

CLONBURRIS

Phase 1, Dublin

Landscape Architectural
Design Report

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Quality information

Document name	Ref	Prepared for	Prepared by	Date	Reviewed by
Part 8 Landscape Design Report	Clonburris Phase 1	SDCC	EMD	11/03/22	KW

Revision history

Revision	Revision date	Details	Authorized	Name	Position
02	15/04/22	Part 8	EMD	Eimear McDonnell	Senior Landscape Architect
01	11/03/22	Pre Part 8	EMD	Eimear McDonnell	Senior Landscape Architect

Context

01

Context

Introduction

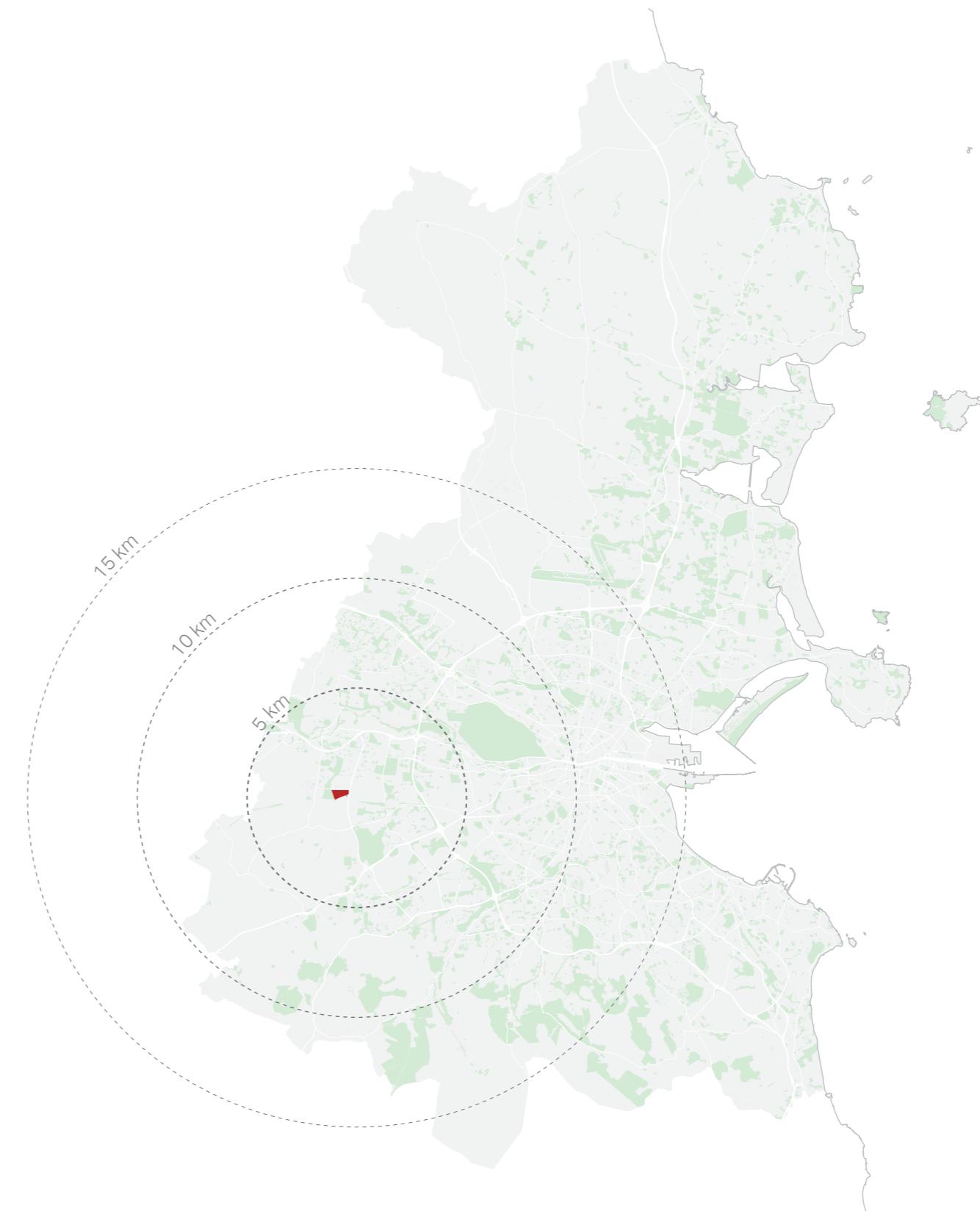
AECOM Ireland LTD has been engaged by South Dublin County Council with Metropolitan Workshop Architects to prepare various stages of design advice and direction for the phase 1 development of Clonburris Strategic Development Zone.

This landscape document outlines the Pre part 8 landscape design development for Clonburris phase 1. This landscape report describes the relevant planning and site context before outlining the proposed landscape strategy and design proposals.

The development proposal follows local, domestic and international guidelines such as:

- South Dublin County Council Development Plan 2016-2022
- Clonburris Strategic Development Zone Planning Scheme, 2019
- Design manual for Urban Roads and Streets- Department of Transport, 2019
- Building for Everyone: A Universal Design Approach, NDA
- and Ready, Steady, Play! A National Play Policy, 2019.

The overriding design intention is to create an inclusive and coherent new community based on best practice urban planning principles, giving residents a sense of place, ownership and identity.



Wider Context of Clonburris in the Greater Dublin Region

Planning Context

South Dublin Development Plan 2016-2022

South Dublin County Council (SDCC) Development Plan contains a broad range of policies and objectives reflecting the County's strong position to increase its share of residential and economic growth in Clonburris region. A review of development requirements extracted from the SDCC Development Plan can be found detailed in the landscape architectural report submitted in September 2019 as part of Metropolitan Workshops report for Clonburris Strategic Development Zone. Below are the key objectives/policies relevant to this phase 1 landscape development;

CHAPTER 2 HOUSING (H)

- H12 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.

CHAPTER 6 ROAD AND STREET DESIGN

- 6.4.3 ROAD AND STREET DESIGN (i) Design of Urban Roads and Streets: Harsh measures such as bare concrete walls will not be permitted, and alternative landscape measures such as street trees, screen planting and planted verges should be provided.

CHAPTER 7 INFRASTRUCTURE & ENVIRONMENTAL QUALITY (IE)

- Policy 2 Surface Water & Groundwater :IE2 Objective 5: To limit surface water run-off from new developments through the use of Sustainable Urban Drainage Systems (SUDS) and avoid the use of underground attenuation and storage tanks.

CHAPTER 8 GREEN INFRASTRUCTURE

- G1 Objective 1: To establish a coherent, integrated and evolving Green Infrastructure network across South Dublin County with parks, open spaces, hedgerows, grasslands, protected areas, and rivers and streams forming the strategic links and to integrate the objectives of the Green Infrastructure Strategy throughout all relevant Council plans, such as Local Area Plans and other approved plans.

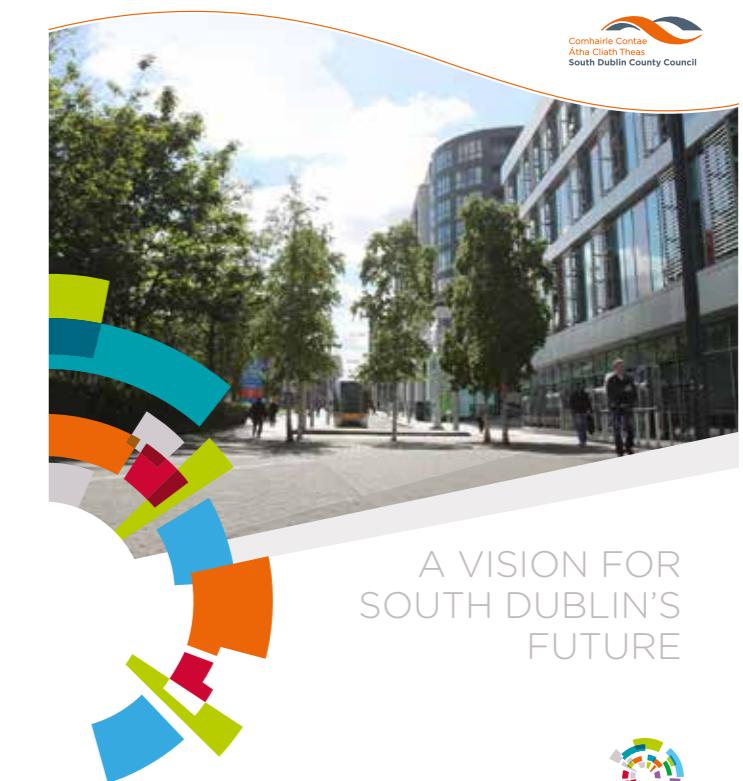
GREEN INFRASTRUCTURE (G) Policy 2 Green Infrastructure Network

- G2 Objective 1: To reduce fragmentation of the Green Infrastructure network and strengthen ecological links between urban areas, Natura 2000 sites, proposed Natural Heritage Areas, parks and open spaces and the wider regional Green Infrastructure network.
- G2 Objective 2: To protect and enhance the biodiversity value and ecological function of the Green Infrastructure network.

- G2 Objective 4: To repair habitat fragmentation and provide for regeneration of flora and fauna where weaknesses are identified in the network.
- G2 Objective 5: To integrate Green Infrastructure as an essential component of all new developments.
- G2 Objective 6: To protect and enhance the County's hedgerow network, in particular hedgerows that form townland, parish and barony boundaries, and increase hedgerow coverage using locally native species.
- G2 Objective 9: To preserve, protect and augment trees, groups of trees, woodlands and hedgerows within the County by increasing tree canopy coverage using locally native species and by incorporating them within design proposals and supporting their integration into the Green Infrastructure network.
- G2 Objective 10: To promote a network of paths and cycle tracks to enhance accessibility to the Green Infrastructure network, while ensuring that the design and operation of the routes responds to the ecological needs of each site.
- G2 Objective 11: To incorporate appropriate elements of Green Infrastructure e.g. new tree planting, grass verges, planters etc. into existing areas of hard infrastructure wherever possible, thereby integrating these areas of existing urban environment into the overall Green Infrastructure network.
- G2 Objective 12: To seek to control and manage non-native invasive species and to develop strategies with relevant stakeholders to assist in the control of these species throughout the County.
- G2 Objective 13: To seek to prevent the loss of woodlands, hedgerows, aquatic habitats and wetlands wherever possible including requiring a programme to monitor and restrict the spread of invasive species.

GREEN INFRASTRUCTURE (G) Policy 4 Public Open Space and Landscape Setting

- G4 Objective 1: To support and facilitate the provision of a network of high quality, well located and multifunctional public parks and open spaces throughout the County and to protect and enhance the environmental capacity and ecological function of these spaces.
- G4 Objective 2: To connect parks and areas of open space with ecological and recreational corridors to aid the movement of biodiversity and people and to strengthen the overall Green Infrastructure network.
- G4 Objective 3: To enhance and diversify the outdoor recreational potential of public open spaces and parks, subject to the protection of the natural environment.
- G4 Objective 5: To promote the planting of woodlands, forestry, community gardens, allotments and parkland meadows within the County's open spaces and parks.
- G4 Objective 7: To avoid the cumulative fragmentation and loss of ecologically sensitive areas of the Green Infrastructure network to artificial surfaces and to position recreational facilities that incorporate artificial surfaces at appropriate community-based locations.



South Dublin County Council
Development Plan
2016 – 2022

GREEN INFRASTRUCTURE (G) Policy 5 Sustainable Urban Drainage Systems

- G5 Objective 1: To promote and support the development of Sustainable Urban Drainage Systems (SUDS) at a local, district and county level and to maximise the amenity and biodiversity value of these systems.
- G5 Objective 2: To promote the provision of Green Roofs and/or Living Walls in developments where expansive roofs are proposed such as industrial, retail and civic developments.

HERITAGE, CONSERVATION AND LANDSCAPES (HCL)

- Objective 1: To protect, conserve and enhance natural, built and cultural heritage features and restrict development that would have a significant negative impact on these assets.
- Policy 15 Non-Designated Areas: HCL15 Objective 3: To protect existing trees, hedgerows, and woodlands which are of amenity or biodiversity value and/or contribute to landscape character and ensure that proper provision is made for their protection and management in accordance with Living with Trees: South Dublin County Council's Tree Management Policy 2015-2020.

Clonburris SDZ Planning Scheme

Clonburris Strategic Development Zone (SDZ) was designated as it is considered a key strategic node for residential development in South Dublin County Council.

The lands are strategically located, highly connected and have also been designated as a Major Urban Housing Development Site with the opportunity for delivering housing within the Dublin Region over the next decade and beyond.

South Dublin County Council developed the Planning Scheme which was approved by An Bord Pleanála in May 2019.

This scheme outlines clear landscape objectives which have been highlighted in the Landscape Architectural Design Report-September 2019 and summarised below here;

DEVELOPMENT

- 'Developments on the SDZ lands should identify and protect (where possible) the existing green infrastructure elements on the lands including green open spaces, hedgerows, large trees, watercourses and other natural physical features as these are a strong part of the lands history and will define the character of areas and help to create attractive neighbourhoods.'

GREEN INFRASTRUCTURE

- New green spaces will be interconnected with existing green infrastructure to form multifunctional corridors and hubs at the Griffen Valley Park Extension, along the Grand Canal, the Griffen River, the Kilmahuddick Stream, through existing and proposed Parks, along the railway line, through existing hedgerows and over the green bridge and connecting into existing green spaces outside the SDZ lands. Local level green infrastructure corridors shall be provided along the new urban structure of streets and spaces (i.e. trees, tree lines, swales margins)'
- A key layer of the Planning Scheme Framework is the provision of green infrastructure as:
 - tree lined avenues and streets, designed according to DMURS;
 - traffic calmed local streets,
 - retained hedgerows and
 - an exemplar in the provision of sustainable urban drainage.

