Landscape Design Report,

Kishoge Site 3,

Part 10 Application

Public Realm and Landscape Strategy.

April 2025

1.0 INTRODUCTION and SITE DESCRIPTION

Doyle + O'Troithigh Landscape Architecture Ltd, were appointed as part of the project team for the Kishoge Site 3 design team, to prepare the landscape design proposal in association with the Project Architect, O'Mahony Pike, Project Engineers DBFL and MandE Consulting Engineers, and Planning Consultants SLA.

Doyle + O'Troithigh Landscape Architecture Ltd are a landscape architectural firm with a collective experience over 30 years. A principle of our design is the development of positive open spaces.

1.1 Summary of the Proposed Site 3 Development

Kishoge Site 3 sites in the North Western section of the Kishoge Development lands as part of the wider the Clonburris SDZ lands.

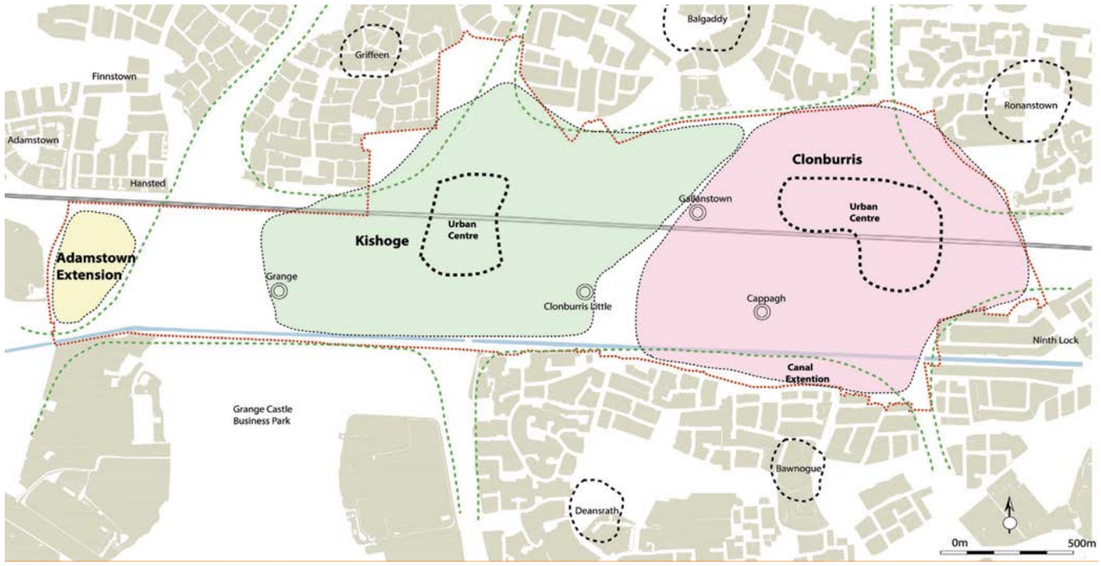

Fig. 1: SDCC Kishoge Site Area within the Wider Clonburris SDZ Lands.

The proposed development of Site 3 comprises 580no. residential units in a mix of house, apartment, duplex and triplex units comprising 1-bedroom, 2-bedroom and 3-bedroom typologies; 2-storey childcare facility; All associated and ancillary site development and infrastructural works including surface level car parking, bicycle parking, hard and soft landscaping and boundary treatment works, including public, communal and private open space, public lighting, bin stores and foul and water services. Vehicular access to the site will be from Adamstown Avenue and the Northern Link Street, proposed under concurrent application Reg. Ref. SDZ24A/0033W.

See Figure 3. For Site 3 Lands within the Clonburris SDZ Lands.

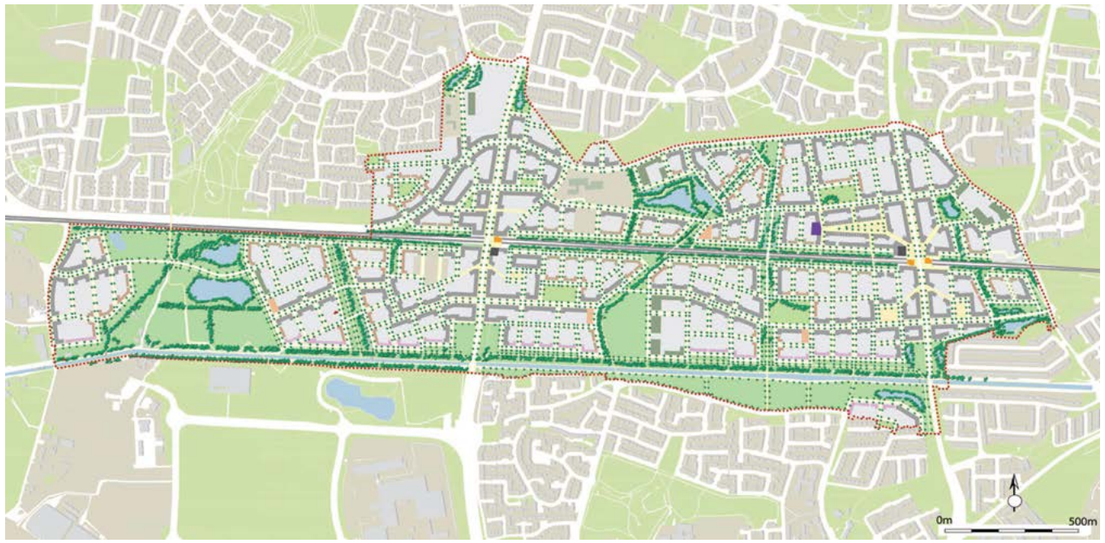

Fig. 2: SDCC Clonburris Planning Masterplan.

