along Carmanhall Road, to strengthen the green corridor, improve microclimate, and visually define the park edge.
- A play area catering for a range of age groups, offering inclusive and accessible play opportunities.
- A "play along the way" design strategy, incorporating informal play elements integrated throughout paths, seating, and landscape features.
- A comprehensive SuDS strategy, including swales and rainwater retention areas, designed to capture, attenuate, and integrate surface water into the landscape design.
- A new level crossing at the junction of Corrig Road and Carmanhall Road, improving pedestrian permeability, safety, and connectivity to the park.
- A lighting strategy focused on the park perimeter, with additional lighting provided to sports and recreation facilities, ensuring safety while minimising light spill and protecting biodiversity.
- High-quality paving, seating, accessibility measures, integrated lighting, and enhanced pedestrian connections throughout the park.

On completion, Sandyford Civic Park will function as a central civic and recreational space for workers, residents, and visitors, reinforcing local identity, encouraging social interaction, and demonstrating best-practice climate-responsive urban greening within a high-density urban district.

Figure 2 Proposed Development (Source: Urban Agency)

4 Water Supply

4.1 Existing Water Supply

A Ground Penetrating Radar (GPR) survey was commissioned for the proposed site, which identified the location of the existing water supply for the existing buildings on the site. 2 of the existing buildings and their associated existing water infrastructure are to be removed to facilitate the new development.

4.2 Proposed Water Supply

The proposed development includes the retention of one of the buildings for community use and a water fountain for drinking water. The existing firefighting hydrant and the existing water connection for the building will be retained to serve the new development. The proposed water demand will be a significant reduction from the current water demand.

A secondary water connection is required off the existing mains, facilitating the current structures on site to service the toilet block. The proposed connections will reuse the existing boundary boxes and will be agreed with Uisce Eireann as part of the connection application process.

The proposed toilet block comprises **two WC cubicles** and **one accessible WC facility**. The water consumption per public WC facility is estimated at **10 litres per flush**.

For the purpose of flow estimation, a usage rate of **10 flushes per hour per WC** has been assumed. Usage is based on a **12-hour operational period**, as the playground and associated facilities are not expected to be in use during nighttime hours.

Based on these assumptions, the estimated daily wastewater flow from the proposed toilet block is:

$$3 \text{ WCs} \times 10 \text{ flushes/hour} \times 10 \text{ litres/flush} \times 12 \text{ hours}$$
$$= 3{,}600 \text{ litres/day } (3.6 \text{ m}^3/\text{day})$$

Accordingly, the anticipated discharge from the facility is **3,600 litres per day (3.6 m³/day)**.

5 Wastewater Strategy

5.1 Existing Wastewater

A Ground Penetrating Radar (GPR) survey was commissioned for the proposed site, which identified the location of the existing wastewater pipes serving the existing buildings on the site. 2 of the existing buildings and their associated existing water infrastructure are to be removed to facilitate the new development.

5.2 Proposed Wastewater Drainage

It is proposed that the wastewater connection for the subject site will reuse that of the existing commercial buildings and will be agreed with Uisce Eireann during the connection application process.

The proposed toilet block comprises **two WC cubicles** and **one accessible WC facility**. The wastewater flow per public WC facility is estimated at **10 litres per flush**.

It is estimated that the WC facilities will be used approximately 10 times per hour, resulting in a total waste production of 3.6 m³ over a 12-hour period (equivalent to an average flow rate of 0.08 L/s and a peak flow rate of 0.5 L/s).

The total flow generated by the proposed development will represent only a fraction of the flow currently generated by the site in its existing commercial land use configuration.

6 Roads Infrastructure

6.1 Existing Infrastructure

The existing site, as illustrated in **Figure 3** below, is bound to the east by Corrig Road and to the north by Carmanhall Road. The existing Corrig Road is a 9m wide carriageway with a 1.5m wide grass verge and 1.8m wide footpath adjacent to the site. The existing Carmanhall Road is a 8m wide carriageway with a 3m grass verge and 2m footpath adjacent to the site.