SUSTAINABLE URBAN DRAINAGE

SUDs are to be designed as an ecological resource designed into the street, public squares and open space network. It is essential that open spaces accommodating SUDS measures such as attenuation ponds, shall be designed in order to achieve a balance between surface water management and high quality open space. SuDS shall achieve a multifunctional space for amenity, biodiversity and surface water management and should include grasses and swales, and high quality, well designed attenuation ponds and constructed wetlands. SuDS key elements are:

- A system of infiltration trenches, tree pits, permeable paving green roofs, and other elements shall be provided that should direct surface water to attenuation areas.
- Swales should be designed as linear landscape elements and used as elements to enhance streetscape and neighbourhood character and identity.
- Surface water should be captured and treated within the curtilage of each site using green roofs, rainwater gardens, filter trenches or bio retention units.
- Streets should be generously planted at frequent intervals.

CONNECTIONS

- The planning scheme requires the connection of parks and areas of open space with ecological and recreational corridors to aid the movement of biodiversity and people and to strengthen the overall Green Infrastructure network.

BIODIVERSITY AND NATURAL HERITAGE FEATURES

- In addition to primary ecological corridors, there is in excess of 30km of hedgerow/treeline habitat with the SDZ. The Hedgerow/treeline habitat linking the Grand Canal Corridor and the Rail corridor should be retained where possible, in order to maintain the continued ecological integrity of these habitats including for foraging and commuting bats. Where these hedgerows cannot be retained, a new hedgerow network composed of the same species shall be planted along roadways within the development.

1

Introduction and Vision for Clonburris

1.1 Introduction
1.2 The Strategic Development Zone Vision
1.3 Overarching Principles of the Planning Scheme
1.4 Introduction to the Strategic Development Zone Framework
1.5 Introduction to the Planning Scheme Area
1.6 Policy Context
1.7 Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA)
1.8 Structure of the Planning Scheme



DESIGN CRITERIA

- Design Criteria For Open Space: 'To incorporate major strategic corridors such as the Canal and Railway. Include for important Sustainable Urban Drainage System functions: SUDS features such as major detention ponds and swale' and 'Retention and enhancement of selected hedgerow'.
- Design Criteria For Local Parks and Squares: Include local level SuDS function; small swales and bioretention areas and retention and enhancement of selected hedgerow
- Design Criteria For Local Links: Tree lined street and avenues' and 'Incorporation of small scale SUDS features such as swales, where appropriate'.

Clonburris SDZ Biodiversity Management Plan (BMP)

HABITAT RETENTION AND CREATION

- HR01 Where feasible within the constraints of the SDZ Masterplan and overarching principle of developing the lands the designs for proposed developments should retain habitats of ecological value that can be accommodated within their ownership boundaries. Particular consideration must be given to retaining ecological features which provide connectivity between habitats (e.g. hedgerows and treelines) to promote green and blue infrastructure within the SDZ lands.
- HR12 The Parks and Landscape Strategy indicates the retention of 7,720m of hedgerow / linear woodland habitat within the strategic open spaces - 5,200m along the canal, 520m along the Griffeen river and 2,000m of hedgerow within parks and open spaces. When final landscape designs are being prepared for open spaces, this level of retention is considered to be the minimum acceptable.
- HC15 The planting of hedgerows within the parks areas and along roadways is a key habitat creation objective. This will compensate for the loss of hedgerow habitat within the lands.
- HC16 Where hedgerow planting is proposed within the lands, the new hedgerows should take the form of a double line of native tree with shrub species. Translocation of existing hedgerows and their seed banks to new locations should be considered where feasible. Hedgerows must be correctly maintained according to the following document: The Heritage Council (2016) Conserving Hedgerows.
- HC17 Hedgerow locations must be chosen to connect features of ecological value (particularly the Griffeen River, the Grand Canal and the railway line, as well as existing hedgerows, treelines and woodland) to the ecological network in the wider landscape where possible and promote green infrastructure within the lands. This can be achieved by planting hedgerows where they do not already exist and in this way minimising the number of gaps in the hedgerow network that would affect ecological connectivity within the SDZ lands and the surrounding areas.

TREE PLANTING

- HC20 For every tree felled within the Clonburris SDZ, a replacement tree must be planted. This ensures compliance with South Dublin County Council's Tree Management Policy.
- HC21 Preferably, all tree planting (including street planting) should be of native species. Where this is not possible, tree species should be chosen with regard to the All-Ireland Pollinator Plan's Pollinator Friendly Planting Code.
- HC22 Where tree planting is proposed, consideration must be given to planting a range of semi-mature specimens. This will compensate for the loss of mature trees across the SDZ and will immediately provide nesting and feeding habitat for fauna species.
- HC23 Tree planting must take into consideration the connectivity of existing ecological features (e.g. hedgerows, treelines, woodland, watercourses) within the SDZ lands and planting must aim to contribute towards it. This can be achieved by, for example, planting trees and/or groups of trees relatively close to each other across amenity grasslands

and wildflower meadows thus providing 'stepping stones' for wildlife over open areas, and/or by planting treelines along streets and other linear features and consequently improving green infrastructure and the overall ecological connectivity within the SDZ lands.

BIODIVERSITY MEASURES FOR KISHOGUE SOUTH WEST

Local Park

- Retention of treelines and enhancement of treelines
- Retention, enhancement and creation of hedgerows
- Retention, enhancement and creation of woodland (pockets in park, near railway line and Grand Canal and around other water features)
- Planting of native flowering and fruiting tree species
- Creation of short-flowering species rich grassland (roadside verges, pavement verges)
- Creation of long-flowering wildflower meadows (areas in parkland)
- Herbaceous pollinator-friendly planting (urban planters, areas of annual bedding)
- Creation and enhancement of ponds, swales and other water-retention features

1E(ii) Railway Line

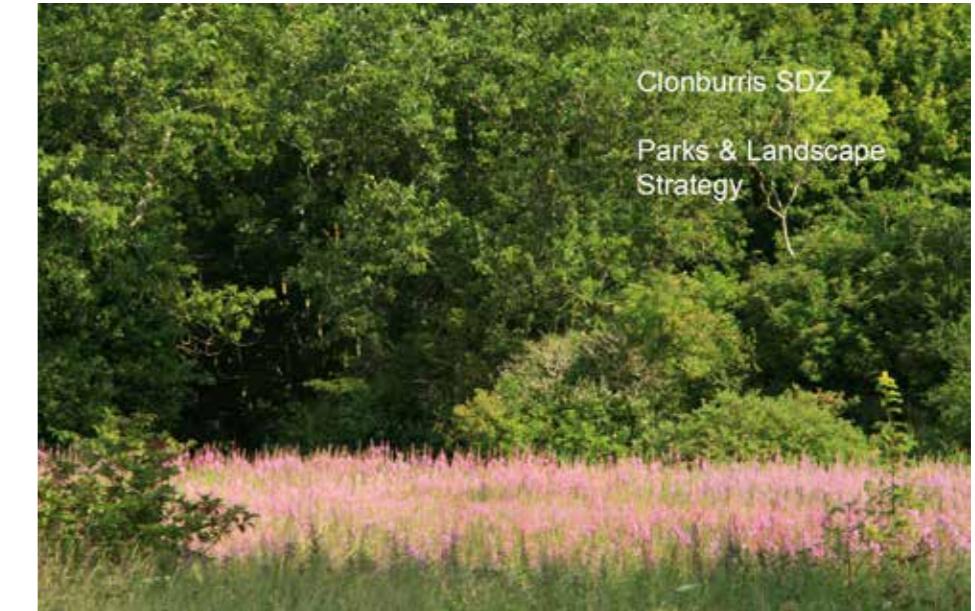
- Retention, enhancement and creation of hedgerows
- Retention of treelines and enhancement of treelines
- Retention and enhancement of existing scrub habitat
- Creation of short-flowering species rich grassland (roadside verges, pavement verges)
- Creation of long-flowering wildflower meadows (railway verges, roadside verges, pavement verges, canal towpath)

DRAFT Clonburris SDZ Parks and Landscape Strategy

The Parks and Landscape Strategy is currently at DRAFT stage revision E. This report builds on the overall SDZ Planning Scheme, outlining certain key green and blue infrastructure on this development site. The development site contains historic townland hedgerow, proposed SDZ ecological corridors and proposed open space being considered local parks in the SDZ scheme. The following components are key to the landscape development of phase 1.

GREEN INFRASTRUCTURE

- 'The strategy is centred on the high value existing vegetation along the canal corridor, particularly along the northern edge of the canal. The strategy proposes to retain and enhance the existing vegetation and extend this habitat into the proposed parks where possible'



- Section 4.1 'Developments on the lands should identify and protect, where possible, the existing green infrastructure elements on the lands including green open spaces, hedgerows, large trees, watercourses and other natural physical features ...'
- New green spaces will be interconnected with existing green infrastructure to form biodiversity corridors.

LOCAL LINKS

- Local links will be incorporated in the design of each development area, linking local and strategic open spaces.
- Design principles include:
 - Use of small scale SUDS features where appropriate
 - Tree lined streets and avenues

TREE PLANTING

- Tree species should be selected for longevity, suitability to local soil conditions and micro-climate, biodiversity (native species) and suitability for close proximity to residential buildings. A range of tree species and sizes should be utilised from semi-mature specimen trees to multi-stems. The All-Ireland Pollinator Plan 2015-2020 should be used to form the basis of the proposed tree species. 'South Dublin County Council's Tree Management Policy 2015-2020' has also been consulted.
- 'Street trees should be considered as an integral part of the street environment (DMURS 2013) with the size and species selected proportionate to the width of the street and planted at frequent intervals.'
- Median, verges and build outs should be used as areas in which to plant trees, as well as within privacy strips on residential streets.
- Proposed tree sizes should range from semi-mature specimen trees to multi-stemmed tree planting. Proposed trees should comprise predominantly of native species.
- Consideration should be given to planting areas of trees in copses or groupings, whether as an extension to an existing hedgerow, or new independent planting as these form hubs which contribute to the biodiversity matrix, particularly if linked to other hubs with corridors such as streams/rivers or hedgerows.

Landscape Architectural Design Report

September 2019



The landscape architectural design report was undertaken following planning permission being granted for the SDZ development in May 2019.

AECOM Landscape Architects reviewed the SDZ Planning Scheme and SDCC Development Plan. Following this, they proposed a detailed guide for the future landscape developments in the key open spaces of the SDZ development. This was outlined in the Landscape Architectural Design Report-September 2019.

Phase one development contains a local park and a medium size park (Kishoge South West) which would be considered a key central open space corridor to provide overall permeability of the future SDZ network.

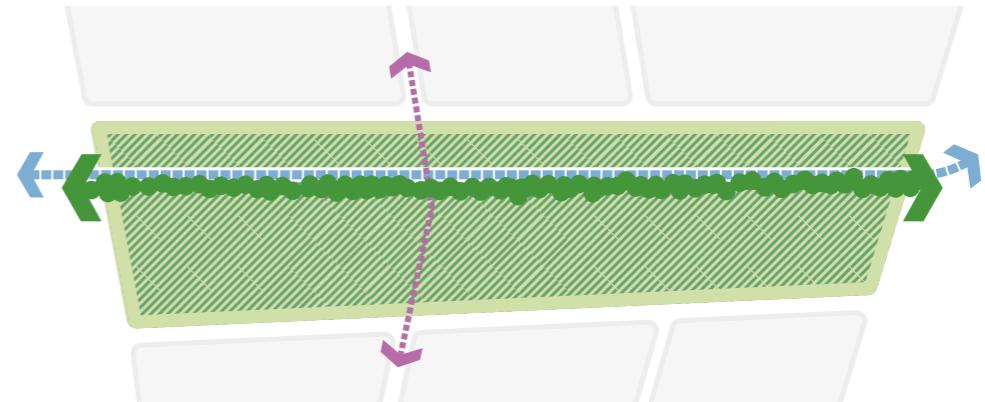
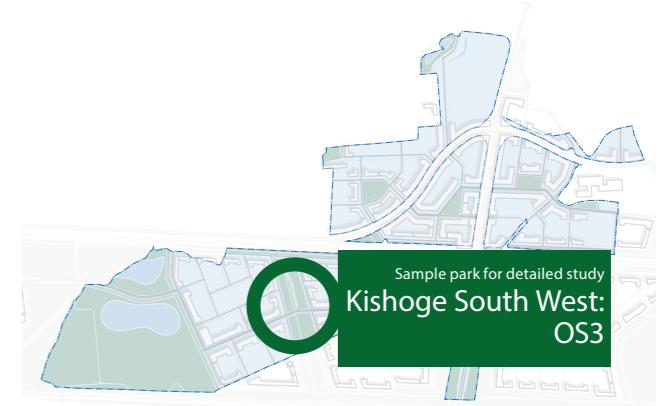
Kishoge South West (KSW-OS3) is determined as serving a wide residential catchment - offering a passive and active programme to various surrounding neighbourhoods. It has passive surveillance, which contributes to the safety and on-going use of the strategic open space.

This space was considered and a schematic design was produced. This is highlighted in the following page.

Environmental Boundaries

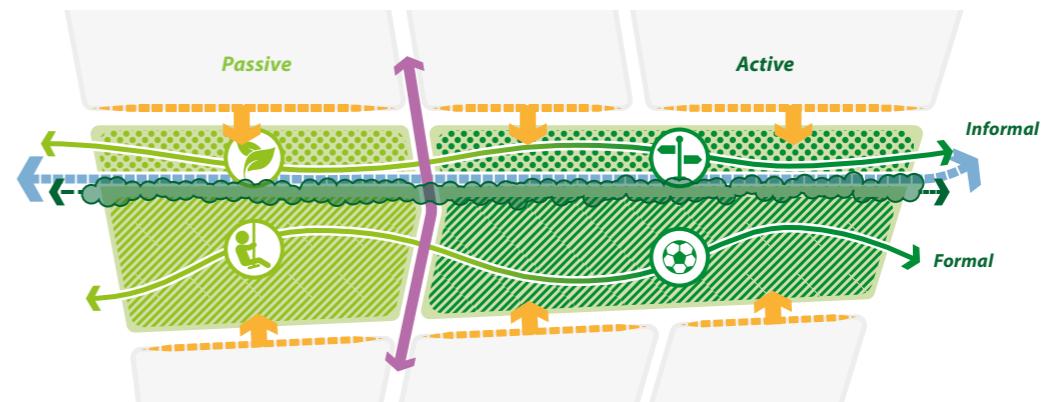
Existing ecological assets are recognised and protected across the site. These are in the form of Kilmahuddrick Stream and the adjacent hedgerow - each of which are determined as important elements in the Strategic Environmental Assessment:

4.10.4 Key Landscape Sensitivities within the Planning Scheme The protection of the Kilmahuddrick Stream. The relationship with the Grand Canal, the Griffen River, and the Kilmahuddrick Stream at the south-west corner of the lands.