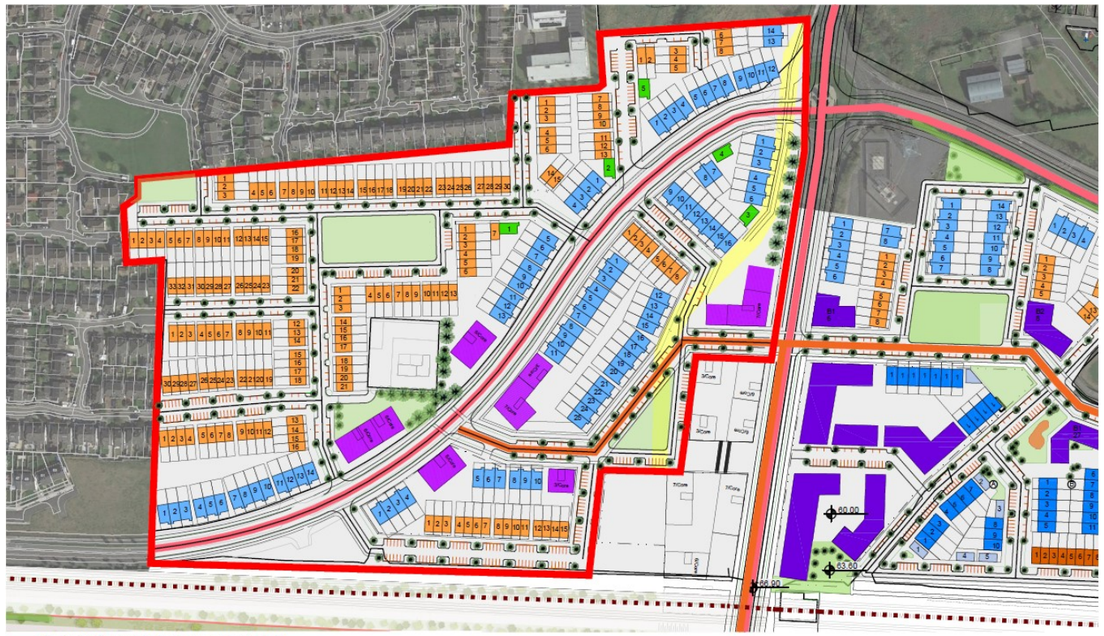

Fig. 3: SDCC Kishoge Site 3

1.2 Land Use Zoning

Lands at Clonburris have an approved SDZ Planning Scheme (2019) and represent a major expansion of the footprint of Clondalkin along the Dublin-Cork rail corridor. In this regard, significant funding has been achieved through the URDF to provide infrastructure to facilitate early development during the lifetime of the Development Plan. See Figure 2.

Fig 4: SDCC Clonburris SDZ Boundary

Zoning Objective: To provide for strategic development in accordance with approved planning schemes.

Zoning Objective Vision: Ensure the provision of high quality new residential environments with good layout and design, with adequate public transport and cycle links and within walking distance of community facilities. Provide an appropriate mix of house sizes, types and tenures in order to meet household needs and to promote balanced communities.

1.3 Site Description

The Site 3 lands site within the Clonburris SDZ. The Planning and Development Act 2000 (Designation of Strategic Development Zone: Balgaddy-Clonburris, South Dublin County) Order 2006 (S.I. No. 442 of 2006) initially designated certain lands at Balgaddy-Clonburris as a Strategic Development Zone (SDZ). The Planning and Development Act 2000 (Designation of Strategic Development Zone: Balgaddy-Clonburris, South Dublin County) Order 2015 (S.I. No. 604 of 2015) was made on 15 December 2015. It revoked the earlier order and established and extended the designated area for the Clonburris SDZ. Under the 2015 Order 2015, the lands, the development of which is deemed to be of economic and social importance to the State, are "designated as a site for the establishment of a strategic development zone in accordance with the provisions of Part IX of the Act for residential development and the provision of schools and the other educational facilities, commercial activities, including employment office, hotel, leisure and retail facilities, rail infrastructure, emergency services and the provision of community facilities as referred to in Part III of the First Schedule to the Act, including health and childcare services".

The SDZ lands, consisting of approximately 280 hectares (See Figure 2 and 4), are located to the west of Dublin City Centre and the M50 – within the triangle between Lucan, Clondalkin and Liffey Valley. The lands are bisected from east to west by the Kildare railway line and by the Grand Canal to the south, and by two strategic roads – the Grange Castle Road (also referred to as the Outer Ring Road) in the centre of the site and the Fonthill Road to the east. The R120 Lock Road forms part of the western boundary of the lands. Grange Castle Business Park is located to the south of the SDZ lands. The Adamstown SDZ is located adjacent to the north-west boundary of the SDZ lands.

The lands at Clonburris are currently characterised by transitional agricultural landscapes. Despite their location and context between the established communities of Lucan and Clondalkin, the lands have never been developed to any significant degree and retain a largely rural character. In recent years, a primary and secondary school have been constructed on the lands. A number of private residences are located on the lands, together with traveller accommodation constructed by South Dublin County Council. There are two train stations constructed within the SDZ, the Clondalkin-Fonthill station and the Kishoge Station.

1.4 Character and Visibility

Clonburris / Kishoge is a suburban area which falls under the jurisdiction of South Dublin County Council. Clonburris / Kishoge is situated to the south of Lucan and north east of Clondalkin. It is located in a primarily residential area.

Extensive residential developments with associated village centres now cover most of the areas surrounding SDZ lands. Grangecastle Business Park, accessible via Grangecastle road is one of the larger employers.

There are several public parks in the area, including Griffeen Valley park and other smaller parks nestled amongst the residential areas. Griffeen Valley park is comprised of over 200 acres and is made up of large areas and a number of smaller green spaces. The park includes a dog park, playground, teen space and a skate park.

The R136 dual carriageway is a major transport artery which runs through Clonburris / Kishoge in a north – south direction. It runs from the N4 at Lucan to the N81 at Tallaght.

1.5 Compliance with the County Development Plan

The designed landscape will comply with framework as set out in the Clonburris SDZ. (See Fig. 4) and the following landscape objectives of the South Dublin County Council Development Plan 2023-2028;

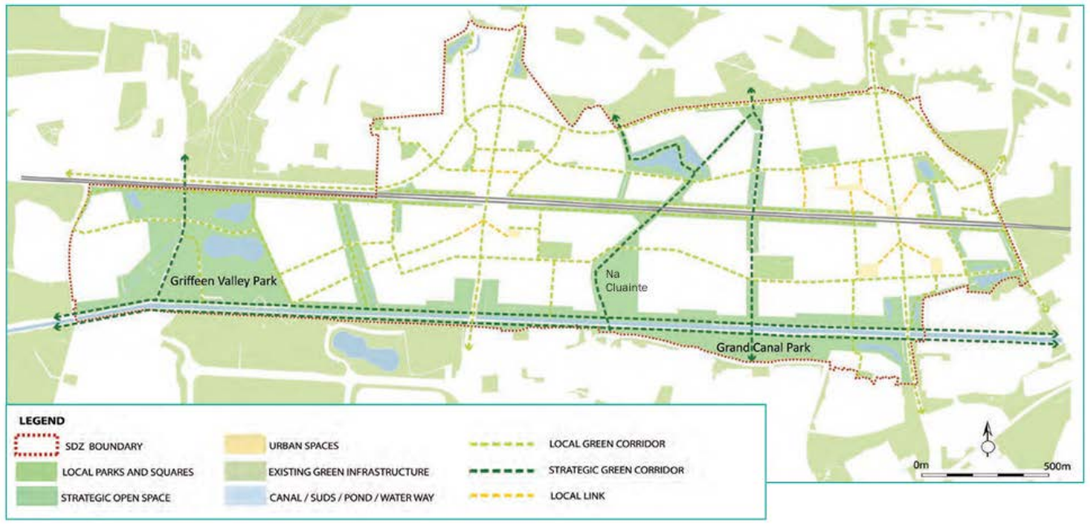

Fig 4: SDCC Clonburris SDZ Open Space

Heritage and Climate Action

Our natural and built heritage plays a vital role in the reduction and absorption of carbon and consequently has a significant positive climate impact. Natural landscapes, areas of high amenity, trees and hedgerows and wildlife habitats make a significant contribution to carbon sequestration. Boglands also play an important role in embedding carbon. The provision of greenways offers opportunities for active travel and a shift away from car-based transport. Similarly, the re-use, adaptation and upgrading of our older and historic building stock will support a move towards a low-carbon society. Together, these measures will assist South Dublin County in achieving its climate action targets.

Policy NCBH1: Overarching

Protect, conserve and enhance the County's natural, cultural and built heritage, supporting its sensitive integration into the development of the County for the benefit of present and future generations.

