

# Citywest Cemetery

## Landscape Architect's Report & Green Infrastructure Plan

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Landscape Architect's Report & Green Infrastructure Plan

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Landscape Report to be read in conjunction with the following Murray and Associates drawings:

1872_PL_P_00	Site Layout – Wider Context
1872_PL_P_01	Site Layout
1872_PL_P_01.1	Landscape detail plan – Ceremony building
1872_PL_P_01.2	Landscape detail plan – Car Parking 1
1872_PL_P_01.3	Landscape detail plan – Car Parking 2
1872_PL_P_01.4	Landscape detail plan – Aquatic Planting
1872_PL_P_02	Boundary Treatment Layout
1872_PL_P_03	Landscape Masterplan
1872_PL_P_04	Soft Landscape Plan
1872_PL_P_05	Hard Landscape Plan
1872_PL_S_01	Landscape Sections 1
1872_PL_S_02	Landscape Sections 2
1872_PL_S_03	Landscape Sections 3
1872_PL_E_01	Contiguous Elevations 1
1872_PL_E_02	Contiguous Elevations 2
1872_PL_E_03	Contiguous Elevations 3
1872_PL_D_01	Landscape Details
1872_TS_P_01	Tree Survey
1872_TS_P_02	Arboricultural Impact Plan, Tree Protection Plan
1872_LMMP	Landscape Maintenance and Management Plan
1872_LS	Landscape Specification
1872_AMS	Arboricultural Method Statement

## 1 LANDSCAPE DESIGN STATEMENT

### 1.1 Site Location

Citywest Cemetery is located outside the village of Saggart, on the southwestern periphery of Dublin, approximately 15 km from the city centre. The site is located approximately 850 metres from the Saggart luas station and 500 metres from the Citywest Hotel bus stop, both of these transportation links have connection to Dublin City Centre. The site is accessible by car through the national primary road N7 Naas Road and Garters Lane. The site boundaries are marked by the Citywest Convention Centre and a Hotel in the southwest and by the motorway to the north.

The area was previously part of a championship golf course which was developed in the 1990s on the Citywest Estate. The site is an important parkland site in the area and is defined by the parkland setting and the significant tree cover, which provides to the space a sense of separation from the constructed elements.

The course was designed with wide grass fairways and large stands of trees on gently graded mounds which form a visual break between the fairways. The trees on the site are predominantly Oak and Birch and these are some 30 years old at this point.



Figure 1 - Aerial of Site with boundary line shown in red

## 1.2 Landscape Planning Context

The site is currently zoned 'Open Space' in the 2022-2028 South Dublin County Development Plan. The Land-Use Zoning Objectives for Open Spaces are "To preserve and provide for open space and recreational amenities".



-  Objective OS To preserve and provide for open space and recreational amenities
-  Protect and Preserve Significant Views



Figure 2 – Extract of Land-Use Zoning Map from South County Dublin Development Plan 2022-2028

The following image is an extract from the "Land-Use Zoning Tables" that serve as guidance in relation to the development types and/or land uses:

Use Classes Related to Zoning Objective	
<b>Permitted in Principle</b>	Allotments, Community Centre, Cultural Use, Open Space, Recreational Facility, Sports Club/Facility.
<b>Open for Consideration</b>	Agriculture, Bed & Breakfast <sup>a</sup> , Camp Site, Car Park <sup>h</sup> , Cemetery <sup>e</sup> , Childcare Facilities, Crematorium, Education, Garden Centre, Guest House <sup>a</sup> , Home Based Economic Activities <sup>a</sup> , Hotel/Hostel, Housing for Older People, Outdoor Entertainment Park, Place of Worship <sup>a</sup> , Public Services, Recycling Facility, Residential, Restaurant/Café, Shop-Local, Stadium, Traveller Accommodation.
<b>Not Permitted</b>	Abattoir, Advertisements and Advertising Structures, Aerodrome/ Airfield, Betting Office, Boarding Kennels, Caravan Park-Residential, Concrete/Asphalt Plant in or adjacent to a Quarry, Conference Centre, Data Centre, Doctor/Dentist, Embassy, Enterprise Centre, Fuel Depot, Funeral Home, Health Centre, Heavy Vehicle Park, Hospital, Industry-Extractive, Industry-General, Industry- Light, Industry-Special, Live-Work Units, Motor Sales Outlet, Nightclub, Nursing Home, Office-Based Industry, Offices less than 100 sq.m, Offices 100 sq.m -1,000 sq.m, Offices over 1,000 sq.m, Off-Licence, Petrol Station, Primary Health Care Centre, Public House, Refuse Landfill/Tip, Refuse Transfer Station, Residential Institution, Retail Warehouse, Retirement Home, Rural Industry-Food, Science and Technology Based Enterprise, Scrap Yard, Service Garage, Shop-Major Sales Outlet, Shop Neighbourhood, Social Club, Transport Depot, Veterinary Surgery, Warehousing, Wholesale Outlet, Wind Farm, Work-Live Units.

<sup>a</sup> In existing premises

<sup>h</sup> For small-scale amenity or recreational purposes only

<sup>e</sup> If provided in the form of a lawn cemetery

Figure 3 – Zoning Objective of Open Space areas. To note, cemetery use is Open for Consideration under this zoning objective.

The Development Plan considers Green Spaces with a High level of Sensitivity the following:

- “Larger areas of parkland that function as both ecological refuge and green space for the urbanised lowlands. These can comprise former demesnes as in the case of Corkagh Demesne or Tymon Park or the green space associated with rivers such as the Dodder Valley Park.
- Key characteristics are variety of habitats, some include formal amenity space such as pitches and playgrounds, other spaces are more naturalistic and comprise a variety of habitats including water courses, ponds, woodlands.”

The area, being a former Golf course, can easily be inserted in the description above and so, the “Principles for Development” for Green spaces with High level of Sensitivity are the following:



- “Plan to enhance connections between areas of open space to former continuous networks of open space.
- In addition to enhancing ecological corridors and recreational experiences, such a plan would integrate fragmented developments.
- Consider the multi-functional potential of these spaces.
- Retention and enhancement of variety of habitats.
- Key component of green and blue infrastructure network frequently functions as a buffer for rivers.
- Opportunities to enhance wildlife and ecological value through appropriate planting and management informed by ecological surveys.
- Balance needs of informal and formal recreation.
- Lighting effects should be carefully considered and designed to avoid adverse effects on wildlife.”