KSW-03 Schematic Programming

Strategic site-wide character divisions enable the design to feature four key quadrants. These are themed across a Passive/ Active edge, and a Formal/ Informal division. Each of these is envisaged to inform a schematic programme of activities that cater for sports (group and individual), family activities (picnic and play areas), and ecological walks with environmental information points.



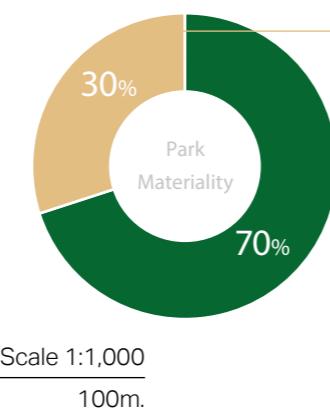
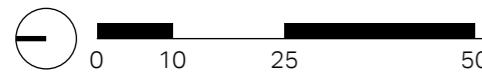
KSW-03 Sitewide Framework

Movement and connections between the primary parkland quadrants are provided along two deviating spines that allow for safe pedestrian passage throughout the linear sites. Parkland clusters screening between different character areas.

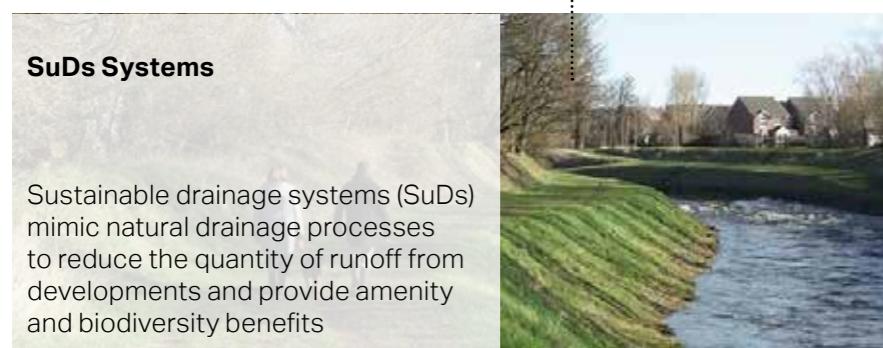


Landscape Architectural Design Report:

Kishoge South West - Open Space Strategy



- Hardworks
 - Diverse Playground Facilities for a mix of age groups
 - Small / Individual Sports Facilities and jogging paths
 - Raised Table HRA
- Softworks
 - Team Sports Facilities, including an artificial turf field
 - SuDs Components (Rain Gardens)
 - Informal Recreation Lawn
 - Parkland Tree Clusters
 - Street Trees



South Dublin County Council Play Space Programme 2014-2019

SDCC undertook to develop natural playgrounds in the SDCC PLAY SPACE PROGRAMME 2014-2019, which planned to deliver more than 60 play spaces in public parks throughout the County.

SDCC propose additional facilities in residential areas as follows:-

- Public and semi-private open space in all residential developments will be required to incorporate natural features that promote children's play.
- Opportunities for children's play should be addressed as part of the Landscape Plan.
- Developments of 50 units or over shall include formal provision for children's play in semi-private or public open spaces through provision of a Young Children's Area for Play (YCAP), or a Local Equipped Area for Play (LEAP) or a Natural Play Area(NPA).

Where publicly accessible YCAPs are provided they should be taken-in-charge by the local authority.

Play features should be sited so that they are accessible and supervised, without causing nuisance to nearby residents.

The images show examples of some of the SDCC natural playgrounds in the surrounding area.



Corkagh Park Playground



Tymon Park



Griffeen Valley Park



Hermitage Park Playground

Site Overview

02

Site Overview

Existing Landscape

Phase 1 site is located south west in the overall SDZ development zone. It is situated north of the Grand Canal, east of Griffeen park south and immediately south of the Clondalkin/Fonthill rail line.

The green field site is relatively flat, sloping from a height of 59.60m in the north-east corner to 56.29m in the north-west corner.

The Clondalkin/Fonthill railway line to the north of the site is elevated approximately 1.5m above the field ground level. A palisade fence delineates the boundary between both lands.

The Kilmahuddick stream runs through the site travelling from northern to south in the western part of the site.

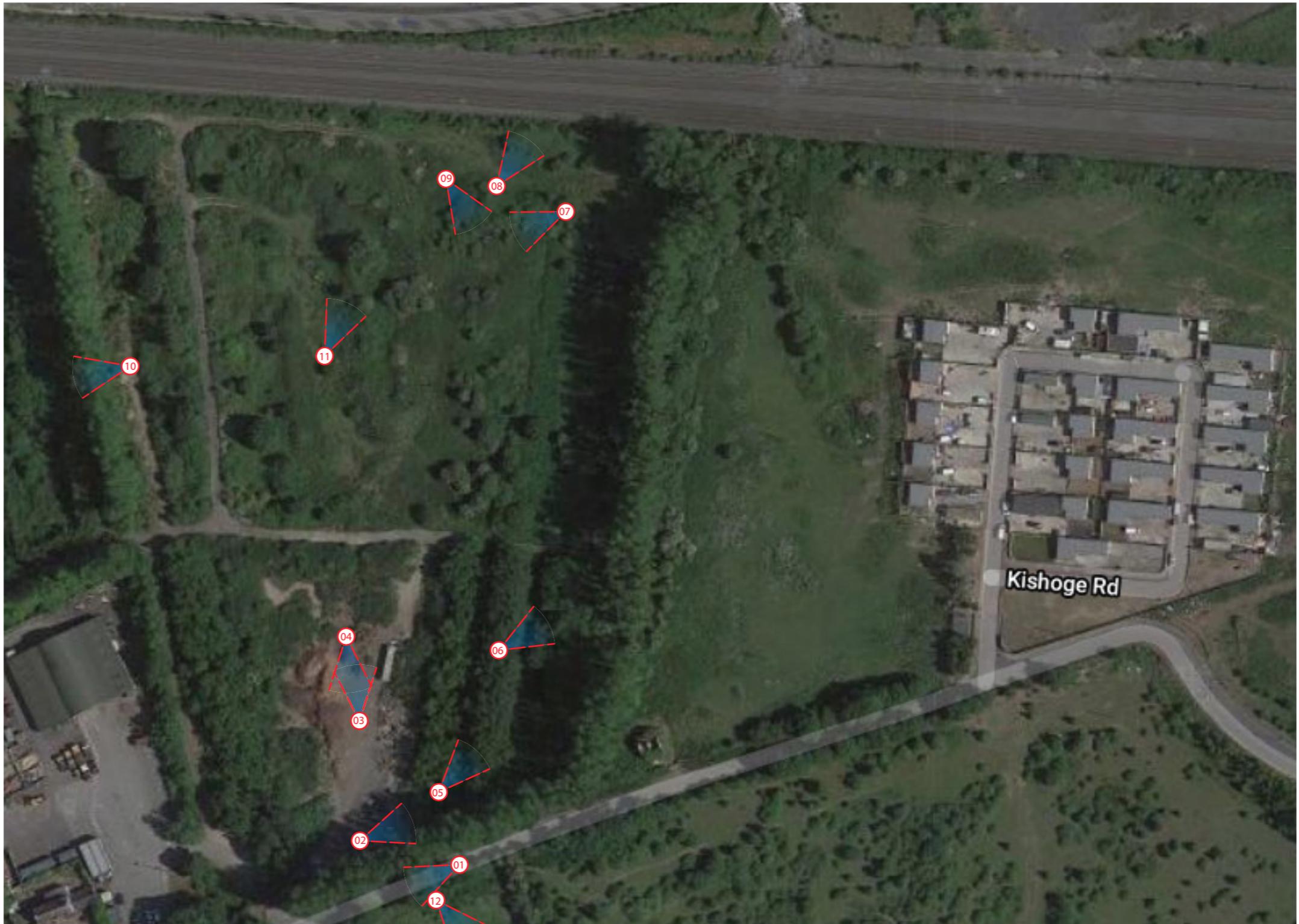
There are two existing culverts along the Kilmahuddick stream. Exploration to opening these up will occur in the detailed design stage of this project.

Mature popular occur to the west of the stream ditch along the northern segment of the river. As the river travels south tree planting occurs on both sides of the ditch comprising predominately of Alder and Sycamore. The stream and existing tree line are an important ecological asset in the Strategic Environmental Assessment carried out in the SDZ Planning Scheme.

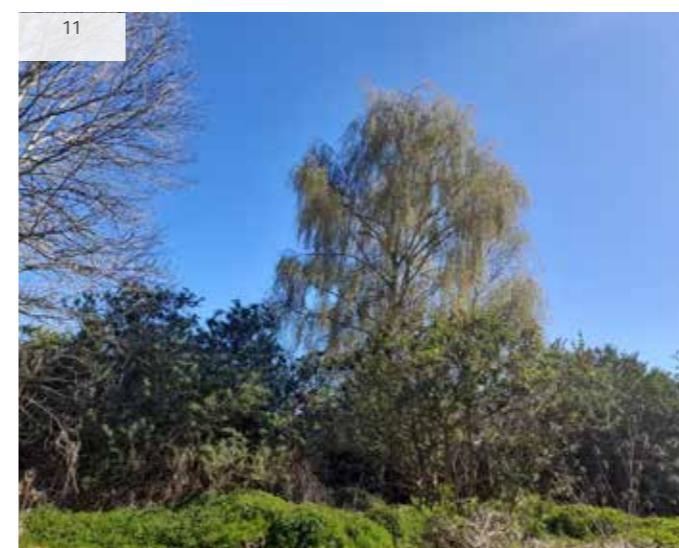
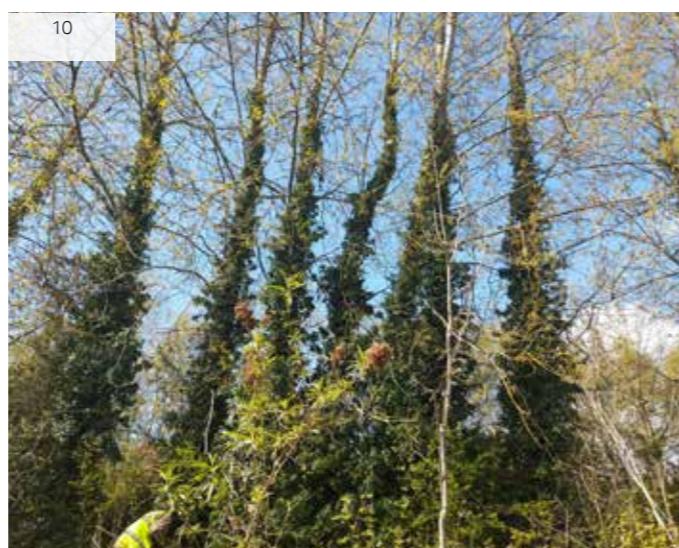
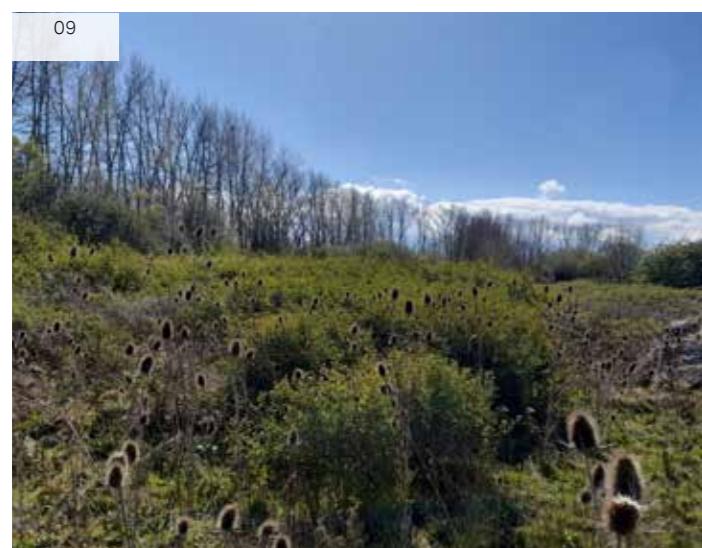
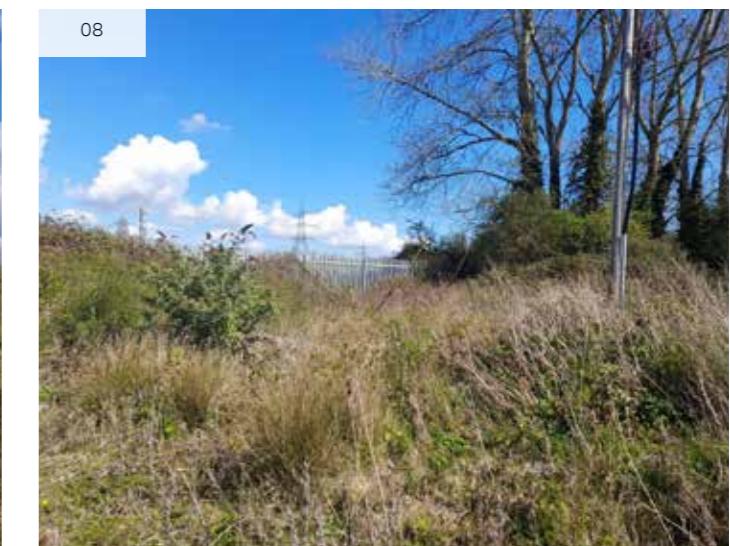
A row of mature trees can also be found along the centre of the site, consisting mostly of Popular in very poor condition with bacterial canker. These would have ecological value, please refer to the ecology report for further information on this.