NCBH1 Objective 1:

To protect, conserve and enhance natural, cultural and built heritage features, seeking opportunities to identify, retain, protect, and incorporate heritage assets into plans and development.

Natural Heritage

The County's natural heritage and biodiversity is of local, national and international importance. It provides the base layer and foundations upon which the built environment, transport network, and sustainable communities evolve. Consequently, protecting and conserving our biodiversity and landscapes is pivotal to the health, wellbeing and quality of life of all our citizens. The term 'biodiversity' is used to describe all the different types of life that makes up our environment, including plants (flora), animals (fauna), and micro-organisms which work together to create ecosystems which maintain balance and support life. The importance of natural heritage and biodiversity is apparent from the wide-ranging EU and statutory protections in place in addition to conventions signed up to by the State.

Statutory Context and Planning Policy Guidance for Natural Heritage

There is a significant amount of EU and national legislation and many plans, policies and guidelines governing the area of natural heritage. The key legislation relating to this section of natural heritage has been indicated in the objectives and text as it arises.

Natural heritage is embedded in planning policy at national and regional levels through the National Planning Framework (NPF) and the Regional Spatial and Economic Strategy (RSES).

Biodiversity

South Dublin County has a rich biodiversity of flora and fauna, including insects, birds, fish and micro-organisms and their habitats in which they live and interact, such as grasslands, woodlands, streams, hedgerows, boglands, public parks and private gardens. All communities are part of nature and everything in nature is connected.

Ireland is a signatory to the Convention of Biological Diversity and has developed its National Biodiversity Action Plan in line with EU and International Biodiversity strategies and policies. In 2019 the Dáil and South Dublin County Council separately declared a climate and biodiversity emergency. The EU Biodiversity Strategy for 2030 sets out measures to protect 30% of EU land and sea territory with 10% of this "strictly protected" and sets out measures aimed to achieve this. The importance of biodiversity and landscape in Ireland is underpinned by National Strategic Outcome 7 "Enhanced Amenity and Heritage" of the National Planning Framework and associated strategic investment priorities in the implementation of the National Biodiversity Action Plan (2017-2021). The 4th National Biodiversity Action Plan is due to be published in 2023. NPO 59 of the National Planning Framework and RPO 7.15 and 7.16 of the RSES reinforce the need to ensure protection and enhancement of environments and habitats. The role of biodiversity is further strengthened with the adoption of the All-Ireland Pollinator Plan (2021-2025) providing for natural management measures to protect native species.

Policy NCBH2: Biodiversity

Protect, conserve, and enhance the County's biodiversity and ecological connectivity having regard to national and EU legislation and Strategies.

NCBH2 Objective 1:

To support the implementation of the National Biodiversity Action Plan (2017- 2021) and the All-Ireland Pollinator Plan (2021-2025) and to support the adoption and implementation of the South Dublin County Biodiversity Action Plan (2020-2026) and Pollinator Action Plan (2021-2025) and any superseding plans.

NCBH2 Objective 2:

To ensure the protection of designated sites in compliance with relevant EU Directives and applicable national legislation.

NCBH2 Objective 3:

To protect and conserve the natural heritage of the County, and to conserve and manage EU and nationally designated sites and non-designated locally important areas which act as 'stepping stones' for the purposes of green infrastructure and Article 10 of the Habitats Directive.

Chapter 4 Green Infrastructure

Policy GI 1: Overreaching

Protect, enhance and further develop a multifunctional GI network, using an ecosystem services approach, protecting, enhancing and further developing the identified interconnected network of parks, open spaces, natural features, protected areas, and rivers and streams that provide a shared space for amenity and recreation, biodiversity protection, water quality, flood management and adaptation to climate change.

GI1 Objective 1:

To establish a coherent, integrated and evolving GI Network across South Dublin County with parks, open spaces, hedgerows, trees including public street trees and native mini woodlands (Miyawaki-Style), grasslands, protected areas and rivers and streams and other green and blue assets forming strategic links and to integrate and incorporate the objectives of the GI Strategy throughout all relevant land use plans and development in the County.

GI1 Objective 3:

To facilitate the development and enhancement of sensitive access to and connectivity between areas of interest for residents, wildlife and biodiversity, and other distinctive landscapes as focal features for linkages between natural, semi natural and formalised green spaces where feasible and ensuring that there is no adverse impact (directly, indirectly or cumulatively) on the conservation objectives of Natura 2000 sites and protected habitats outside of Natura 2000 sites.

GI1 Objective 5:

Continue to liaise with adjoining local authorities to ensure the protection and enhancement of cross county GI corridors.

Policy GI2: Biodiversity

Strengthen the existing Green Infrastructure (GI) network and ensure all new developments contribute towards GI, in order to protect and enhance biodiversity across the County as part of South Dublin County Council's commitment to the National Biodiversity Action Plan 2021-2025 and the South Dublin County Council Biodiversity Action Plan, 2020-2026, the National Planning Framework (NPF) and the Eastern and Midlands Region Spatial and Economic Strategy (RSES)

GI2 Objective 1:

To reduce fragmentation and enhance South Dublin County's GI network by strengthening ecological links between urban areas, Natura 2000 sites, proposed Natural Heritage Areas, parks and open spaces and the wider regional network by connecting all new developments into the wider GI Network.

GI2 Objective 3:

To retrospectively repair habitat fragmentation and provide for regeneration of flora and fauna where weaknesses are identified in the network through the implementation of new GI interventions.

GI2 Objective 5:

To protect and enhance the County's hedgerow network, in particular hedgerows that form townland, parish and barony boundaries recognising their historic and cultural importance in addition to their ecological importance and increase hedgerow coverage using locally native species including a commitment for no net loss of hedgerows on any development site and to take a proactive approach to protection and enforcement.

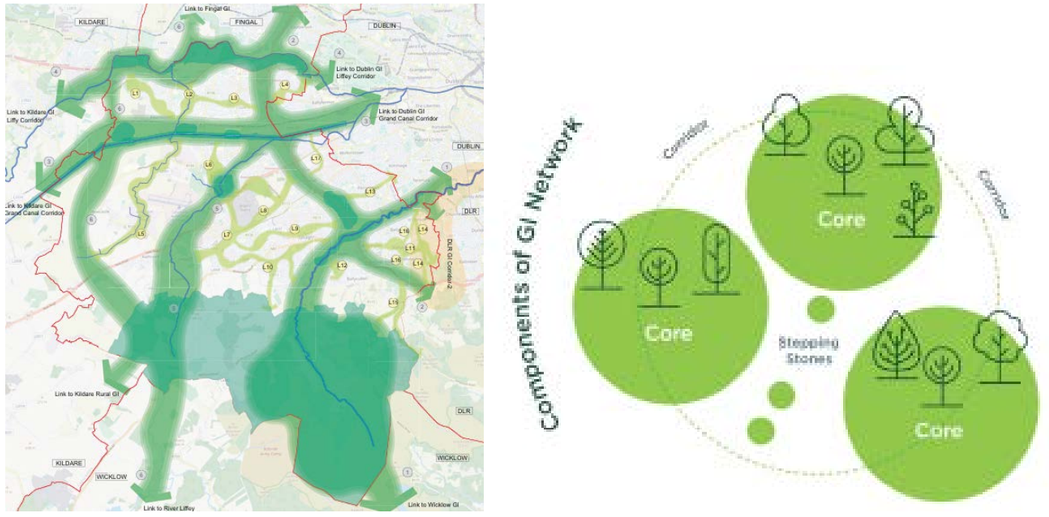

Fig 6: SDCC Green Infrastructure Corridors and the Components of Green Infrastructure.