LCT	Summary	Sensitivity
<p><b>Green Space</b></p>	<p>→ This refers specifically to the larger areas of parkland that function as both ecological refuge and green space for the urbanised lowlands. These can comprise former demesnes as in the case of Corkagh Demesne or Tymon Park or the green space associated with rivers such as the Dodder Valley Park.</p> <p>→ Key characteristics are variety of habitats, some include formal amenity space such as pitches and playgrounds, other spaces are more naturalistic and comprise a variety of habitats including water courses, ponds, woodlands.</p>	<p>High</p>
<p><b>Principles for Development</b></p> <p>→ Plan to enhance connections between areas of open space to former continuous networks of open space.</p> <p>→ In addition to enhancing ecological corridors and recreational experiences, such a plan would integrate fragmented developments.</p> <p>→ Consider the multi-functional potential of these spaces.</p> <p>→ Retention and enhancement of variety of habitats.</p> <p>→ Key component of green and blue infrastructure network frequently functions as a buffer for rivers.</p> <p>→ Opportunities to enhance wildlife and ecological value through appropriate planting and management informed by ecological surveys.</p> <p>→ Balance needs of informal and formal recreation.</p> <p>→ Lighting effects should be carefully considered and designed to avoid adverse effects on wildlife.</p>		

Along the northern edge of the site there are two areas of listed views. Presumably these are views from the N7 which the existing woodland screens. In any event there will be no material change to the views along this area as a result of the proposed development.

The proposed use as a woodland, natural and mixed cemetery will create an attractive natural landscape. The Cemetery will be managed by a private operator and will be open for visitors and for passive recreation by the wider community.

### 1.3 Site Description

The topography of the site is primarily gentle sloping throughout, with fairways which are somewhat recessed from the woodland areas that are settled on subtle mounds.

There are groups of mature trees that are mostly native tree species creating an established planted landscape area interspersed by open fields.

The site is primarily grassland with the boundaries comprised of hedgerows and treelines, see Tree Report for details.



*Figure 5 - Site Entrance through local road that connects the site from Naas Road to Garter Lane*



*Figure 6 – Fairway*



Figure 7 – Inside the woodland



Figure 8 – Transition between the woodland and grass areas



Figure 9 – Plantation woodland along the fairway

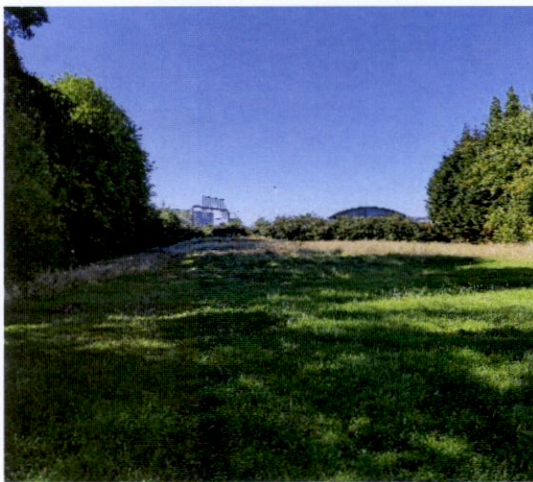


Figure 10 – View of existing structure in the northeast boundary (highway signs)



Figure 11 - View of existing structures in the western boundary (Residential)



Figure 12 – Mounding along the woodland



Figure 13 – Existing listed driveway

#### **1.4 Development Description**

The development will consist of a cemetery including: 8,047 No. traditional burial plots; Columbarium walls; 1 No. single storey reception building (214.7m<sup>2</sup> Gross Floor Area (GFA)) comprising a reception, 1 No. office, 1 No. reception store, WC, kitchenette with photovoltaic (PV) solar panels at roof level; and the provision of an ancillary maintenance shed, bin and battery storage structures.

The development includes a new vehicular access road from Garters lane, with 2 No. vehicular access points serving the proposed cemetery; 66 No. car parking spaces (23 No. spaces to the east of the reception building and 43 No. within overflow car park areas to the south of the development); 8 No. bicycle parking stands; and all associated hard and soft landscape and boundary treatment works including the reshaping of an existing lake and provision of a footbridge; provision of SUDS measures, associated lighting, associated signage, site services (foul and surface water drainage and water supply); and all other associated site excavation, infrastructural and site development works above and below ground. The previously proposed vehicular access to the M7/N7 has been omitted from the proposed development.

#### **1.5 Landscape Design Rationale**

In response to the RFI Request from SDCC, a portion of the proposed perimeter access road has been removed from the application, with a consequent reduction in site area from 13.45 hectares to 12.8 hectares. The design concept aims to conserve the existing woodland landscape and redevelop the previous golf course fairways into a series of connected parkland spaces.

The visitor to the Cemetery, whether to attend a funeral, visit a memorial or grave, sit and reflect or to enjoy the woodlands, will understand the space firstly as a parkland with magnificent clear views and secondly as a burial/interment memorial space.

To this end, the golf course layout was redesigned, in the least invasive way possible, preserving the existing and retaining all of the woodland canopy. On that account, the site is

divided into traditional burial, columbarium walls and a reflection space, with the site having a reception building with car parking, a road for the hearses and pathways across the site.

The traditional burial spaces will be located in what were the fairways, with traditional grave markers designated to pay tribute while marking the burial place. As per the ash urns, these will be located in columbarium walls. The columbarium walls punctuate the landscape, creating a sense of place and adding definition within the park. These are mostly placed in the woodland areas to reduce the visual impact while integrating them with the existing landscape.

The main road will be both vehicular and pedestrian and provide access to the grave plots before and after the ceremonies, as well as for ongoing maintenance of the cemetery. Each fairway includes a secondary pedestrian path that will allow easier access to the burial areas. The proposed paths have organic shapes that are adapted to the existing vegetation and will direct the visitors through the site.