A linear body of water lies west of the trees and is stagnant. A ditch travels parallel to this with scrub occurring. This is highlighted a town-land boundary in the SDZ Planning Scheme.

A local road, south of the site, facilitates the entrance to a SDCC parks nursery and existing travellers' accommodation.



Site Photos (Refer to Key Plan on previous page)



Landscape Character

The following elements are key characteristics of the existing site;

- Linear form of tree and hedgerows
- Linear water bodies
- Wet meadow landscape
- Flat terrain



Invasive Species

Numerous invasive species are located on the phase 1 development site, including Japanese Knotweed.

South Dublin County Council has tendered for an invasive species specialist to treat these invasive species on site. The appointment should occur by May 2022 with the aim for onsite herbicide treatment to occur for 2022, and 2023.

An invasive species management plan will be outlined by the appointed contractor.



Existing Tree Conditions

Tree Survey Observations (CMK Hort +Arb Ltd)

CMK Hort + Arb Ltd undertook an assessment of trees on the site during several occasions from November 2021 to April 2022.

The following landscape observations have been made of the tree survey in conjunction to the proposed masterplan;

Tree removal due to low quality

- Tree group 7, 10, and 11 are called up as category U trees. Very low quality and value with recommended removal.

Removal due to development

- Removal of tree group 5 and 6 due to development. These are called up as low value category C trees.
- Removal of boundary tree group 2 due to the removal of the wastewater treatment plant on site.
- Removal of mature/early mature individual trees through the site due to development. Please refer to the Arborist schedule for these details.

Retention of existing trees

- Tree group 3 is called up as poor quality on the survey. These comprise of Poplar (*Populus nigra* var) trees located adjacent to the stream at the northern segment of the linear park. A phased management regime will need to be undertaken by SDCC with replacement planting coinciding with removal on site.

Retention of existing trees in the southern section of the linear park.

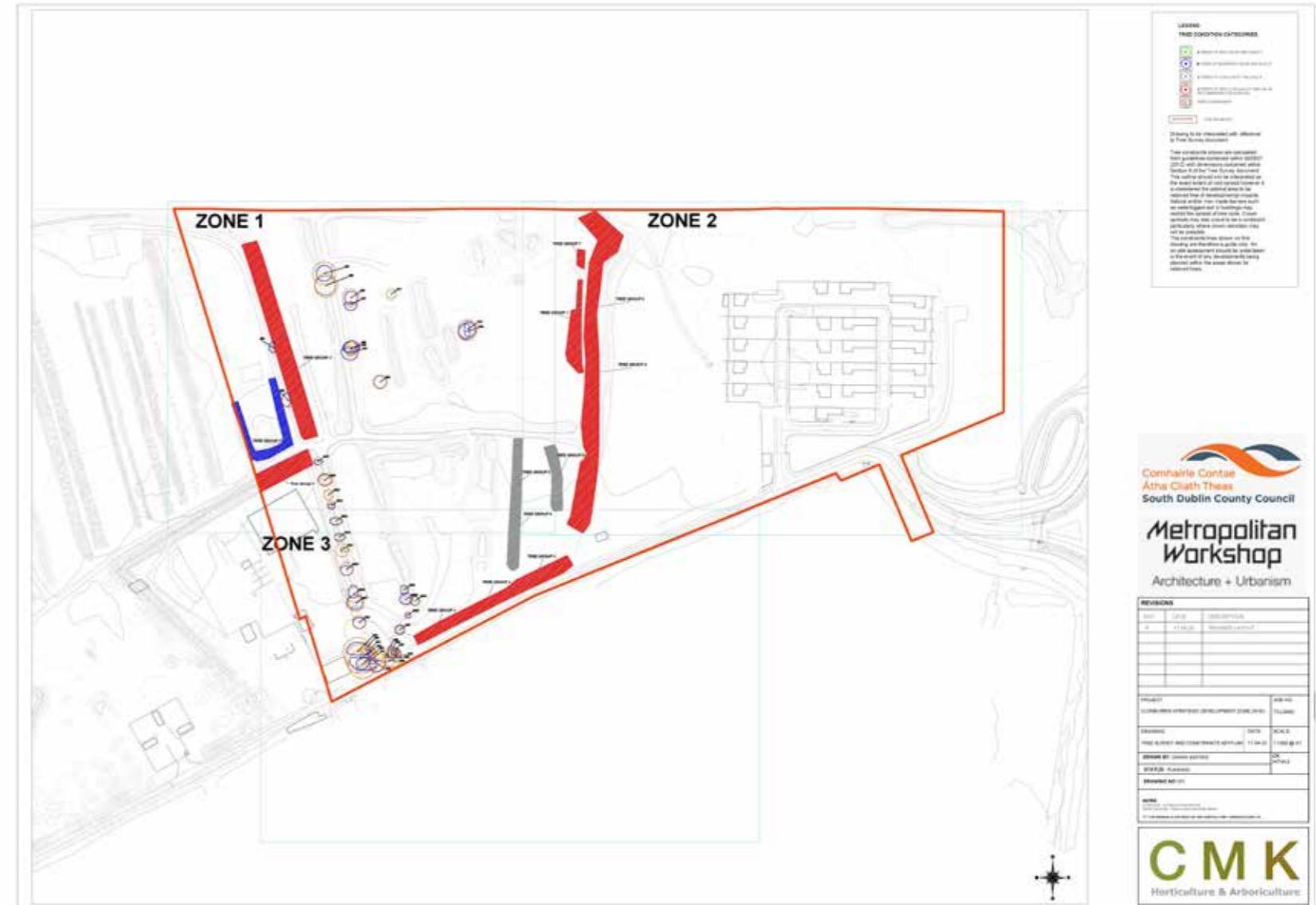
These comprise of;

- Mature sycamores (*Acer pseudoplatanus*)
- Mature Alder (*Alnus glutinosa*)
- and a mature hybrid black Poplar (*Populus nigra*) all in good health.

Conclusion

As noted in the arboricultural assessment & impact report, the impact in terms of tree removal numbers is significant however in terms of tree quality and long-term potential the impact could be considered moderate only. Those trees that are to be removed due to development are located as isolated self-seeded individuals.

The landscape masterplan proposes a variety of new native and adaptive tree planting which will help compensate the loss of the trees removed in the development site. These will enhance the existing biodiversity on site providing a mix of habitats throughout. Please refer to the compensatory planting figure in section 3.



Refer to CMK Hort + Arb Drawings and Reports for Reference

APPENDIX II

TREE CONDITION ANALYSIS & PRELIMINARY RECOMMENDATIONS

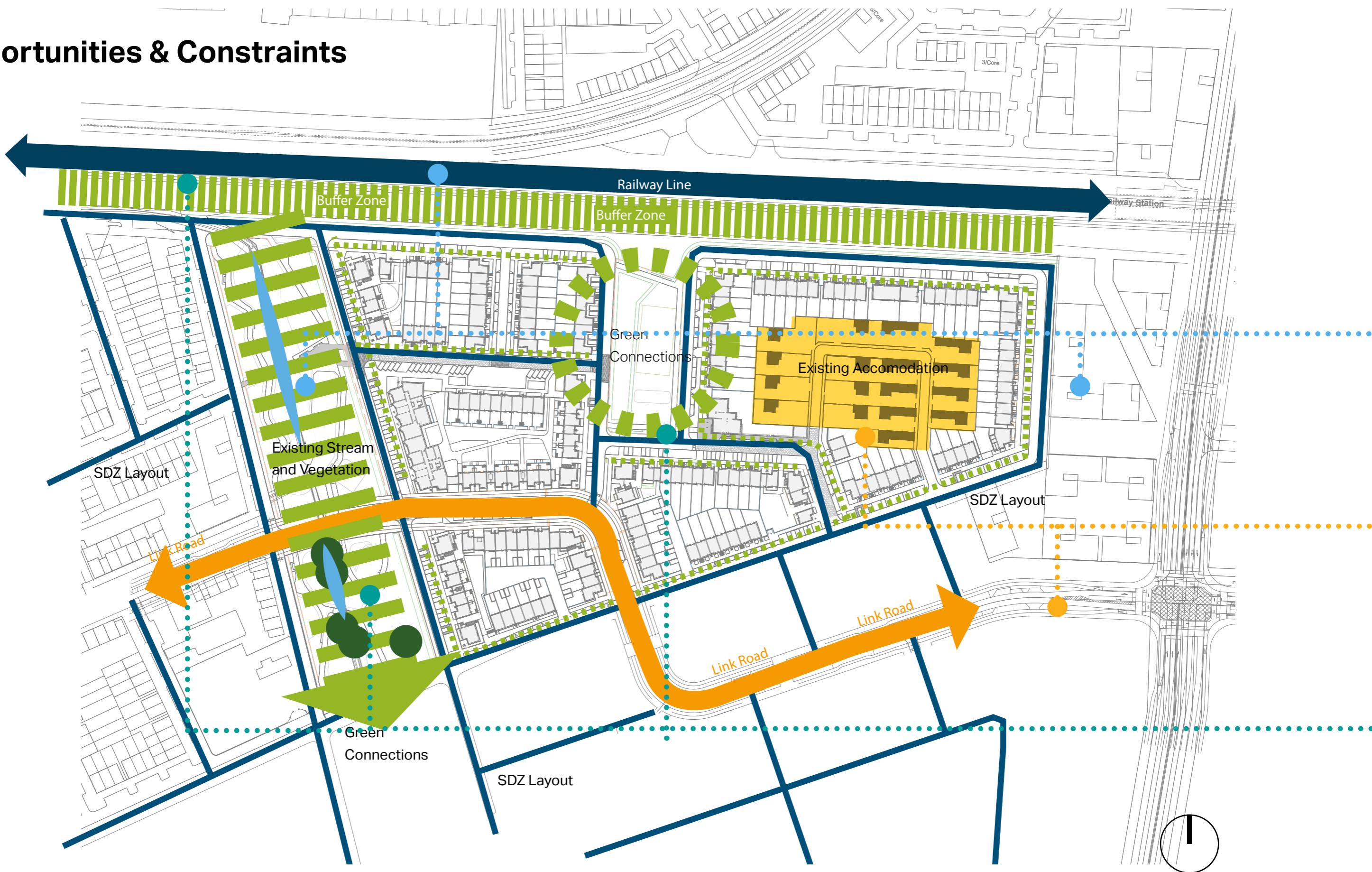
CLONBURRIS SHD
DUBLIN 22

Project No. TCOL002 Project name Clonburris SHD Date 11/04/22 Revision A
Report Prepared by Ciaran Keating BSc. in Sci. & Ecol. H.N.D. Hort. AA Tech Cert Arb. PG Dip Arb & Urban Forestry E-mail: cmkhortandarb@gmail.com Mobile: 087 1182343 Drumone, Oldcastle, Co. Meath



Metropolitan Workshop
Architecture + Urbanism

Opportunities & Constraints



Opportunities and Constraints

SDZ Masterplan

The SDZ Planning Scheme has provided Clonburris Phase 1 development with a clear outline, ensuring the proposal is cohesive with the overall future development of the SDZ.



Strengths

Existing Hedgerow/Trees

Mature tree planting alongside the Kilmahuddick stream is to be protected and utilised in the proposal.



Railway Line

The existing railway line running north of the development site will have a new working station to facilitate this new development.



Existing Accommodation

Existing accommodation on site is to be retained and protected. A sympathetic interface between this and the proposed development is needed.



Link Road

A link road through the development site is part of a differing planning application. These works will need to be co-ordinated and interface appropriately considered.



Connections

Provision for a well-connected scheme that has considered both the existing and future development opportunities.



Biodiversity

Provision for enhanced biodiversity on site through establishing a northern ecological corridor of native planting, providing native meadows through the linear park and provision of bird nesting boxes throughout the open space development and community building.



Opportunities

Key Strategies

03

Landscape Strategy

The proposed residential scheme contains 263 units in a mix of apartments, duplexes and houses. The scheme includes for a community room with associated ancillary works including vehicular access, parking, footpaths, drainage, services, landscaping and site boundary works.

The overriding design intention is to create an inclusive and coherent new community based on best practice urban planning and landscape design principles, giving residents a sense of place, ownership and identity.

The landscape strategy is as follows:

1. Form a green spine along the west of the development, linking future residential and amenity nodes, alongside ecological corridors as proposed in the SDZ planning scheme.
2. Retain and protect existing valuable vegetation where feasible, particularly along the Kilmahuddrick stream. Propose compensatory planting to help mitigate the removal of existing vegetation during construction.
3. Provide a local park/community green within the development with opportunities for both passive and active recreation. Restablish existing green infrastructure along the western flank of the park using the existing double ditch as the boundary outline, preserving the riparian biodiversity of the soil. Establish a natural play area in this park as recommended in the SDZ Parks and Landscape Strategy.
4. Provide a green framework of street tree planting in the development giving a sense of place to the hierarchy of spaces.
5. Establish a 'Northern Ecological Corridor' of native and adaptive planting for wildlife along the northern boundary.
6. Create quality semi-private open spaces in the form of courtyards and homezones.
7. Existing accommodation on site is to be protected, with the design respecting existing development.
8. Connect the development with the proposed Link road with a sympathetic interface.
9. Utilise SuDs components in the scheme which will link into the overall proposed SDZ network.