Policy GI4: Sustainable Drainage Systems

Green Infrastructure (GI) Require the provision of Sustainable Drainage Systems (SuDS) in the County and maximise the amenity and biodiversity value of these systems

GI4 Objective 1:

To limit surface water run-off from new developments through the use of Sustainable Drainage Systems (SuDS) using surface water and nature-based solutions and ensure that SuDS is integrated into all new development in the County and designed in accordance with South Dublin County Council's Sustainable Drainage Explanatory Design and Evaluation Guide, 2022.

GI4 Objective 2:

To incorporate a SuDS management train during the design stage whereby surface water is managed locally in small sub-catchments rather than being conveyed to and managed in large systems further down the catchment.

GI4 Objective 3:

To require multifunctional open space provision within new developments to include provision for ecology and sustainable water management.

GI4 Objective 5:

To promote SuDS features as part of the greening of urban and rural streets to restrict or delay runoff from streets entering the storm drainage network.

Policy GI6: Human Health and Wellbeing

Improve the accessibility and recreational amenity of the County's GI in order to enhance human health and wellbeing while protecting the natural environment within which the recreation occurs.

GI6 Objective 1:

To support a hierarchy of accessible open spaces and recreational facilities, appropriate for neighbourhood size and catchment area, which are adaptable and capable of accommodating multiple uses (See Chapter 8: Community and Open Space).

GI6 Objective 3:

To provide accessible, attractive and safe routes linking settlements to the GI network of the County

GI6 Objective 4:

To ensure that all new residential development provides access to multifunctional green open space, in accordance with the provisions of Chapter 8: Community and Open Space of this Development Plan and South Dublin County's Parks and Open Space StrategyH8 Objective 2

Policy GI7: Landscape, Natural, Cultural and Built Heritage.

Protect, conserve and enhance landscape, natural, cultural and built heritage features, and support the objectives and actions of the County Heritage Plan

GI7 Objective 1:

To protect, conserve and enhance natural, built and cultural heritage features and restrict development that would have a negative impact on these assets in accordance with the provisions of Chapter 3: Natural, Cultural and Built Heritage of this Development Plan.

GI7 Objective 2:

To protect and enhance the landscape character of the County by ensuring that development retains, protects and, where necessary, enhances the appearance and character of the landscape, in accordance with the provisions of South Dublin's Landscape Character Assessment and the provisions of Chapter 3: Natural, Cultural and Built Heritage of this Development Plan

Policy H8: Public Open Space

Ensure that all residential development is served by a clear hierarchy and network of high quality public open spaces that provide for active and passive recreation and enhances the visual character, identity and amenity of the area.

H8 Objective 1:

To ensure that public open space in new residential developments complies with the quantitative and qualitative standards set out in Section 8.7 of Chapter 8: Community Infrastructure and Open Space and Chapter 12: Implementation and Monitoring.

H8 Objective 2:

To ensure that there is a clear definition between public, semi-private and private open space at a local and district level and that all such open spaces benefit from passive surveillance from nearby residential development

Policy H9: Private and Semi-Private Open Space

Ensure that all dwellings have access to high quality private open space and semi-private open space (where appropriate) and that such space is carefully integrated into the design of new residential developments

H9 Objective 1:

To ensure that all private open spaces for houses and apartments / duplexes including balconies, patios, roof gardens and rear gardens are designed in accordance with the qualitative and quantitative standards set out in Chapter 12: Implementation and Monitoring, of the SDCC County Development Plan 2022-2028

H9 Objective 2:

To ensure that the design and layout of new apartments, or other schemes as appropriate, ensures access to high quality and integrated semi-private or communal open space that supports a range of active and passive uses

Policy H11: Privacy and Security

Promote a high standard of privacy and security for existing and proposed dwellings through the design and layout of housing.

H11 Objective 1:

To ensure there is a clear definition and delineation between private, semiprivate (communal) and the public open spaces that serve residential development

Policy SM2: Walking and Cycling

Re-balance movement priorities towards sustainable modes of travel by prioritising the development of walking and cycling facilities and encouraging a shift to active travel for people of all ages and abilities, in line with the County targets.

SM2 Objective 3:

To ensure that connectivity for pedestrians and cyclists is maximised and walking and cycling distances are reduced by promoting compact growth and permeability in the design and layout of new development areas

SM2 Objective 16:

To ensure that all streets and street networks are designed in accordance with the principles, approaches and standards contained in the National Disability Inclusion Strategy (NDIS) 2017-2022

SM2 Objective 7:

To promote walking and cycling for school trips by implementing the following measures: à Identifying school sites that are as close as possible to the communities they serve; à Ensuring that multiple access points are provided to school sites for pedestrians and cyclists; à Ensuring that adequate and secure bicycle storage is provided within schools; à Promoting initiatives such as the Green Schools and Schools Streets projects; à Prioritising school routes for permeability projects and provision and enhancement of pedestrian and cycle ways; à Supporting the use of a range of physical measures to provide improved safety for pedestrians and cyclists at and close to schools.

Policy SM5: Street and Road Design

Ensure that streets and roads within the County are designed to balance the needs of all road users and promote placemaking, sustainable movement and road safety providing a street environment that prioritises active travel and public transport

SM5 Objective 1:

To ensure that all streets and street networks are designed to passively calm traffic through the creation of a self-regulating street environment that promotes active travel modes and public transport.

SM5 Objective 5:

To design new roads and streets to incorporate green infrastructure elements such as planting of native trees, hedgerows and pollinator species in medians and on roadside verges, as appropriate to the location.

Chapter 8 Community Infrastructure and Open Space

The creation of healthy, inclusive and sustainable communities where all generations have local access to social, community and recreational facilities, and parks and green spaces, to suit their needs

Quality of Public Open Space

The provision of high quality public open space that is appropriately designed, located and maintained is a key element of placemaking. Public open space should have active and passive recreational value and should enhance the identity and amenity of an area. The Sustainable Residential Developments in Urban Areas, Guidelines for Planning Authorities (2009) require Planning Authorities to put a greater emphasis on the quality of public open space

Access

All neighbourhood areas should have access to a range of formal and informal public open spaces for amenity, recreation, sports and play. Public open spaces should be designed and located to be publicly accessible by sustainable means such as walking, cycling and public transport depending on the type of open space and should be usable by all residents of the County. Adequate access points should be provided to open spaces to minimise distances to the areas they serve. Insofar as possible, open spaces should be linked to one another to increase their amenity value, encourage active travel between them and to facilitate the green infrastructure network. Continuous walls and other barriers between public open spaces should be avoided. Recreation Facilities Public open space should be designed to offer a variety of both active and passive recreation which is accessible to all, irrespective of age or ability. Incidental areas of open space will not be accepted as part of functional open space for the purposes of calculations. The Council is committed to continued improvement of quality and provision of recreation facilities through implementation of the Council's Parks and Open Spaces Strategy (forthcoming, 2022), Teen Space Programme (2021) and Sports Pitch Strategy (2020) (and any superseding strategies). In addition, under the Play Space Programme (2014-2020), the Council provided innovative play spaces based on natural play in parks and public open spaces throughout the County. The Council will continue to provide for play as part of future programmes and will also continue to require developers to provide for play as part of residential and mixed-use developments.