The building will be mainly used for as a reception building for services with toilets; as well provide office for management purposes. A memorial forest with a water feature is proposed at the entrance to the reception building. This space is a reflection and mourning area, as well as an appropriately designed place where visitors can get together before and after the ceremonies.

The path leading from the memorial forest and reception building provides views to specimen tree at the centre of the lake, as well as views through the landscaped cemetery. The lake where the building is nestled on the eastern side is based on the reshaped existing pond and it creates a nice setting.

This area has a parkland feel with looped paths and existing trees providing canopy cover and shelter.

In general terms, the Cemetery is a collection of high-quality spaces with a range of space that will aspire to the following precepts:

- provide a high-quality parkland;

- create a respectful and beautiful space for people to lay their loved ones to rest;
- provide hearse access throughout the site;
- provide walking paths;
- enhance habitat values and biodiversity;
- create inviting, well-designed open spaces for visitors to simply relax or to remember their loved ones.

Citywest Cemetery will include approximately 4 ha of burial areas divided in: 8047 traditional burials and 100 of Columbarium walls. This means approximately 8047 plots and 1600 urns.

The traditional areas appear as clearings in the woodland, and these will be framed by the existing semi mature woodland, creating a natural sense of enclosure to allow several people to visit graves undisturbed. Furthermore, the memorial park is envisaged to be a serene and dignified space and to achieve this aim, the cemetery is separated from the car parks by trees and planting. The reception building is the central focus of the entrance area. There is provision of 7 no. EV car parking spaces and 3 no. disabled car parking spaces to the entrance area.

In total 66no. car park spaces are provided, with 43no. being overflow to the south of the application site, for overflow car parking. There are two entrance points for vehicles. Vehicular for visitors provide access to the car parks; and those for the hearses provide access to burial areas within the former fairways. From the car parks, paths connect different areas of the memorial park, with further hierarchy of paths providing access to the burial areas and columbarium walls.

In summary, the proposed cemetery includes:

- the Reception / Admin Building. See Architecture's Report for details;
- 2 main vehicular entrances to the site;
- Car parking for up to 66 no. cars, of them 3 no. disabled car parking, and 13no. EV parking spaces and 43no. in overflow car park;
- 8 Bicycle stands to provide for 16 no. visitors.
- 3m internal road for hearse and maintenance access to the cemetery;

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- Seating areas provided at regular intervals along the main access, the existing track and around the lake;
- A network of internal paths for pedestrian access to burial areas;
- Traditional burial and columbarium walls (urn interment);
- General visitor amenities: Seating, Bins, Information Signage, Water Feature;
- A reshaped lake measuring approximately 2625 square metres with a footbridge;
- A Maintenance Shed. Refer to Architects Drawings;
- 2 no. Gates (1 for Main Access, 1 Secondary Access)





Figure 13 – Proposed Landscape Masterplan (REF: 1872\_PL\_P\_03)

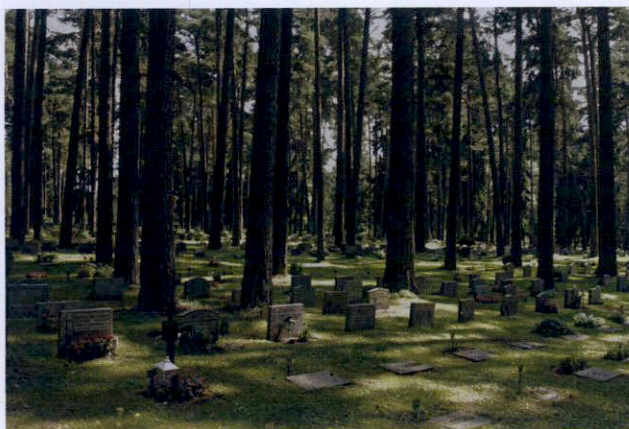
## 2 Character Areas

Although the entire Cemetery reads as a managed woodland with open spaces, there are several different spaces within this, each with their own character. These are defined through form, mounding, planting and topography.

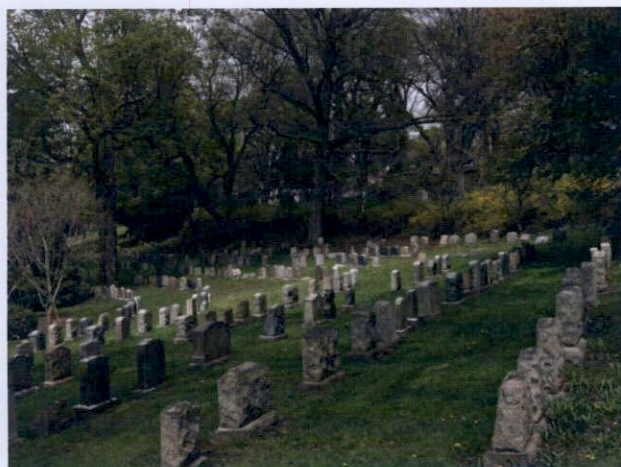
The traditional burials, columbarium walls and the reflection areas have a native and biodiverse plant palette, creating a sense of place. This will add to the character of the burial areas and visual interest of the landscape cemetery. The following descriptions broadly describe the types of burial/interment areas found within the memorial proposed cemetery.

## 2.1 Traditional Burial Plots

Traditional burials are composed of a plot size of 2.5x1.25m, which have been designed so that the required depth of 3.44m is clear of perched ground level. The cemetery will provide 8,047 No. plots, within an area of c.4 Ha. The burial areas are divided by areas of existing woodland, further contributing to the character of the area. All the traditional burials in open lawn are well integrated with the woodland areas, and this give to all visitors a feeling of comfort and calmness. Furthermore, there will be views out of the burial areas towards the openings between groups of trees of the former fairways.



*Figure 14– Mixed headstones in forest*



*Figure 15 – Traditional burials in open lawn integrated with the woodland areas*

## 2.2 Columbarium Walls

The columbarium walls are spread out throughout the site punctuating the landscape. The majority are located in the woodland providing screening to these walls. These intimate spaces dotted through the park are separated from other burial areas and typically surrounded by tall trees.