Sustainable Urban Drainage Systems

Proposed SuDs Management Train

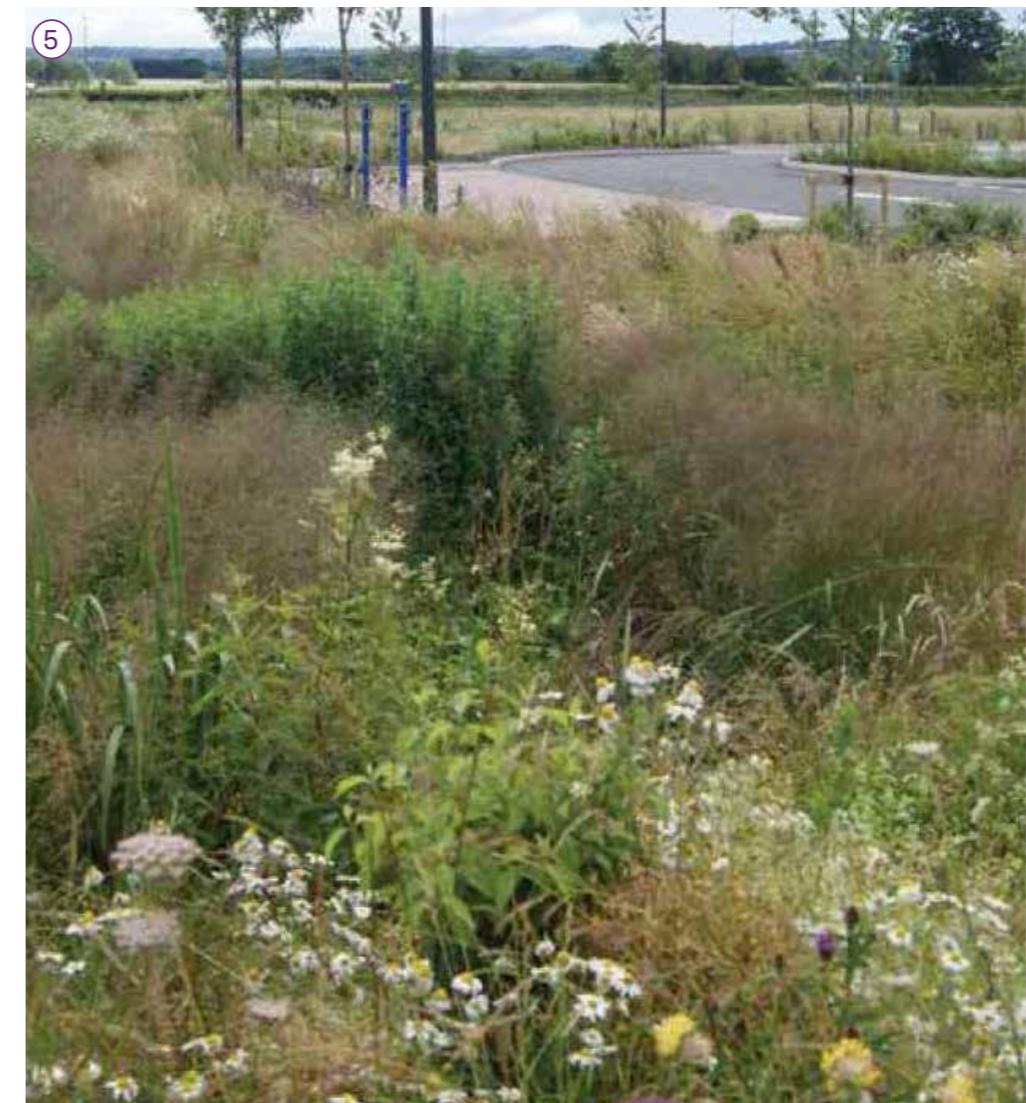
South Dublin County Council has requested phase 1 of Clonburris to be an exemplar SuDs development. The development proposal follows the recently published guidelines issued by SDCC. 'Sustainable Drainage Explanatory Design and Evaluation Guide, 2022'.

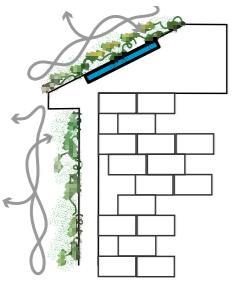
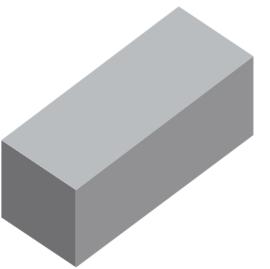
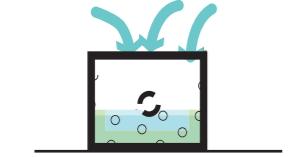
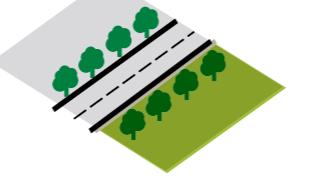
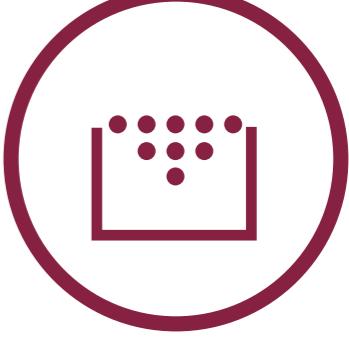
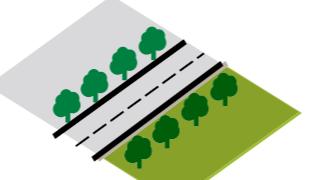
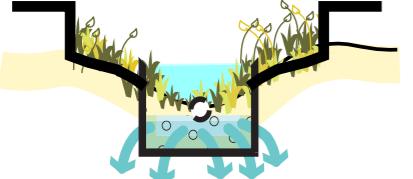
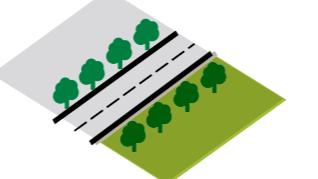
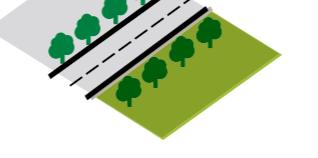
The SuDs proposal for phase 1 development will utilise the SuDs management train of collection, conveyance and treatment.

The proposed SuDs elements for Phase 1 are as follows:

1. Green Roof
2. Rainwater Harvesting
3. Permeable Paving
4. Raingardens/Bio-Retention
5. Swales
6. Existing Stream/Ditches
7. Detention Basins

The proposed surface water infrastructure for the development will connect into the wider SDZ network, flowing west to the regional ponds in Griffeen Park. Please refer to the proposed surface water treatment strategy outlined in the AECOM Civils Part 8 Report for further information.



Type	Description	Setting	Required Area	Precedent	Symbol
	A planted soil layer is constructed on the roof of a building to create a living surface. Water is stored in the soil layer and absorbed by vegetation.		Building integrated		
	Rainwater can be captured in water butts from apartment buildings and used for communal gardens in semi private courtyards.		Water storage (overground)		
	Paving which allows water to soak through. Can be in the form of paving blocks with gaps between solid blocks or porous paving where water filters through the block itself. Water can be stored in the sub-base beneath or allowed to infiltrate into ground below.		Water storage (underground or above ground)		
	Rain garden/Bio retention pits are proposed throughout the streetscape. A vegetated area with gravel and sand layers below designed to channel, filter and cleanse water vertically. Water can infiltrate into the ground below or drain to a perforated pipe to be conveyed.		Typically surface area is 5-10% of drained area with storage below.		
	Swales are vegetated shallow depressions designed to convey and filter water. These can be 'wet' where water gathers above the surface, or 'dry' where water gathers in a gravel layer beneath. Can be lined or unlined to allow infiltration.		Account for width to allow safe maintenance typically 2-3 metres wide		

Proposed SuDs Network

SDZ SUDS DESIGN CRITERIA IMPLEMENTED

- Design Criteria For Open Space: 'The linear park has incorporated major strategic corridors such as the Canal and Railway.
- Sustainable Urban Drainage System components such as retention of existing stream, swales and detention basins can be seen in the local parks proposed.
- Design Criteria For Local Links: The streetscape of the phase 1 scheme proposes street trees lining all local roads, incorporating raingardens/bioretention pits and permeable parking bays components throughout. Intimate streets have copse of trees where appropriate with permeable parking bays throughout.
- Green Roofs have been added where feasible with opportunity to enhance habitats in the locality at detailed design stage
- Water butts have been proposed at the apartment complexes where feasible.

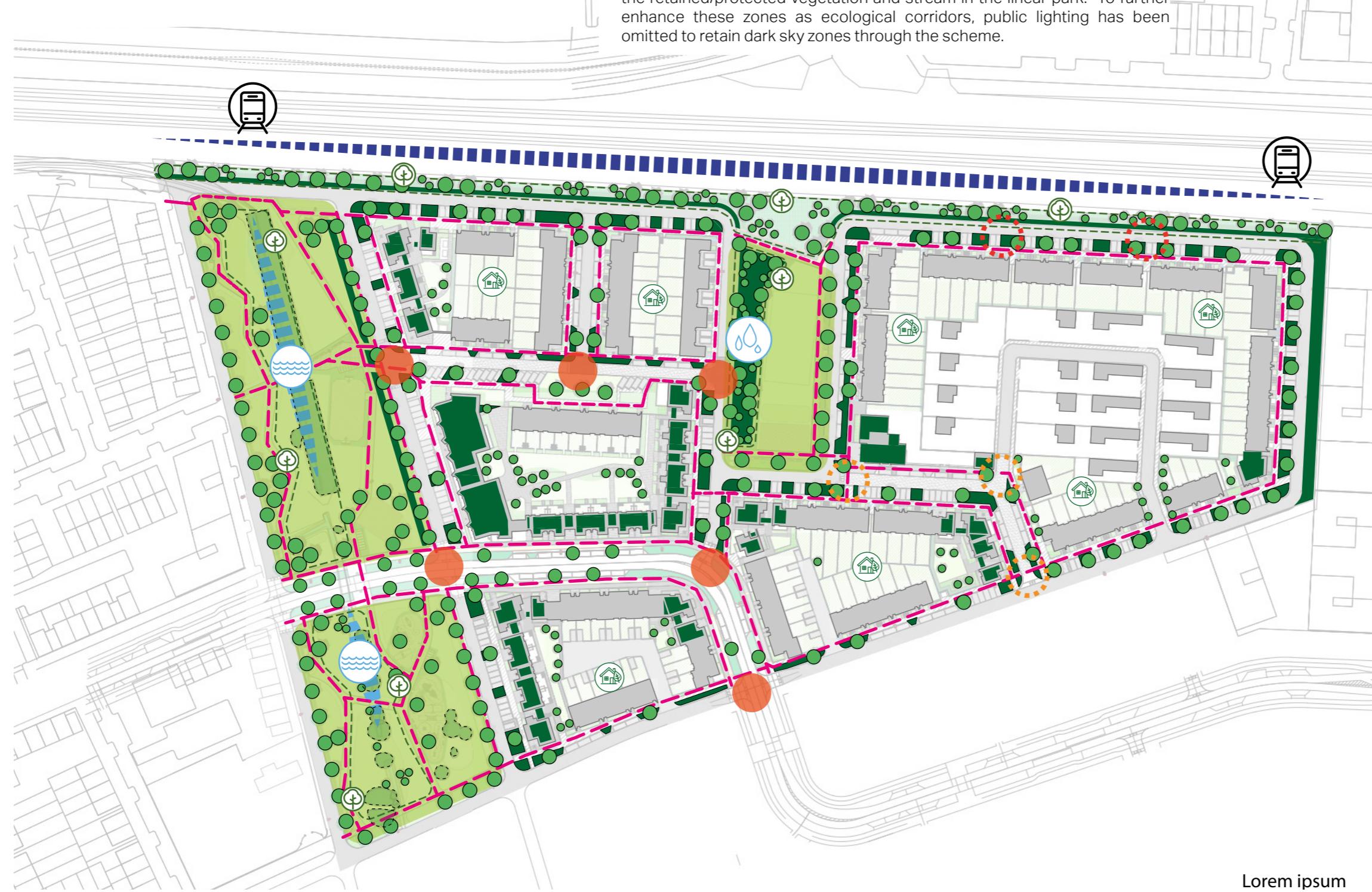


Blue and Green Infrastructure

SDZ GREEN INFRASTRUCTURE CRITERIA IMPLEMENTED

- A key layer of the Planning Scheme Framework is the provision of green infrastructure as:
 - tree lined avenues and streets, designed according to DMURS;
 - traffic calmed local streets,
 - retained hedgerows and
 - an exemplar in the provision of sustainable urban drainage.
- The SDZ planning scheme requires the connection of parks and areas of open space with ecological and recreational corridors to aid the movement of biodiversity and people and to strengthen the overall Green Infrastructure network.

This can be seen through the formation of Ecological Corridors along the northern boundary of the site, the western flank of the community green and the retained/protected vegetation and stream in the linear park. To further enhance these zones as ecological corridors, public lighting has been omitted to retain dark sky zones through the scheme.