Green Infrastructure, Biodiversity and Sustainable Water Management

Community Infrastructure and Open Space (COS) Parks and open spaces should be located to connect with each other so as to create green corridors and optimise their green infrastructure function. Existing trees, hedgerows and watercourses should be retained to maximise the natural setting of parks and open spaces. Planting should comprise native and pollinator-friendly species. Sustainable water management in the form of features such as integrated constructed wetlands, ponds, swales and basins should be incorporated within public open spaces and add to the amenity and biodiversity value of the spaces (appropriate to level within the public open space hierarchy).

Accessibility

Age friendly and disability friendly measures should be incorporated into the overall design and layout of public open spaces, such as the provision of appropriate information, suitable path surfaces and seating at appropriate intervals or other types of rest stops. Facilities, equipment and information materials should be accessible for all regardless of age or ability.

Safety

Public open space should feel safe to the user and have adequate supervision by way of passive surveillance (for example, windows overlooking the space; footpaths, cycleways and streets running through or beside the space). Smaller parks and open spaces should be visible from and accessible to the maximum number of residential units. Boundary treatment, public lighting and planting should be designed carefully to create a sense of security and to avoid opportunities for anti-social behaviour. Access points to parks should be maximised to increase use and thereby improve safety. Inhospitable and inaccessible open space comprising narrow tracts, back lands, incidental or 'left-over' strips of land should be designed out of all schemes.

Fig 7: Site 3. Proposed amenities to Public Open Spaces.

2.0 Landscape Design Intent, The design of positive open space

On a Macro level the layout and design of the landscape and street scape will comply with the SDCC County Development, Clonburris SDZ including the following Key Principles

Key Principles

- Provide a hierarchy of high quality and multi-functional open spaces including, strategic spaces, local parks, urban spaces and strategic routes;
- To allow the movement network to connect to and through open spaces by providing safe, well-overlooked and accessible routes;
- To provide appropriate space for health and well-being, required to meet the recreational needs of the new population of Clonburris through the provision of adequate walking and cycling facilities and a diversity of green spaces for active and passive recreation; and
- Provide recreation facilities and open spaces that are capable of accommodating a range of community sport and recreation needs and use by the community at varying times including after school hours.

Fig 8: Clonburris SDZ Planning Scheme, Open Space Key Principles

At a micro level the landscape has been considered and the developed with a suite of conditions to inform the development of Public Spaces.

The Public spaces between buildings influence both the built form and the civic quality of the development. A balanced approach to the design of the public space centred on the relationship between the buildings and their surrounding open space will allow for the design, development and management of a public realm which can be used for a variety of amenities throughout the year; in doing so, adding to the quality of life of the future end users. The design of public open space must be 'open minded', in that it does not try to define specific activities but can accommodate a range of them. Whether large or small, good open space is human in scale.

Research undertaken for the UK's Commissions for Architecture and the Built Environment has shown that good quality public open space makes a tangible difference to people's lives.

Landscape design objectives include:

- Manipulating the external environment to enhance the outdoor experience for all residents.
- Working with the site settings, considering the influence of the elements and positioning amenity areas with the sun in mind will allow us to add value to the landscape.
- Providing external areas which can be used all year-round, adding value to the development, and more importantly acting in a positive way toward the creation of a community spirit and sense of ownership.
- Enhancing the biodiversity and ecological value of the site.

Key considerations during the landscape design process include:

- Topography,
- Aspect,
- Wildlife and ecology (Urban Forestry)
- Open space networks, connectivity, and legibility (Making connections),
- The development of landmarks, focal points, vistas, and
- Management post construction.

Landscape Design Approach

Prior to commencing the design of the public realm and following a site visit Doyle + O'Troithigh established a set of core principles to give structure and guidance to the design intent. The principles are:

- Permeability, with connection to the surrounding built environment and to the wider future development (see the green infrastructure plan for details),
- The development of a strong central open space which will develop as a focal point for residents,
- A coherent design which physically and visually connects the open space to the built development,
- The provision of a strong visual landscape which provides year-round interest,
- The development of communal amenity areas which can cater for passive and active recreation for all abilities and age groups,
- The creation of 'green streets' and strong landscape buffer areas between the public and private realm.

Design Requirements.

The designed landscape must be comfortable, passively supervised, accessible, welcoming, sheltered, and safe. The passive and active recreation open space developed within the three pocket parks areas must provide a high level of visual amenity while allowing for a seamless connection to the external public realm and wider local amenity areas.

The provision of permeability and improved overall pedestrian and cyclist's movement is one of the core principles of the site layout design. This principle is coupled with the design objective to provide landscape amenity areas which offer comfort, passive supervision, ease of access and a safe amenity space for all end users.

Second to the core principle of design is the development of a palette of materials for both hard and soft landscaping to both the amenity lands and the streetscape. To aid us during the process to select materials we have developed a simple check list of both hard and soft landscape materials.

Hard works materials must:

- Allow for ease of movement for all users
- Enhance the space and not conflict with the building finishes
- Work and look attractive in both wet and dry conditions
- Have a long timeline appeal with a low maintenance requirement

Soft works plant materials must:

- Be suitable for the Irish climate
- Be non-invasive
- Collectively provide visual interest all year round
- Enhance biodiversity and habitat creation
- Be disease resistant

By approaching the overall landscape design of the scheme at both macro and micro levels, the scheme delivered will provide a high level of amenity. Consideration will be given to the provision of a workable, aesthetically appealing, and robust scheme upon completion.

Hard landscape elements

The surface finish throughout the development will work with the proposed building finish to provide a high-end public realm, with a visual consistency across the entire site area, in doing so knitting the external landscape areas together to develop an address for the developed lands.

Soft landscape elements

The plant material for the proposed development have will be chosen based on their long-term suitability and aesthetic appeal. We have categorised the site planting into the following key areas and types:

- Feature Trees within public open space,
- Smaller trees more suited to limited space/constrained planting zones (including over podiums),
- Street trees (columnar/ fastigiate in form),
- Hedging,
- Ornamental shrub planting,
- Ornamental herbaceous planting,
- Bulb planting.

The key planting elements for the site can be largely broken down into the above plant categories. With a select number of plant material referenced to support this categorisation. The palette proposed has been developed to mirror that proposed for Site 4 and 5 in doing so creating similarity in the open space and street scape of sites 3,4 and 5.

Fig 9: Site 3, Planting palette. Developed with Landscape Architects BSLA and LDA.

2.1 PERFORMANCE

The landscape design post construction will provide year-round visual interest, accessibility and useability providing the residents with the opportunity to develop a heightened experience of nature within the development. The completed landscape will be functional, comfortable, and distinct to the development.

2.2 WHOLE LIFE DESIGN

The landscape design to each site area will cater for the needs of all various age profiles. The open-minded nature of the design provided will not limit use of the open spaces because of age, gender, or ability, and has been designed to develop clear and defined boundaries between the private, communal, and public open space, boundaries which have been absorbed into the design to allow for a seamless visual landscape.