*Figure 16 – Columbarium walls near woodland areas*



*Figure 17 – Columbarium walls with forest background*

### 2.3 Memorial Forest/ Reflection area

At the entrance of the reception/admin building, the grid of trees and the water feature marks the memorial forest. The reflection area is designed through vegetation with the provision of benches to provide a quiet, intimate, and comfortable space, as well as an informal meeting area.

Visitors can walk through the space at their own pace and enjoy the peace and quiet of the area enhanced by the reflection pond. This is an infinity edge water feature with a black polished granite surface of 50mm depth.



*Figure 18 – Memorial Forest/ Reflection area – Newlands Cemetery in South Dublin County Council*



*Figure 19 – Reflection Pond*

## 2.4 Lake Viewpoint

The path leading from the reflection area to the reception building brings the visitors to the viewpoint that overlooks the lake. From this viewpoint, the visitors will have views through the landscape cemetery, and it can also be used as a reflection area. There is a full path around the lake to have different experiences throughout the space and to give other focal points. Visitors can walk at their own pace, enjoy the peace and quiet of the area enhance by the presence of the water. A footbridge is also proposed over the lake to connect the reception building with the burial areas.



*Figures 20 – Precedents of Lake Viewpoints*

## 2.5 Views

The Development Plan identifies a series of 'Significant Views' to preserve and protect, to the north and east of site. During the design process, there was also a focus on preserving and enhancing the views and visual interest throughout the site.

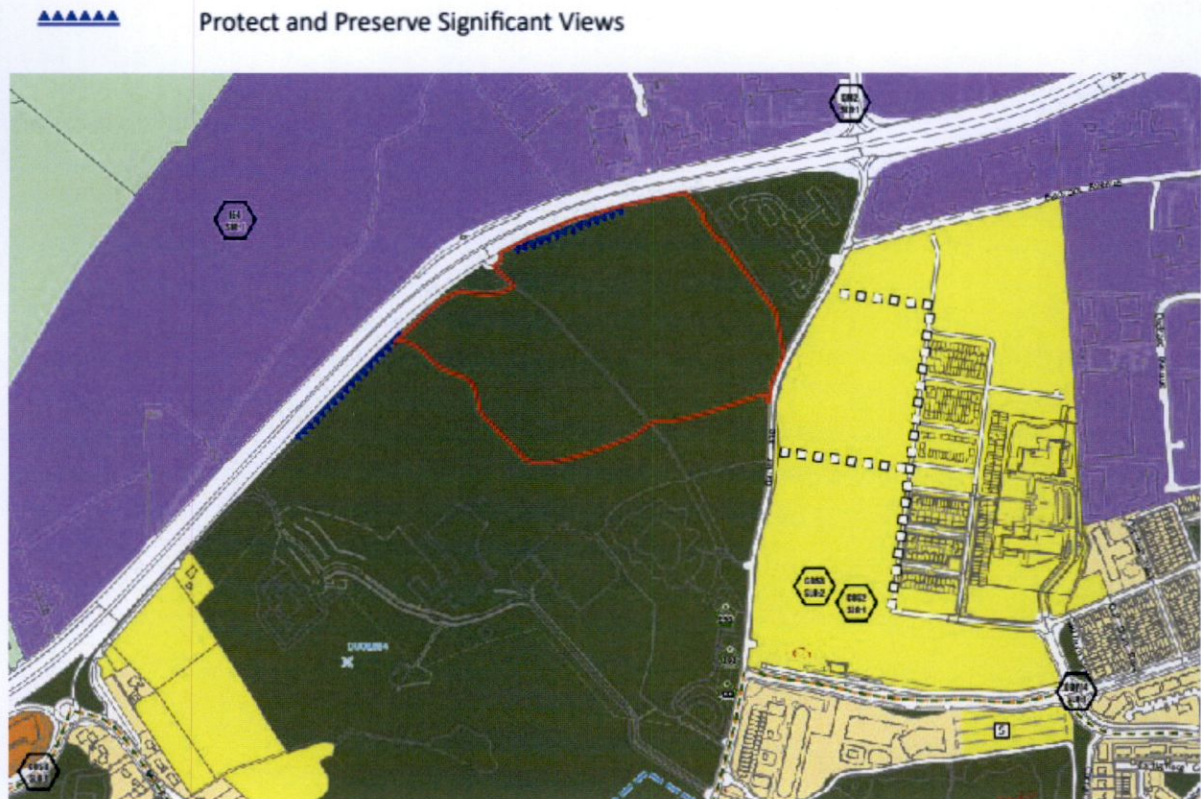


Figure 21 – Site in the South County Dublin Development Plan 2022-2028

The site is well enclosed by existing plantation trees and vegetation, and it is proposed to retain the majority of this vegetation where appropriate.

The proposed structure within the site is of a low height (6.2m high) and will not be visible in the surrounding landscape where canopy heights are between 6 to 20m. Additional elements were added such as the lake, the specimen tree, and a series of small focal elements, such as the columbarium walls and the previously existing and retained site mounding.

So, the scale and the form of the proposed cemetery with its proposed building will not affect those views.

## **2.6 Access/Circulation**

The main road within the Cemetery is the key access road for hearses and mourners. Upon arrival for a funeral, mourners will park their cars and travel to the grave on foot behind the hearse. The hearse will then stop on the road at the nearest point to the assigned grave. The mourners also have secondary paths where the hearses are not able to pass so they can choose their preferred route to the grave they intend to visit.

There are 66 no. car parking spaces (including 3 no. universally accessible spaces) distributed in different car parks of the site. 23 no. cars spaces are distributed adjacent to the ceremony building, 43 no. overflow.

The pedestrian paths are a system of both permeable concrete block paving and compacted gravel with gentle slopes for ease of access for all abilities. Paths that connect visitors from the road to the graves are proposed with reinforced grass to integrate with the landscape proposal.



## 2.7 Planting Proposals Summary

Extensive new planting is proposed to enhance the amenity value of the area, to improve visual quality, to enhance biodiversity and to provide screening of the Cemetery.