Legend:

	Walking/Cycling Route
	Existing Railway
	Ecological Corridor
	Local Park
Traffic Calming Measures	
	Raised Table
	Raised Table
	Pinch Points
Habitats	
	Existing Trees Retained
	Proposed Trees
	SuDS Components (Green Roofs, Swales, Raingarden/ Bioretention Pits)
	Existing Stream
	Rear Gardens

Lorem ipsum

Proposed Tree Removal

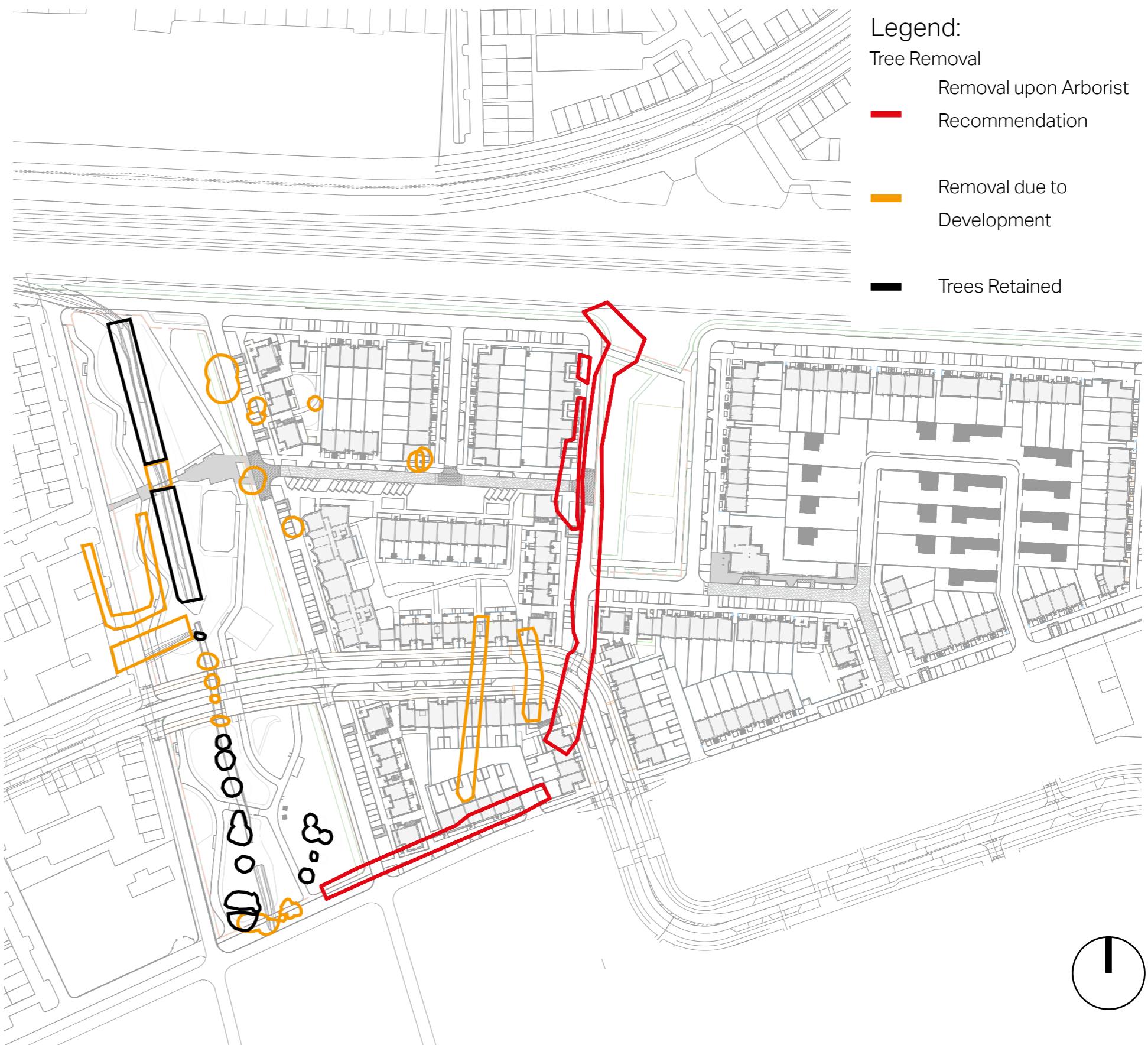
SDZ TREE/HEDGEROW RETENTION CRITERIA IMPLEMENTED

- The tree lines along the Kilmahuddick stream are called up for retention as outlined in the thick black line where feasible. Please note the existing Popular trees located along the northern part of the linear park will need a phased management to ensure this tree line is retained and replaced when needed.

Unfortunately, trees outlined in orange are highlighted for removal due to development. We aim to mitigate this by planting over 300 new trees in the development.

Due to the ill health, it has been proposed to remove the eastern line of trees running north to south and south of the development site. Please refer to the arborist tree schedule for the details of existing health conditions of the tree groups highlighted.

It is noted the community green area has been shown as tree retention where feasible in the SDZ masterplan. Please refer to the next page outlining the compensatory planting approach for this area.



Compensatory Planting

SDZ PLANTING CRITERIA IMPLEMENTED

- The Hedgerow/treeline habitat linking the Grand Canal Corridor and the Rail corridor has been retained. Note phased management will need to be undertaken to preserve this tree corridor link.
- Retention of the existing ditch and ground level west of the community green aims to preserve the soil biodiversity on site. Appropriate seeding and native tree planting will help re-establish an ecological corridor in this area. A native hedgerow is proposed around the corridor. The eastern side of this hedge follows the historic townload boundary line preserving this heritage reference in the new development.
- Creation of woodland (northern ecological-corridor on scheme).
- Planting of native flowering and fruiting tree species in the open space.
- Proposing short-flowering species rich grassland on the roadside/ pavement verges and long-flowering wildflower meadows areas in parkland.
- Herbaceous pollinator-friendly planting in the streetscape
- Creation and enhancement of swales, bioretention and raingarden streetscape features

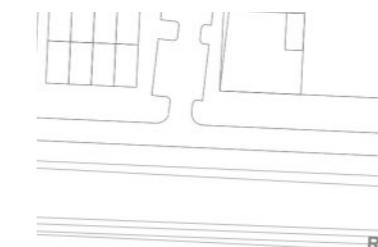


QUANTITY OF PROPOSED REMOVAL ON PHASE 1 SCHEME

Existing tree groups 1, 2, 4, 5, 6, 7 and 8 comprising of circa 640 linear meters and approximately 23 specimen trees are called up for removal for phase 1 of Clonburris SDZ. Please refer to the Arborist Appendix II-tree condition analysis & preliminary recommendations and section 2, Existing tree conditions of this report highlighting the location and conditions of these trees. The following planting has been proposed to mitigate the loss of this removal.

QUANTITY OF PROPOSED PLANTING ON PHASE 1 SCHEME

- 356 number of proposed Trees
- 1900sq.m of Mixed Native Woodland Whips
- 2460sq.m of Native Hedgerow



Legend:

- Street Tree
- Native Tree
- Feature Tree
- Link Road Tree
- SuDS Planting
- Swales
- Privacy Planting
- Woodland Planting
- Shrub Planting
- Meadow Planting
- Lawn
- Hedge Planting
- Rear Garden

Streetscape

The phase 1 development of Clonburris comprises of local and intimate streets. The design of the streetscape follows governmental guidance, specifically following Design Manual for Roads and Streets (DMURS) 2019.

Street tree planting and Sustainable Urban Drainage Components have been key design elements of the proposed streetscape. A variety of 8 street tree species have been proposed through the scheme aiming to aid biodiversity whilst enhancing the genus loci of the areas.

Local Streets

The local streets are the predominate road network in the scheme. Street trees define these green links providing identity to each locality and enhancing vistas to open spaces. Raingardens/Bioretention pits are located along the streetscape planting areas. These work alongside permeable parking bays acting as a SuDS trench between the road and pathways. Please refer to the Civils package for further detail on this.

The local roads will be traffic calmed with pinch points and raised tables along the straight sections to reduce traffic speed. Please refer to the transport report for further information on this.

Please note details are to be refined at detailed design following co-ordination and sign off with South Dublin County Council.



Traffic Calming

Pinch points have been proposed along the local road straights as a measure of traffic calming. Landscape planting is proposed to establish a gateway through these areas.

Local Streets Grangetown development, Cardiff.

Semi mature street trees outline the local roads, predominately located in Rain garden /Bio-retention pits. These SuDS elements contain perennial and grass planting forming a strong identity across the development. Tree species are zoned reinforcing a unique characteristic to each differing streetscape character.



Intimate Streets

The intimate streets in the scheme act as establishing homezones in the certain locations. Smaller widths of carriageway, flush kerbs with shared surface roads will give pedestrian the priority in these zones.

Small feature street trees such *Amelanchier x grandiflora 'Robin Hill'* will occur at nodal points providing a strong identity and character to the streets. Permeable parking bays and street tree planting will be the primary SuDS elements to these streets.

Link Road

A primary link road is proposed through the site as part of the overall SDZ development. The planning application was lodged in January 2021. The proposal has large London Plane street trees with clean robust materials. The phase 1 development and the construction of this road will be co-ordinated to ensure an appropriate transitional palette.



Intimate Street:

Has a central zone of planting that acts as a transition through to the buildings, softening the streetscape. See example from Alison Brooks Architects at Bath.

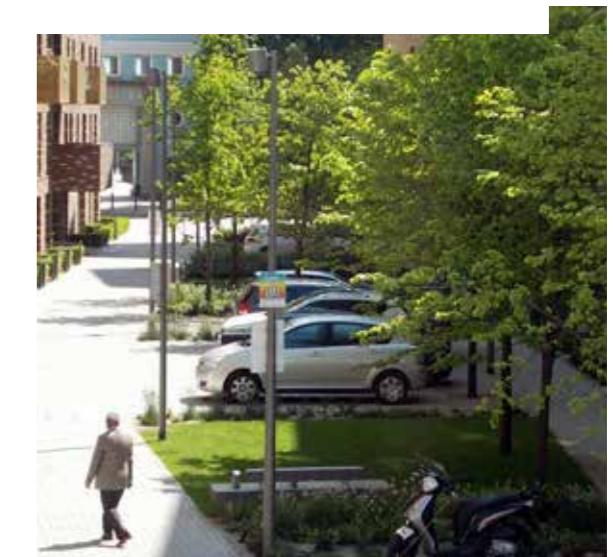


Intimate Street:

Will have a feature small tree such as *Amelanchier x grandiflora* giving seasonal change and colour and providing a strong sense of identity to the street. Top left is tree in Autumn, top is Amelanchier tree in winter.

Intimate Street:

A homezone approach to street design, providing a raised, shared and safer surface for pedestrians and vehicles. See example from Bromley by Bow, Townshend Landscape Architects.



Play

All play areas proposed in this development are Natural Play Areas in line with SDCC's Play Space Programme. They will follow the national children's play policy 'Ready, Steady Play' published in 2019 by the Department of Children, Equality, Disability, Integration and Youth.

Equipment proposed will be natural and robust in style. Inclusion of accessibility play in the play areas. Surfacing to be engineered wood whip. Earthworks are to be used in the public open space to create interesting typography with tree planting and mounding proposed in the play spaces.

All details of play items including the MUGA and Callisthenics are to be agreed with South Dublin County Council during detailed design phase. A playground design workshop will be undertaken with the client and the design team.



Courtyards

Semi-private courtyards will provide various amenities for the residents, including seating areas surrounded by planting, natural surfaces, grassed spaces and communal growing zones. Specific tree planting in each courtyard will help provide a sense of place for each location.

Privacy planting will act as a transition zone from public to private space with planting to be 1-1.2m in height.



Furniture

Robust palette of durable furnishings with consistent design and colour to develop a unified sense of place.



Informal Play Area

Informal play elements in semi private space give moments of fun and identity to the locations.

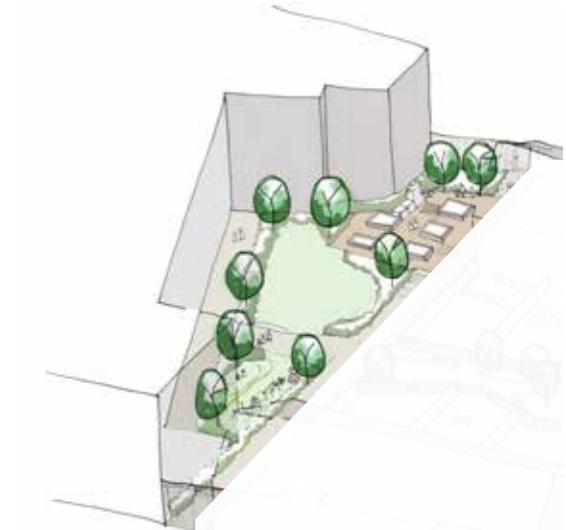


Communal Gardens

Growing gardens will act as the community hubs. A water point, storage and compost area will need to be provided.



Landscape Concept Sketch



Surfacing

Concrete pavers on primary paths and buff resin bound pathways on secondary routes



Transition Zone

Structured planting act as a transition through differing spatial zones.



Residential Open Space

Grassed area with feature tree planting, benches and shrub planting.

Courtyard Garden

The courtyard garden will have a natural feel with hard surfacing proposed at pathways, entrances and exits. A warm palette of materials is proposed to work in sympathy with the softscape palette to maximise the opportunities for both active and passive recreation facilitating all users.



Communal Area

Seating will be hardwood slats with powder coated steel base.



Play

Feature play element giving a distinct atmosphere to the space.



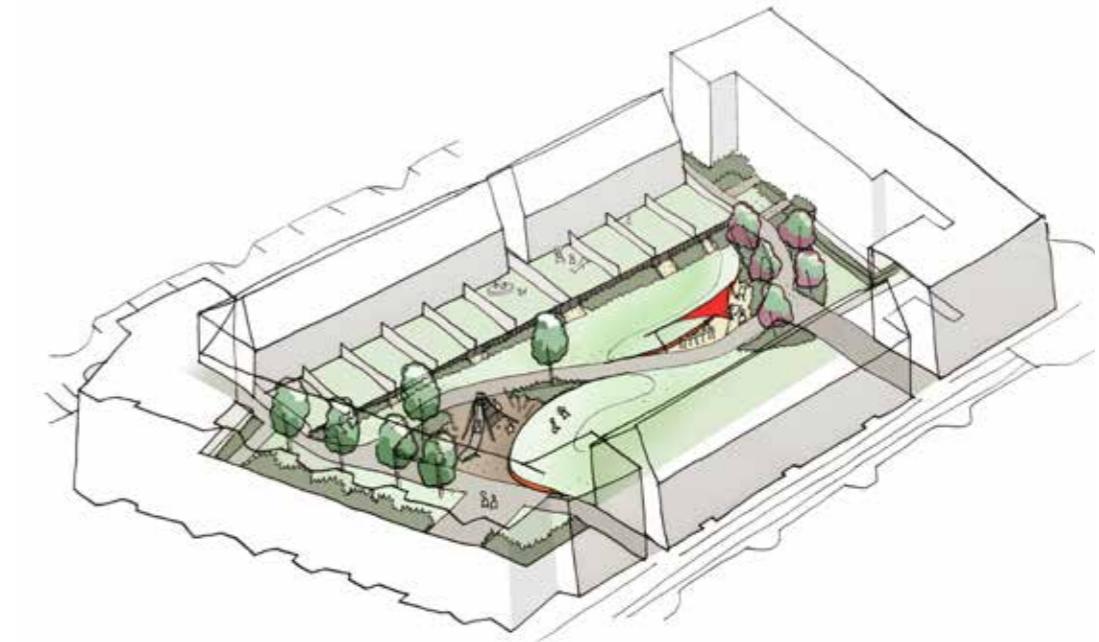
Transition Zone

The transition between the private residential gardens and public open space transitions through planting zones.