2.3 DURABILITY

A long-term focus on improving health benefits with the introduction of formal and informal play has been considered from the outset. The Usher Stream Park will include the provision of a series of amenity green areas with pedestrian connections from this linear park to the surrounding residential blocks and on to the wider site environs have informed the outline landscape design layout.

Fig 10: Active and passive recreation areas.

Working with the topography to enhance the landscape proposed is considered key, and about establishing focal points within the public open space for active and passive recreation and developing meeting points to help social interactions and develop communities.

The open space has been designed to address envisaged desire lines ensuring a cohesive design is adopted which will cater for all ages and abilities of end users and those within the wider community. The central open space will feature a small informal playground and will include a series of terraced landscape areas for formal and informal play which can function for a range of amenity opportunities.

2.4 SUDS ATTENUATION, through Sustainable Urban Drainage Systems.

As part of the design and development of the open space areas, the development of a sustainable urban drainage systems has been included, these measures work collectively to reduce surface run off rates. The measures include:

- Roadside Bioretention Swales,
- Rain Gardens
- Permeable surfacing
- Attenuation basins which form sunken grass amenity areas for informal ball games,
- Bio retention tree pits.

Working with the Project Engineers the listed SuDs measures have been developed to work within the site design and have been incorporated where appropriate into the landscape and streetscape design. These measures work collectively to treat the surface water as part of the wider treatment train.

3.0 Key Landscape Designed Site Areas.

The Design of the landscape has been undertaken as part of an overall strategic plan with the design intent to radiate out from the public open spaces through the designed streetscape and greenways to the wider community. This method of design ensures that all public areas are linked and all streets and green links are considered in the streetscape design. Ensuring consistency and wider connections are provided as part of the Kishoge site 3 development.

Fig 11: Site 3 Landscape Plan.

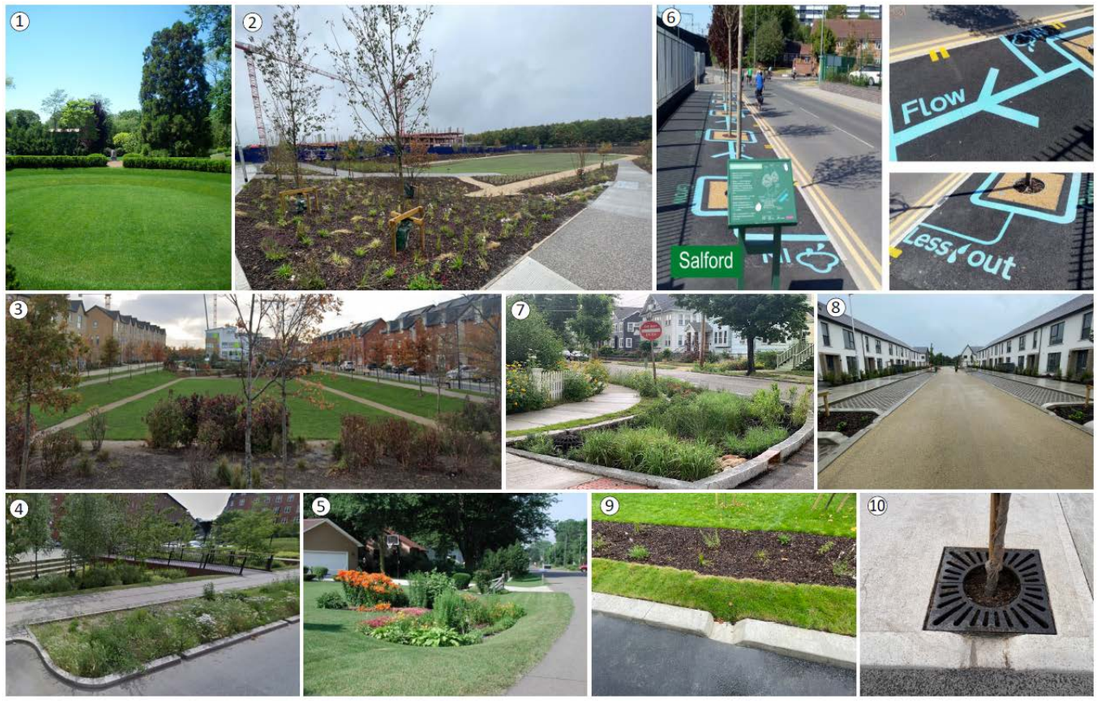

Fig 12: Proposed Street scape development.

Streetscape and Green Infrastructure

Essential to the overall success of the public open spaces within the site 3 lands was the design of the Green Infrastructure routes and street scape. These run across and through the site lands connecting the internal public open spaces to the wider Kishoge lands and existing residential developments.

Working with the Project team and Local Authority the design and layout of the green infrastructure routes and street scape has been given careful consideration and coordination with services (existing and proposed) to ensure the post planning delivery of the street and green links.

The streetscape hierarchy, design and layout has been developed to slow traffic place a greater emphasis on pedestrian and cycle movement, provide greater green infrastructure through the inclusion of;

- Street Streets
- Rain Gardens
- Bio retention swales
- Road side verges
- Inner street hedgerows

The location of these landscape features has been coordinated with proposed and existing site services, sight lines, lighting, road side crossing points and maintenance access.

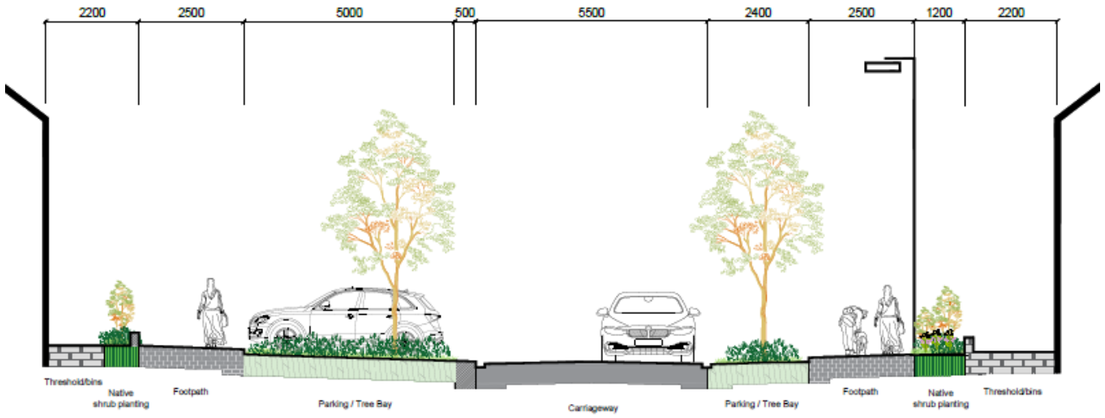

Fig 13: Local Green Street.