The cemetery proposes an additional 395 No. trees. Native species are proposed in the majority of these spaces, with non-native species proposed in limited quantities for ornamental purposes.

The burial areas are themed with a varied plant palette, creating a sense of place. This will add to the character of the burial spaces and visual interest of the Cemetery. Each plant character area will include an assortment of plant size and species to avoid monocultures and add diversity within the site.

The avenue road, that leads the visitors towards the reception building, will be a lined on both sides with Small Leaved Lime tree.

Turkish Hazel with its elegant pyramidal crown is proposed at the memorial forest.

Next to the building, around the lake area, there will be specimens of Bald Cypress with the variety 'Cascade Falls', which will give an interesting look to the whole area with its weeping structure and leaves turning yellow / copper red in autumn. It is proposed to utilise swamp cypress as the focal point in the middle of the lake.

These tree cultivars are best known for their ability to withstand waterlogging, so suitable in this lake location.

The site is edge by established trees. Some areas of existing trees will be bolstered by new complementary native planting, including Oak, Birch and Pinus species.

All tree proposals follow the 30:20:10 rule. No more than 30% of trees from any one family, 20% from a single genus or 10% from a single species.



Small Leaved Lime (*Tilia cordata* 'Greenspire')



Turkish Hazel



Bald Cypress (*Taxodium distichum* 'Cascade Falls')



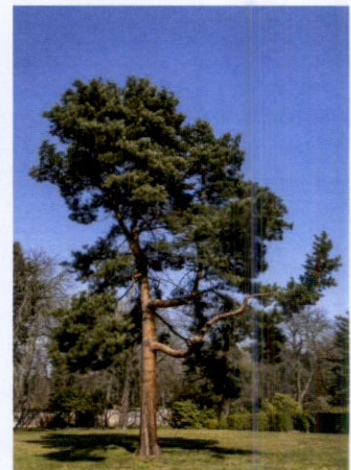
Bald Cypress in autumn



*Quercus petraea*



*Betula pendula*



*Pinus sylvestris*

Figures 22 – Examples of trees proposed

## 3 Green Infrastructure

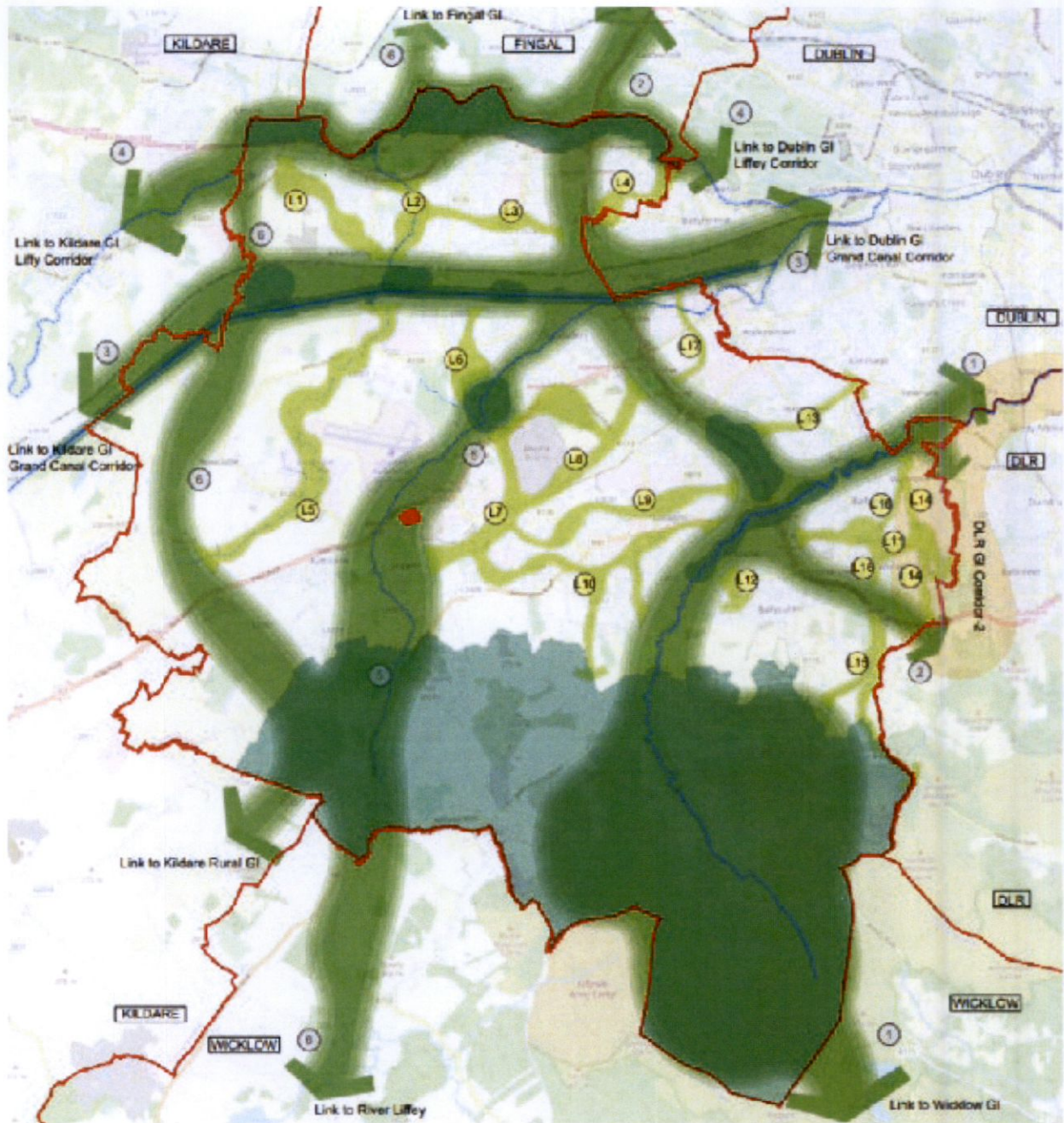
### 3.1 Introduction

Green Infrastructure is a term that is used to describe the interconnected networks of land and water that sustain environmental quality and enhance the quality of our lives. The European Union's Biodiversity Strategy recognises the application of Green Infrastructure policies as a way to maintain biodiversity and ecosystems in the wider landscape. Green Infrastructure networks operate on many scales, from the national to local, and the protection and enhancement of these networks has the ability to positively affect communities into the future, especially in terms of climate change, sustainable development and spatial planning.