Concrete Pavers on Paths

Warm bracken colour pavers with granite aggregate kerb delineated the primary route.



Landscape Concept Sketch



Mounds

Grass mounds frame the open area and demarcated the differing zones of activity.



Planting

Swathes of mass grasses and feature tree planting flow through the open space demarcating zones.

Landscape Development

04

Landscape Plan-Clonburris SDZ Phase 1

(Refer to Landscape Drawings 1000-1003 for reference)

The Landscape Plan has formed from the combined landscape strategies from the previous chapter. See below an outline of the key components in the plan.

Fonthill/Clondalkin Railwayline

Northern Eco Corridor

Retained Vegetation and Stream (TBC with Tree Survey)

Semi Private Courtyard

Linear Park

Protected Existing Accommodation

Homezone/Intimate Street

Restablished Ecological Corridor

Local Park/Community Green

Street Trees and Bioretention/Raingardens

Permeable Parking

Semi Private Garden Courtyard

SDZ Link Road (To be completed by others)

Vehicular Laneway

Linear Park

Playground



Linear Park

The linear park forms the primary open space of the proposed development and acts as a strategic parkland/local park in overall SDZ scheme.

Provision of numerous access points for local residents and visitors provide a park which can link into the future SDZ developments.

The park will have a South Dublin County Council parks boundary comprising of a stub wall and railing 1.8m high. Detailing of this and vehicular access will be further explored at detailed design stage.

A variety of amenity routes and trails are proposed for this space, offering diverse amenity and recreation areas.

Small-scale passive amenities are proposed along the western flank of the park whilst active amenities in the form of a MUGA, Callisthenic workout area and bespoke feature playground occur to the east of the park.

Mounding (with a maximum 1 in 5 slope), tree, hedgerow and meadow planting act as tools to frame and contrast these differing spaces.

The park aims to retain and enhance the existing trees where feasible. The existing popular trees along the northern part of the linear park are in poor health and will require a phased management and replacement strategy over the coming years.

Access to the Kilmahuddrick stream is to be enhanced through earthwork along the western ditch of the stream.

Proposed native meadows will not only enhance biodiversity on site but act as transitions between the amenity areas.

Bulb planting will provide seasonal interest throughout the year.

A swale will run along the eastern edge of the park collecting surface water from the phase 1 development.

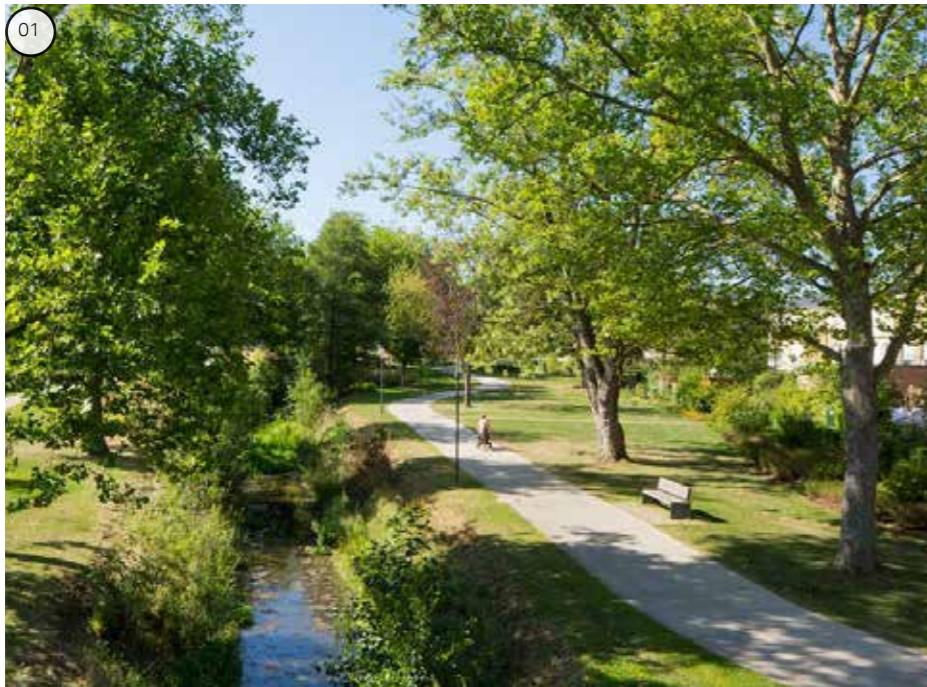


Key Plan

Legend

1. Retained Vegetation & Stream
2. Formal Grassed Area
3. Community Plaza (Seating, Bike Stand, Bin)
4. MUGA (Multi Use Events Area)
5. Swale
6. Callisthenics Workout Area
7. Link Road
8. Younger Regional Play Area-Natural Theme
9. Older Regional Play Area-Natural Theme
10. Native Meadow Planting
11. Bridge
12. Naturalised Zone
13. Outdoor Classroom
14. Seating Areas
15. Park Pathway
16. Regraged River Side
17. Proposed Tree Removal
18. Bulb Planting

Linear Park Reference Images



Retained Trees and Stream



Formal Open Space



MUGA



Callisthenics Workout Area



Swale



Naturalised Play Area



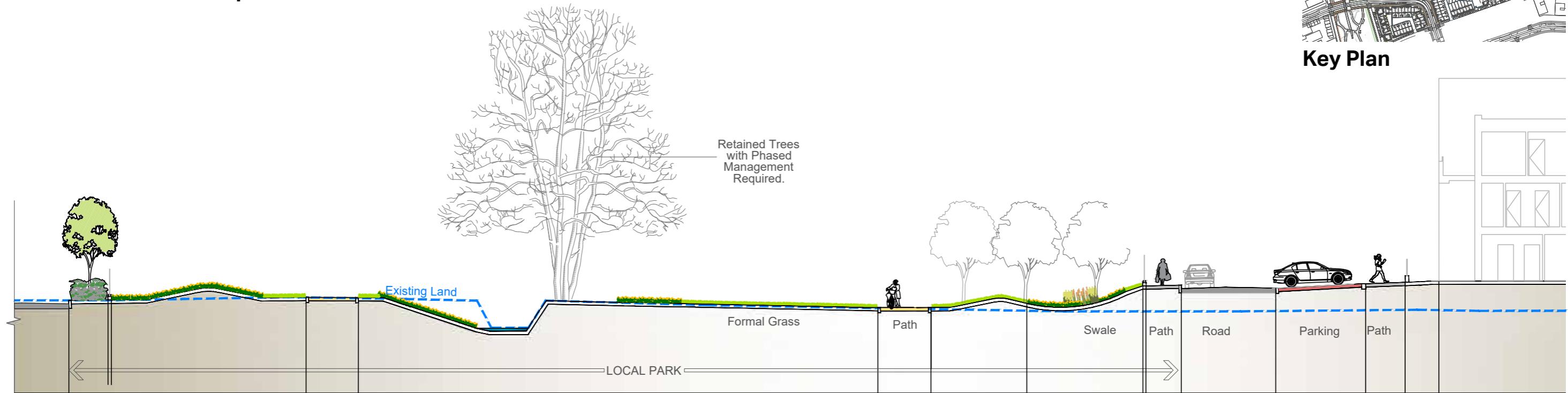
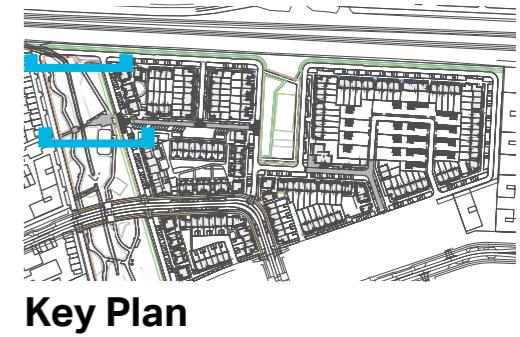
Native Meadow



Bridge

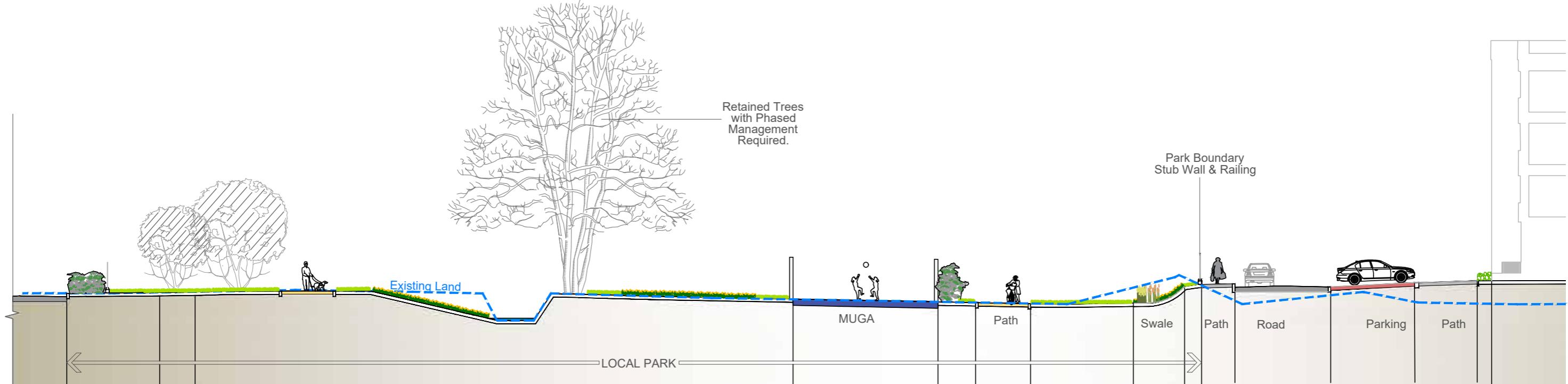
Landscape Sections

Linear Park Landscape Sections



Landscape Section West to East at North of Linear Park

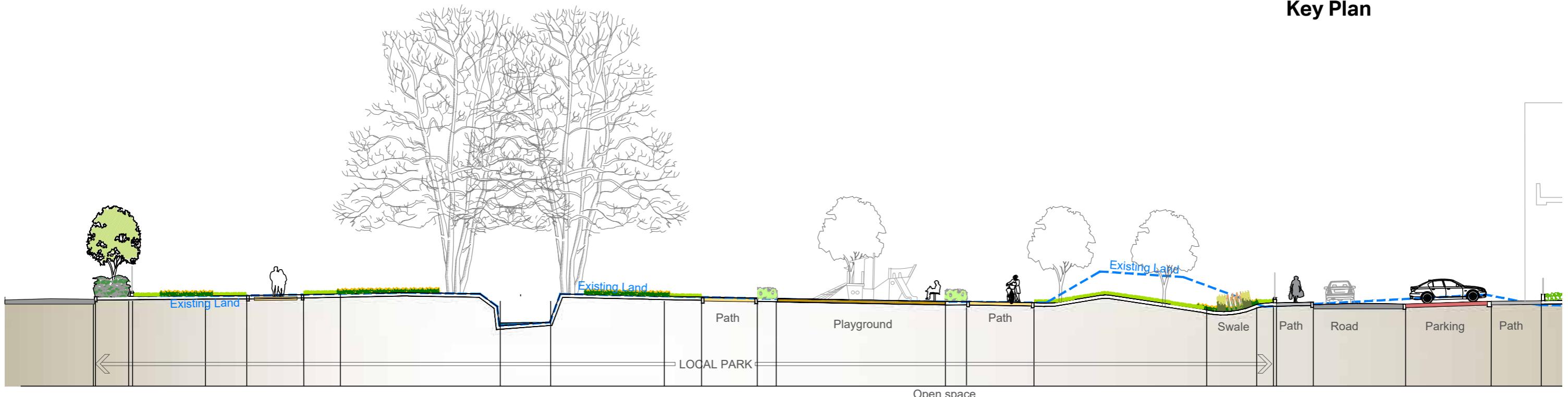
Scale 1:200@A3



Landscape Section West to East at Middle of Linear Park

Scale 1:200@A3

Linear Park Landscape Section



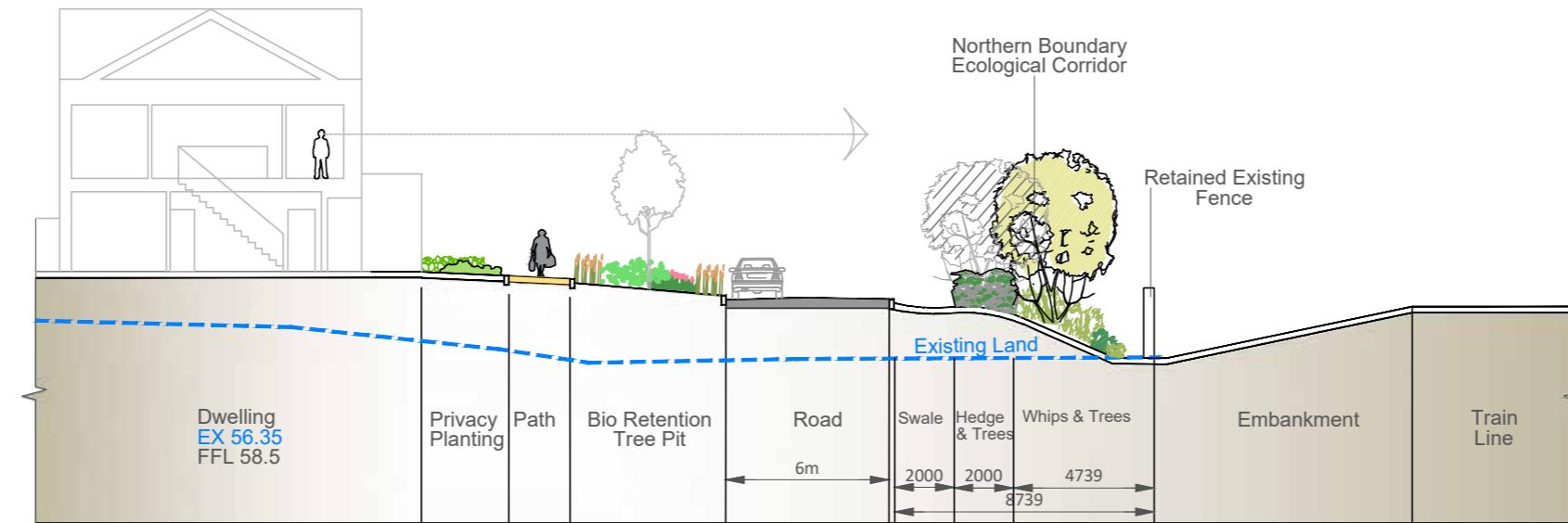
Landscape Section West to East at South of Linear Park

Scale 1:200@A3

Northern Boundary Landscape Section



Key Plan



Landscape Section Northern Boundary of Development

Scale 1:200@A3

Local Park

Native whip and tree planting form the 'Ecological Corridor' along the northern boundary of this phase 1 development. This is noted as a strategic ecological corridor in the SDZ masterplan. A native hedgerow mix outlines this future woodland proposal with a swale located between this and the roadside.