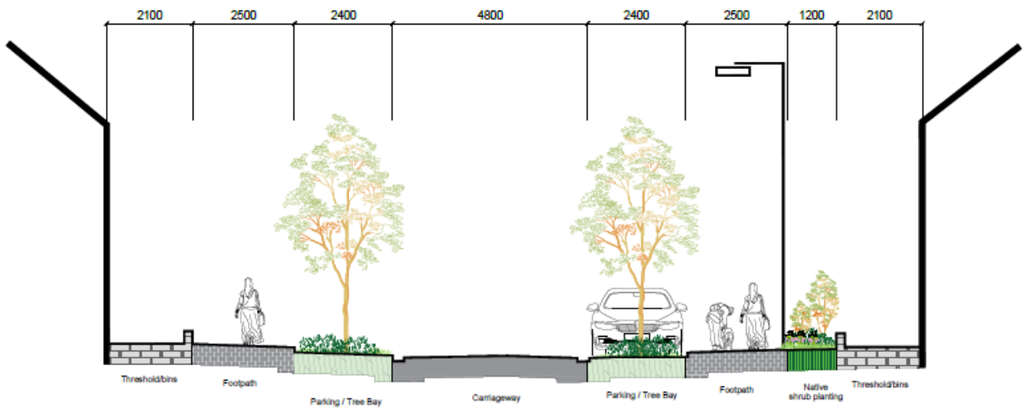

Fig 14: Intimate Street.

For all street types (Link Road, Local and Intimate Street) the inclusion of regular planting to both street sides has been carefully worked out to ensure that the street planting runs between the open spaces internally and to the wider environment allowing for the development of robust green infrastructure routes and the development matures.

Fig 15: Street scape planting linking open space to wider environs.

The southern boundary East – West Green Link and the Eastern Boundary North – South Green link (See Green Infrastructure Drawings for details) also provide green infrastructure link to the wider environs and green links within the site. Fig 16 illustrates the proposed design and landscape treatment of the southern Green Link

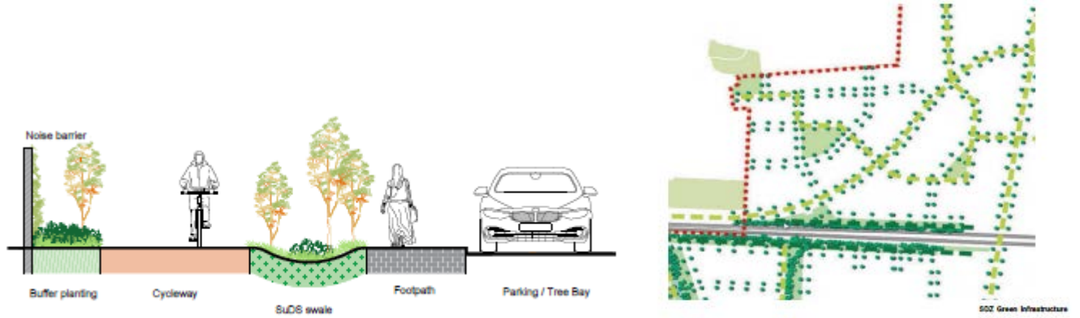

Fig 16: Southern Green Link and Green Infrastructure Network.

Public Open Space.

Connected by the Streetscape and Green Link networks the public and communal open spaces designed as part of the Site 3 development have been developed to provide active and passive recreation opportunities to the residents, while also catering for surface water attenuation through swales, bio retention tree pits and grass basins.

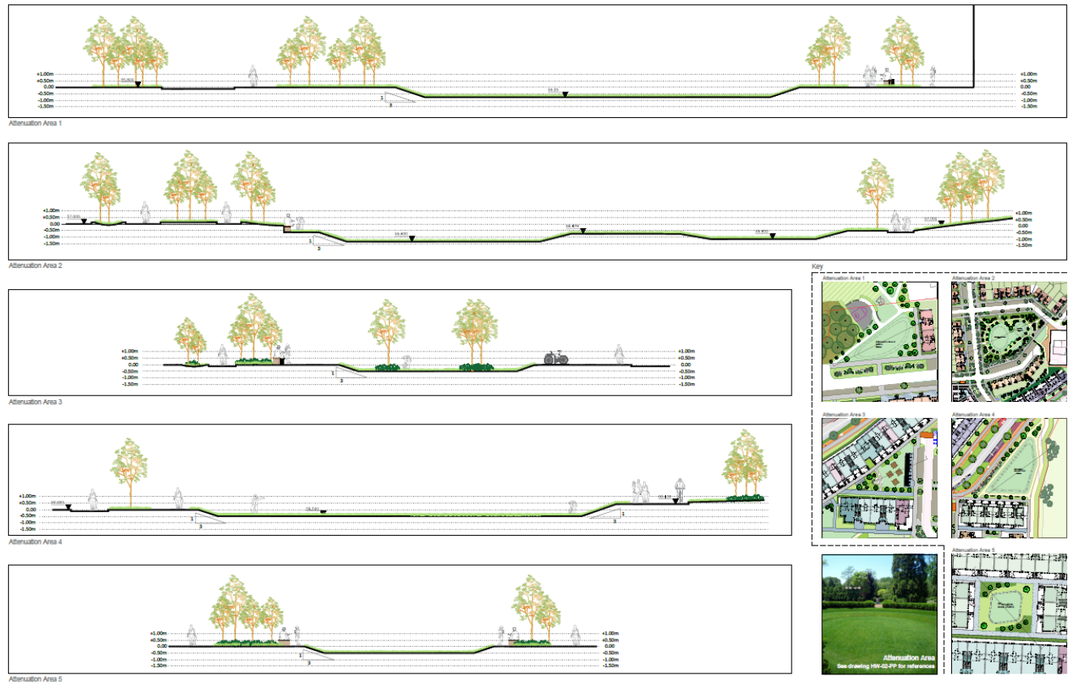

Fig 17: Sections to Open Spaces with sunken attenuation basins.

Each area of open space has been designed with the end user in mind ensuring that the open space is accessible, connected, supervised, comfortable and visually interesting.

Fig 18: Central Open Space Plan with precedent images of proposed amenities.

Careful consideration has been given to the access to each public open space to ensure access for all regardless of age or ability, those open spaces which cater for surface water attenuation have been designed to ensure that when in the lowest part of the basin there is inter visibility to the surrounding path and road network. This is to avoid the development of areas vulnerable to anti-social behaviour.

The planting to the public and communal open space had been developed through experience in the current Adamstown developments and through consultation with SDCC Parks and Green Infrastructure Department and the Landscape Architects on Site 4 and 5. The palette of planting is detailed in Section 4 of this report.

3.2 Site Lighting

The design of the landscape has been developed with the provision of site lighting to all public areas. The tree species and their locations has been considered during the design process to ensure that the species type and or their locations do not have a negative impact on lighting, resulting in a reduction of lux levels. Working with the project M+E Engineers we can confirm that the landscape design collaborates with the proposed site lighting to safeguard that the required lux levels are delivered in a manner which works with the proposed site wide tree planting to deliver a considered and safe landscape.

As part of the review of the lighting layout with the M+E Engineers to deliver where possible the lights in a manner that provides dark open space areas. These areas are more environmentally friendly to animals in particular foraging bats.

A key aspect of the scheme design is the development and delivery of coherent and comfortable green infrastructure network which can facilitate direct connection to the wider environment. The landscape plan illustrates how the site lands are connected internally and to the wider built environment and proposed development lands. In particular providing a direct link between the open space areas proposed under the permitted Plot 4, 5 and 6 developments and the proposed Plot 11. These connections aim to deliver a coherent public realm which knit together to form a legible landscape.