Chapter 4 of South Dublin County Development Plan 2022-2028 has a stated aim of creating an integrated and coherent green infrastructure for the County which will:

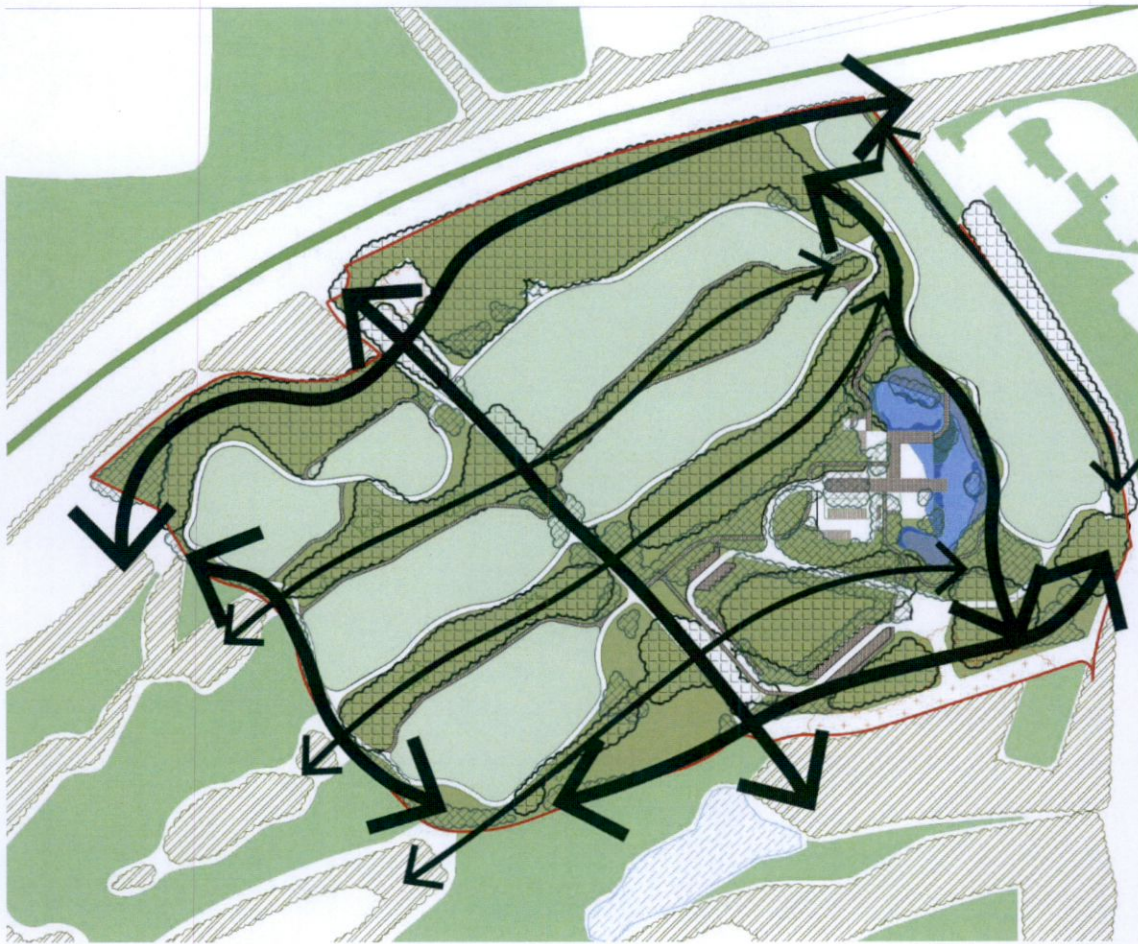
Promote the development of an integrated GI network for South Dublin County working with and enhancing existing biodiversity and natural heritage, improving our resilience to climate change and enabling the role of GI in delivering sustainable communities to provide environmental, economic and social benefits.

Within the South Dublin County Development Plan 2022-28 – Chapter 4 Green Infrastructure & Appendix 4 Appendix 4: Green Infrastructure the Local Objective is to improve GI value of newly developed landscape features (lakes etc.) in Citywest. The site is in the Camac river corridor. The river is on the opposite site of the N7 at the closest point but the best Green infrastructure connection to the River is to connect with the existing green infrastructure going South West towards the river.



<b>Key</b>	<b>Primary GI Corridor</b>	<b>Secondary GI Link</b>	<b>Tailaght Urban Link</b>
County Boundary	Dodder River Corridor	Adamstown Link	Tailaght-Dublin Mountains Link
River/ Stream/ Canal	M50 Corridor	Griffeen-Grand Canal Link	M50-DLR Crosslink
Core Area	Grand Canal Corridor	Griffeen-M50 Link	Ballyvaughan Stream-Dodder Link
Primary GI Corridor	Liffey Valley Corridor	M50-Liffey Cross Link	River Poodle Link
Secondary GI Link	Carnac River Corridor	Griffeen River Link	Whitechurch Stream Link
	Rural Fringe Corridor	Grand Canal-Corkagh Link	Owenduff River/Glenoco Brook Link
		Citywest-Saggart Link	Owenduff River Link
		Tailaght-Rural Link	Ballymount-Grand Canal Link

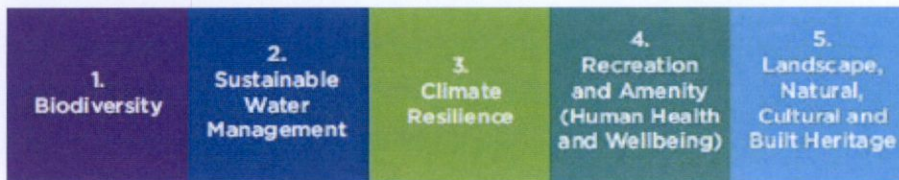
Extracts from Green Infrastructure Strategy Map - figure 4.4 from South Dublin County Development Plan showing proposed site in the wider GI context



*Canopy connections to the existing canopy cover outside the site.*

### 3.2 Green Infrastructure Themes


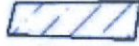


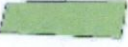

The five main themes from the South Dublin County Development Plan (SDCDP) considering Green Infrastructure are as follows:








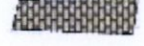
The landscape design aims to present a unified landscape proposal where elements are often multifunctional, serving more than one aspect or theme of GI.