The 3 no. existing buildings each have a dedicated vehicular access off Corrig Road.

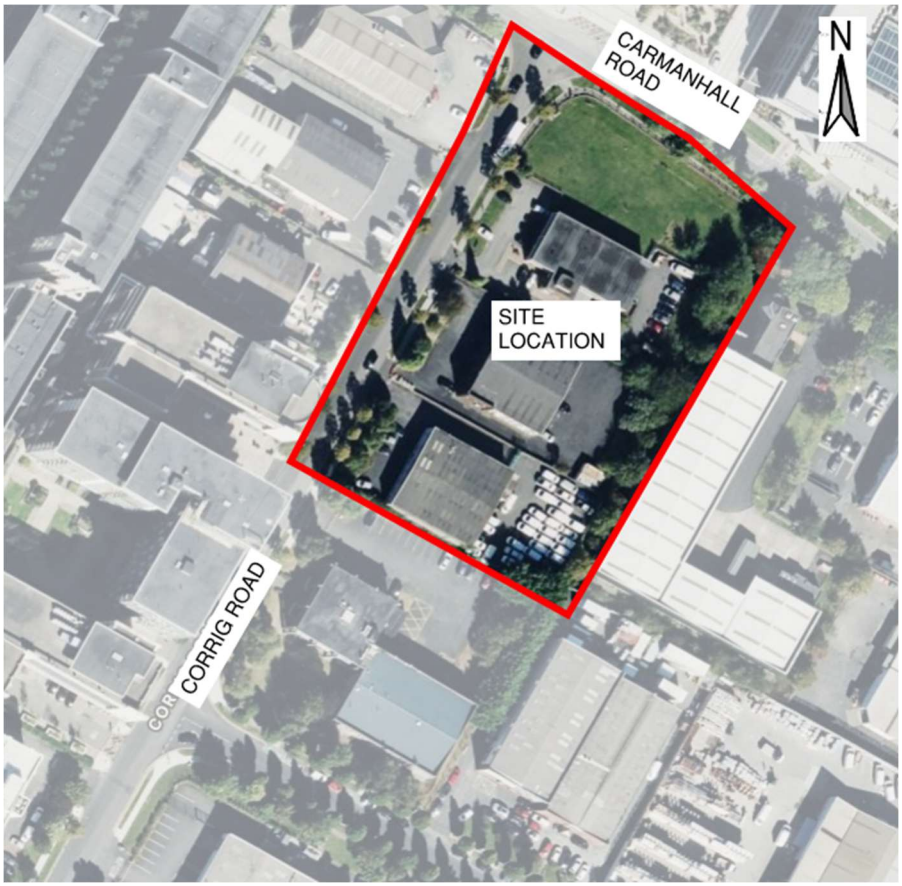

Figure 3 Existing Roads Infrastructure

6.2 Proposed Development

The proposed development of the lands will include the removal of 2 of the existing buildings and all of the existing vehicular entrances off Corrig Road. The width of Corrig Road is to be reduced as part of the proposed development and a new raised crossing is to be constructed at the junction between

Corrig Road and Carmanhall Road to prioritise future pedestrian movements across the existing junction towards the new park. Please refer to **DOBA drawing C-0800** for further details.

6.3 Swept Path Analysis

A number of swept path analysis exercises have been carried out on the proposed development and are described below.

6.3.1 Fire Tender / Emergency Services

The width of the proposed paths through the new park has been designed to facilitate an emergency response vehicle. A fire tender swept path analysis has been carried out along the proposed paths to ensure emergency services can access the building being retained as part of the proposed development. Please refer to **DOBA drawing series C-0700** for further details.

6.3.2 Neighbouring Properties

A swept path analysis has been carried out for the neighbouring entrances to confirm that an HGV can enter and exit the existing properties following a reduction in the width of Corrig Road. The swept path analysis was also included for refuse vehicles. Please refer to **DOBA drawing series C-0700** for further details.