With the site lands the pedestrian and cycle pathway network radiate from the spine route providing direct access from each residential street through the site and to the neighbourhood park central open space area.

4.0 ECOLOGY, BIODIVERSITY AND EDUCATION.

The central design principle for the public realm has been the design of positive open space and the development of amenity both passive and active for all residents and the wider community. Coupled with this is the development of landscapes which promote ecology and biodiversity through a series of measures including:

- Appropriate plant selections, including a focus on native and flowering species
- The development of tree and understorey planting with a native ‘element’ to develop habitats for wildlife
- Outward connections to promote and enhance wildlife corridors.

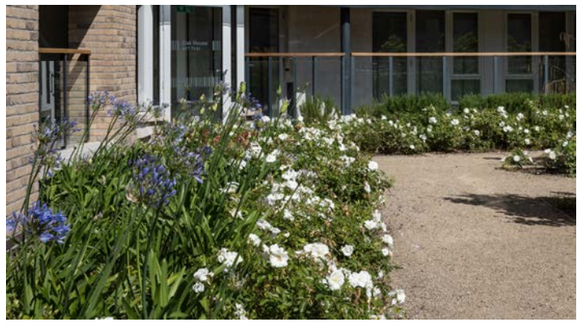

Fig 19+20: Examples of front boundary planting to public pathway and homezone areas.


Fig 21+22: Seasonal colour with a 'backbone' of an evergreen hedge.

In tandem with the promotion of ecology and biodiversity, we are also proposing the promotion of nature through education. This will be done by adding name tags to selected shrub, hedge, and tree species, including information signs and notice boards to highlight the benefit of the ecology and biodiversity and how correct plant selection can promote wildlife. These small but informative measures will be located throughout the pocket parks at relevant points on pathways, allowing residents to walk these pathways and learn to identify the surrounding planting.


Fig 23+24: Ecology rich wild flower meadows.

5.0 PLANTING

5.1 Feature trees within public open space

The trees in the central open space have been selected to create a visually appealing mix of specimens. The trees here are largely a mix of deciduous and evergreen and are positioned as informal grouping, either in mix species groupings or as single species.

Some of the species proposed include *Betula utilis 'Jacquemontii*, *Pinus sylvestris*, *Betula pubescens*, *Fagus sylvatica, Liquidamber styracifula* and *Castanea sativa* as referenced below.

These specimen trees are suitably placed within the scheme where they are grown in accordance with their shape and form and overall structure. The species are largely deciduous however some feature evergreen trees will offer greater 'depth' to the scheme particularly during the winter months. It would be envisaged that over the course of a 10-year period post planting, the tree stand would vary in height between 10-14m tall and would develop further in accordance with their species and site conditions thereafter.

5.2 Smaller trees more suited to limited space/constrained planting zones

Where space is more limited, smaller trees have been proposed which will offer visual appeal, year-round interest and 'companion' relationship with nearby tree and shrub planting. These trees are considered more 'delicate' in nature and offer wonderful flowering; however, they are sufficiently robust to ensure they are suited to site conditions and aspect. Some of the species proposed include *Syringa vulgaris*, *Amelanchier lamarkii, Hamamelis mollis* and *Cercis siliquastrum*.

The above tree species all noted above are deciduous and offer 'flower' from the period of late winter through to mid-summer. These species would grow to some 2.5-4.0m in height over the course of some 10 years; and would not grow much taller thereafter.

5.3 Street trees (columnar/ fastigiate in form)

Specific trees have been selected for the formal streetscapes within the scheme. These are all fastigiate or upright in form with a narrow canopy to avoid interference with landscape elements such as lighting, vehicular infrastructure, and the built environment. The species selected are considered 'tried and tested' in terms of streetscape design; however, they have also been selected for their seasonal interest.

Some of the species proposed include *Carpinus betulus 'Frans Fontaine'*, *Quercus robur fastigiata 'Koster'*, *Pyrus calleryana 'Chanticleer'* and *Fagus sylvatica 'Dawyk's Gold'*.

All the above species noted are deciduous in nature; and after a period of some 10 years post planting, these would grow to a height of 6-7.5m tall. The period would be considered the most active growth period; and whilst they would grow taller after this period it would however be at a slower rate.

5.4 Hedging

Hedging throughout the scheme will aim to define spaces which offer capacity for varying functions, create a backdrop to seating zones, edge pedestrian walkways and help define the boundary / buffer zone between the public and private realm. Every effort has been made to include hedgerows with a native element to improve the sites biodiversity. The delivery of visual appeal is also important to achieve this we are also utilising ornamental 'garden' species.

Some of the species proposed include *Carpinus betulus, Escallonia 'Apple Blossom'* and *Prunus rotundifolia.* The latter two species listed are evergreen in nature and offer a strong and formal hedge and would be maintained a height of 1.0-1.2m in height. The Hornbeam hedge (*Carpinus betulus*) is a deciduous hedge, however as the hedge creates continual juvenile foliage it tends to hold onto a large element of its leaves during winter which are brown in colour and offer good texture and seasonal interest.

The native hedgerow mixes proposed for the scheme include *Corylus avellana, Carpinus betulus, Crataegus monogyna, Euonymus europaeus, Ilex aquifolium* and *Prunus spinosa*.

This native hedgerow is largely deciduous in nature, apart from the Holly, and offers excellent seasonal interest in the form of changing bark colour, autumn leaf colour, berries of varying hues and flower. The

hedgerow would be maintained at a height of some 1.2-1.75m depending on location. At boundary edges, the hedgerow could grow slightly taller and have a looser form; however, where they define more formal spaces they can be retained at a lower height and retained more compact in form.

5.5 Ornamental shrub planting

Ornamental shrub planting is proposed throughout the scheme both within public, private and semi-private spaces. The shrubs have been selected for their ability to create form to spaces as well as providing seasonal variation, movement, scent, and colour throughout the scheme. It is envisaged that the shrubs will be a mix of evergreen and deciduous which will be complementary as part of companion planting arrangements. It is envisaged that shrub planting would not be taller than 900mm. An evergreen 'structure' will be present in all planting zones to allow the scheme to carry through the winter months.

5.6 Ornamental herbaceous planting

The herbaceous planting proposed for the scheme has been chosen for its robustness, ease of maintenance, movement' and visual appeal. These species shall be largely block planted in a single species and shall be edged with evergreen shrubs to ensure the planted structure is maintained throughout the winter period. Ornamental grasses have been included to create movement and appeal to a variety of the senses. Largely ornamental shrub planting is cut back each spring to allow for new growth; underplanting of ornamental bulb planting has been proposed in connection with herbaceous planting to offer added interest during the season.

5.7 Bulb planting

Bulb planting shall be proposed for across the scheme where the planting of bulbs will be in the form of naturalised bulb planting within grass zones or as companion planting to mixed herbaceous species. Some of the species selected include *Tulipa 'Triumphator'* and *Allium hollandium 'Purple Sensation'*.

Fig 25+26: Bulb planting, providing spring interest.

6.0 Maintenance

Post planning as part of the compliance with planning, tender and construction stages a details Landscape Management Plan will be development for

1. The 12month defects Liability Period
2. 0-5Years post including the handover of the development lands to the Local Authority.
3. 5-10Years Post Handover.

Fig 27+28: Aftercare and Landscape Maintenance.