The tree lines connect to the existing green infrastructure with minimal gapping. All effort was made to avoid unnecessary removal of trees. Any gaps in the existing green infrastructure have been filled in with tree planting.



LEGEND	
Outside the REDLINE	
	Existing Retained Trees/shrubs and hedges
	Existing Retained Pond
	Existing Retained Grass
	Proposed Trees/shrubs and hedges
	Proposed Lawn
	Proposed Wildflower/Natural regeneration.

Inside the REDLINE	
	Existing Retained Trees/shrubs and hedges
	Existing Removed Trees/shrubs and hedges
	Existing Retained Pond
	Proposed Pond
	Proposed Pond Planting
	Proposed Permeable paving

Green Infrastructure Plan

### **3.3 Biodiversity with proposed and existing Green Infrastructure**

Biodiversity refers to the variety of all life, habitats, plants, and animals, where they live and the diversity of ecosystems. In any given place, the response of living organisms to the environs (geology, soils, climate, and other conditions) creates an ecosystem which not only provides habitat for wildlife but contributes to our quality of life and sense of place. Our landscapes and the biodiversity within must be protected and enhanced through sensitive and sustainable management now and in the future in the interest of preserving habitats and adapting to climate change scenarios.

The native ecology of the park environs is considered in the design. Most of the proposed planting is composed of native species, the treelines in the park are retained as far as possible, with minimal impact where necessary, allowing the local and existing biodiversity to be managed and to flourish. The existing tree planting and the proposed tree planting cater to the bats as needed. It is also proposed to leave a large amount of any trimming etc on the floor of the woodland to enhance the biodiversity of these areas.

These existing areas are strengthened within the design through additional planting and maintenance to existing tree plantations.

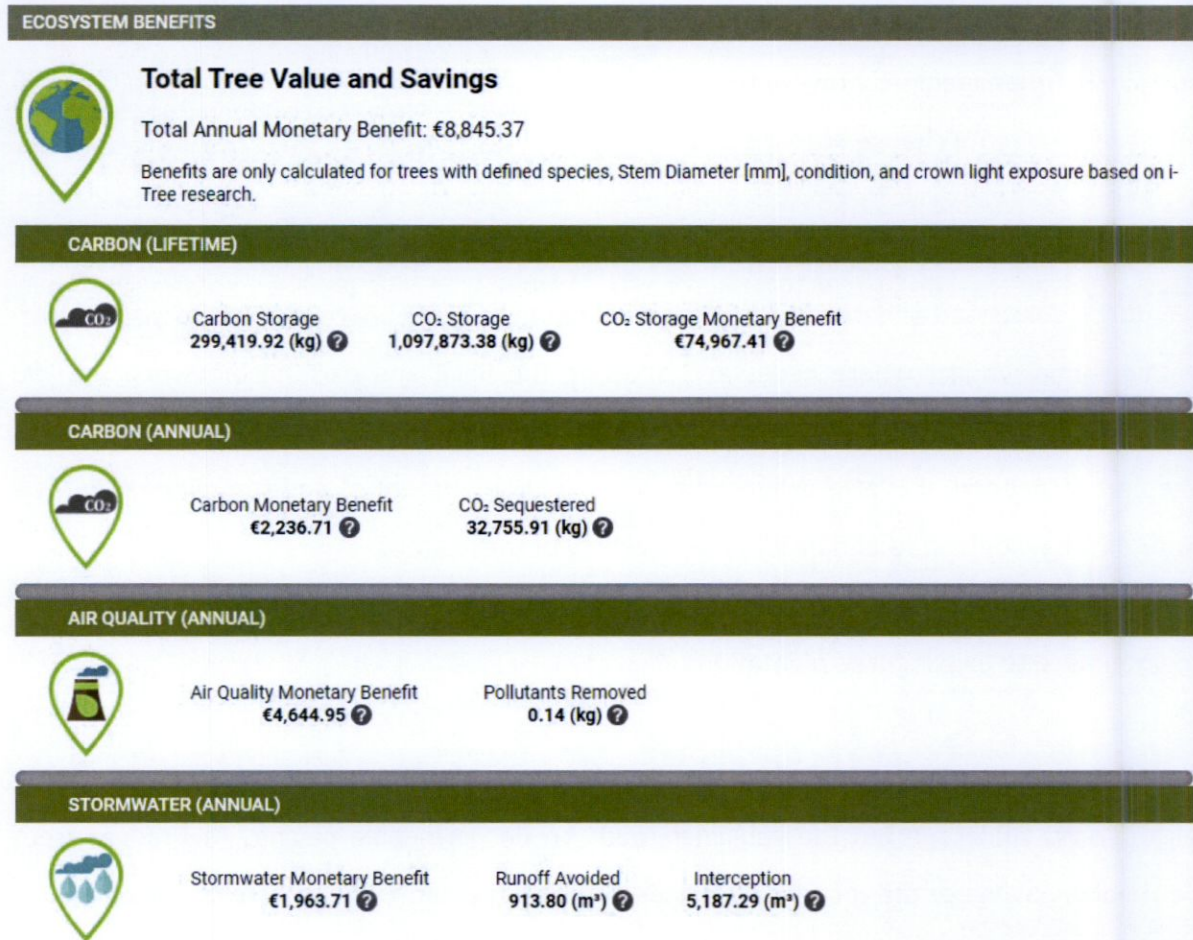
### **3.4 Sustainable Water Management**

All the hard landscape but the vehicular roads are in permeable paving. This ranges from permeable paving for the car parking spaces to the pedestrian gathering areas, grasscrete for the overflow car parking and reinforced grass for the paths to the individual burials. This hard landscape will filter water through and will eliminate the needs of additional SUDs in the development. All the stormwaters will flow onto the grass/ wildflowers from all the impermeable paving with eliminates the need of drainage or similar. Out of the 12.8 hectares there is only 1.3 hectares is not part of the green infrastructure.

### **3.5 Climate Resilience**

The proposed GI measures will enhance local biodiversity and contribute to mitigation of climate change impacts, by absorbing excess flood water, providing a buffer against extreme weather events, absorbing carbon emissions and filtering pollution.

The following benefits are from the existing tagged trees only. There are an additional 395no trees that are proposed to be planted, that is approximately 22.85 tonnes of co2/area per year. The calculations are approximate and only calculate on tagged trees, due to the large scale of the woodland individual trees were not calculated, therefore the estimation below is he minimum numbers for the site.



### 3.6 Landscape, Natural, Cultural and Built Heritage

A full tree survey and arboricultural impact assessment was undertaken by Murray and Associates, See Arboricultural Impact Assessment Report for additional details of the condition of the existing vegetation on site.

The majority of the trees and shrubs are to be retained, woodland management and pruning is proposed where necessary. There are proposed trees throughout the site that will strengthen the existing green infrastructure by creating stronger mini corridors. A small number of shrubs will be removed to accommodate the entrance road. These shrubs will be



replaced by more appropriate and suitable pollinator friendly tree planting in the development.

The full boundary of the site is tree cover so any further development of any of the adjacent sites will have green infrastructure connection to CityWest Cemetery, this highly encourages the structure and stability of the Camac River Corridor. The corridors on the site will be of high quality with high quality species that encourage biodiversity and will form into a woodland that will last for centuries.

The existing water pond will be retained, this will enhance the green infrastructure with the additional pond planting proposed.

There is a recommended removal of 34no. trees for development of the road, to provide for the construction of the cable connection for the neighbouring site and due to the declining health of the individual trees, the trees with declining health can be felled to leave monolith stumps i.e. main trunk retained up to 5m height or fallen trees can be retained on-site for ecological reasons. Proposed paths and entrances are located for minimal effect on the existing vegetation. Where entrances break through existing hedgerows, a relatively small area of trees is proposed to be removed to facilitate the entrances and building. Any proposed paths within tree root protection areas are to be constructed with a minimal impact "no-dig" solution.

### **3.7 Proposals for identification and control of invasive species**

It is an objective of this plan to control and prevent the spread of invasive species in order to protect the biodiversity of the landscape and the assets of the landowner. None of these or any other known invasive species have been identified on the site to date.

With regard to plant selection at design stage wherever possible native vegetation is proposed and where needed for functional or aesthetic reasons non-native plants are specified, with due care. Any non-native plants are chosen to be non-invasive (i.e. the planting selection avoids the use of all known invasive species, with reference to the latest lists of invasive

species published by the National Biodiversity Data Centre) and for their value to insect and other fauna as pollinators or suitable habitat.

Prior to site development works commencing, a detailed site survey will be undertaken to identify if any invasive plants are present. If they are, a specialist contractor will be engaged to plan and carry out the control measures, as may be appropriate to the site and the particular weeds present.

During the maintenance phase, invasive weeds of any kind, most particularly Japanese Knotweed, Winter Heliotrope, Giant Hogweed and Himalayan Balsam shall not be allowed to establish in any area of the site. It will be the responsibility of the maintenance contractor and / or management company to be able to identify same and treat at first sign of emergence. The site will be monitored on an ongoing basis for any invasive weeds. Any occurrence will be reported to management and control strategies engaged.

Noxious weeds (primarily Dock, Thistle and Ragwort) are to be controlled as required by the Noxious Weeds Act 1936 (as amended).

3.8 Green space Factor

Green Space Factor Tool <b>South Dublin County Council</b>	 Comhairle Contae Átha Cliath Theas South Dublin County Council	
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User input indicated by **Orange fields**

User Input	
Zoning lookup	Minimum GI Score
HA-DM	0.7

1. Enter Development Site Area m <sup>2</sup> <b>HERE ▶</b>	128,573		
Surface Type (see tab for detailed descriptions)	Factor	Proposed Surface Area m <sup>2</sup>	Factor Values
1. Short Lawn	0.3	40194	12058.2
2. Tall Lawn (wild, not mown)	0.5	64304	32152
Permeable Paving	0.3	18669	5600.7
Vegetation		0	0
4a. Vegetation-Shrub below 3cm	0.4	0	0
4b. Vegetation-Shrub /Hedgerow above 3cm	0.5	1032	516
4c. Vegetation-Pollinator friendly perennial planting	0.5	0	0
4d. Vegetation-Preserved hedgerow	1.2	435	522
Trees		0	0
5a. New trees	0.6	8200	4920
5b. Preserved trees	1.2	42701	51241.2
7. SuDS intervention (rain garden, bioswale)	0.6	0	0
Green Roof		0	0
9a. Green Roofs- Intensive green roof (substrate is 1 metre or greater in depth)	0.7	0	0
9b. Green Roofs - Extensive green roof (less than 1 metre in depth)	0.6	0	0
10. Green wall	0.4	0	0
11. Retained Open Water	2	2624	5248
12. New open water	1.5	0	0
<b>Total Equivalent Surface Area of Greening Factors</b>		<b>178,159.00</b>	

<b>Green Factor Numerator</b>	<b>112258.10</b>
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Minumum Required GI score	Final GI score	Result
0.7	0.87	Pass

## 4 Conclusion

Through the sensitive design and layout of the proposal, the Cemetery fully support the zoning objectives: "to preserve and provide for open space and recreational amenities".

The proposal for the Cemetery comprises a planted area, with open spaces, and woodland. The proposals aim to create a positive addition to the Citywest area and be multifunctional, providing a cemetery for the local community, increasing the biodiversity of the area and providing a passive recreational and visual amenity. The landscape design of the cemetery will provide appropriate environment for people to visit and reflect in suitably designed external spaces, surrounded by managed woods, open views. The lake will benefit the aquatic habitat and be a visual amenity to the region, creating an attractive landscape.