Tree removal is proposed west of the community green. (Refer to the Arborist package for further detail on this). These trees are in ill health and are located on the western boundary of the existing ditch on site.

The SDZ scheme highlights a townland hedgerow of historic interest that looks to travel along the upper eastern boundary of this ditch. Although no key specimens were found on site, the design team wants to re-establish this hedgerow. We proposed a mixed native hedge following the existing upper eastern edge of the ditch mimicking the townland hedgerow location.

Restablishing a community green 'Ecological Corridor' between this hedgerow and the development infrastructure. The aim is to preserve the Riparian ground level as much is feasible with native mature and standard tree planting helping to enhance this biodiverse zone in the development.

A Kickabout area is proposed in the green to allow for active recreation in the space. This will be worked into the SuD's network as a shallow detention basin. Please refer to the Civils package for further information on this.

This local park contains an intimate feel with passive surveillance from adjacent dwellings alongside the eastern, southern and western boundaries. It is enclosed with a stub wall and railing boundary that is transitioned through native hedgerow planting along the southern and eastern boundary of the park.

A gentle grass and meadow mound frames the changing spaces of the park and acts as a passive amenity for local residence.

Clipped native hedgerow, 1.1m high, acts as the transition boundaries through the park. All trees are planted with a 2m clear stem height allowing passive surveillance from the surrounding housing.

A natural play area is located to the south of the park fulfilling the play proposals outlined in the 'Clonburris SDZ Parks & Landscape Strategy Document' prepared by Dermot Foley Landscape Architects.

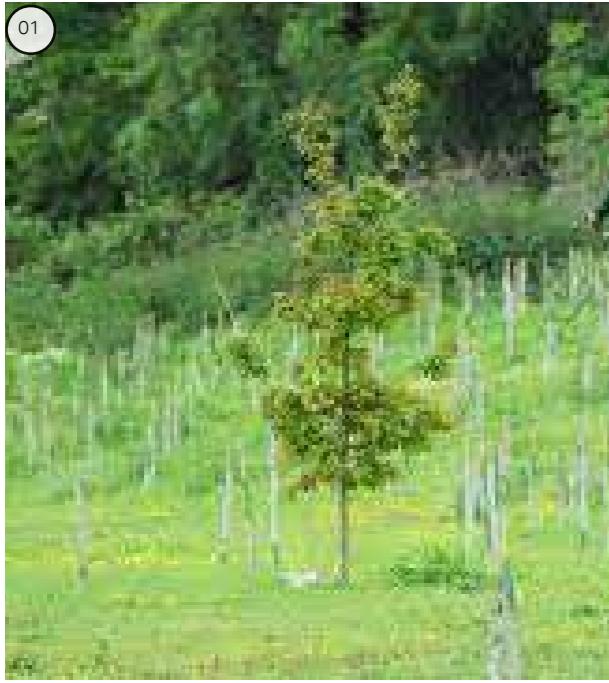


Key Plan

Legend

1. Northern Ecological Corridor Planting
2. Removed Vegetation
3. Native Hedgerow
4. Swale
5. Retained Ditch/Swale
6. Proposed Native Tree Planting
7. Proposed Street Tree Planting
8. Kickabout Area (Shallow Detention Basin-Refer to Civils Package)
9. Grassed/Meadow Mounds
10. Naturalised Play Area
11. Proposed Seating (Steel and Timber)
12. Perimeter Pathway (Buff Resin)
13. Proposed Park Boundary-1.8m high stub wall and railing,

Local Park Reference Images



Ecological Corridor Planting



Kickabout Area



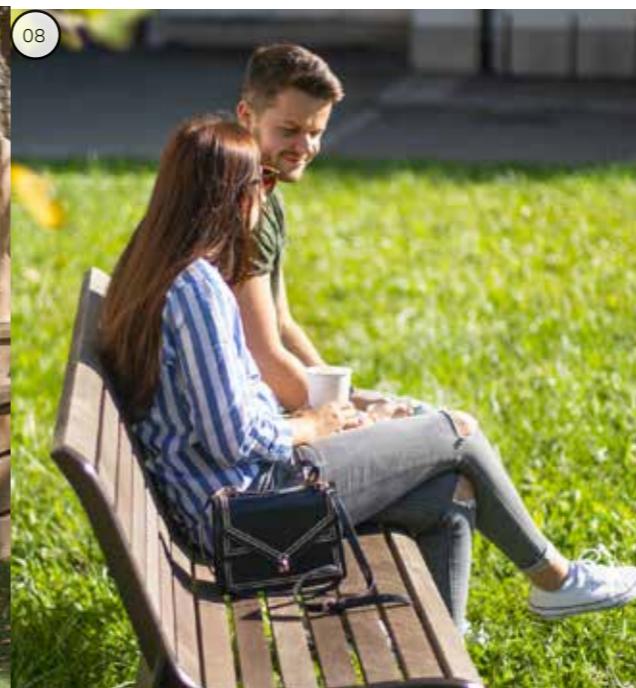
Clipped Native Hedgerow and Street Tree Planting



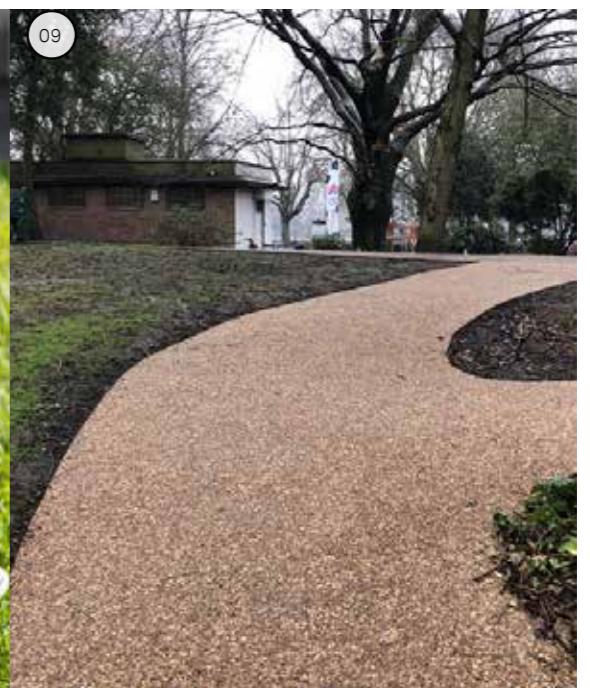
Gentle Grassed Mounds



Naturalised Play Area

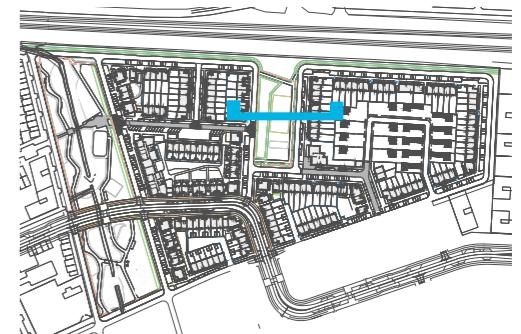


Proposed Seating (Steel and Timber)

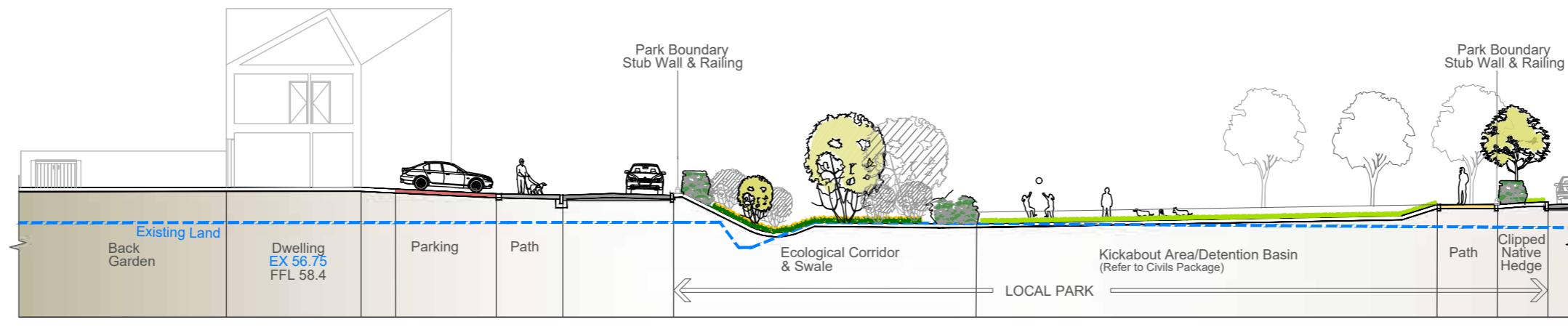


Perimeter Pathway (Buff Resin)

Local Park Landscape Sections

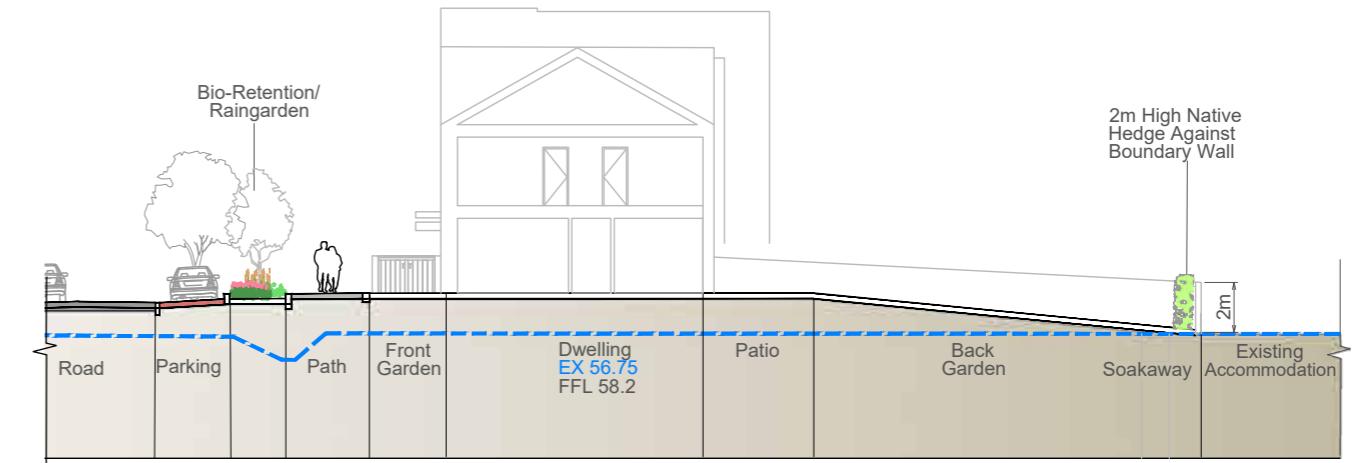


Key Plan



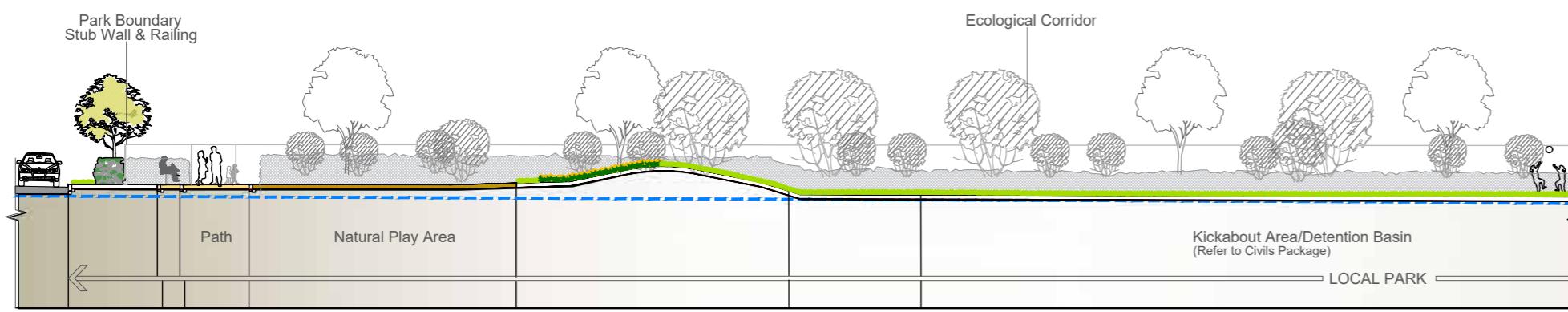
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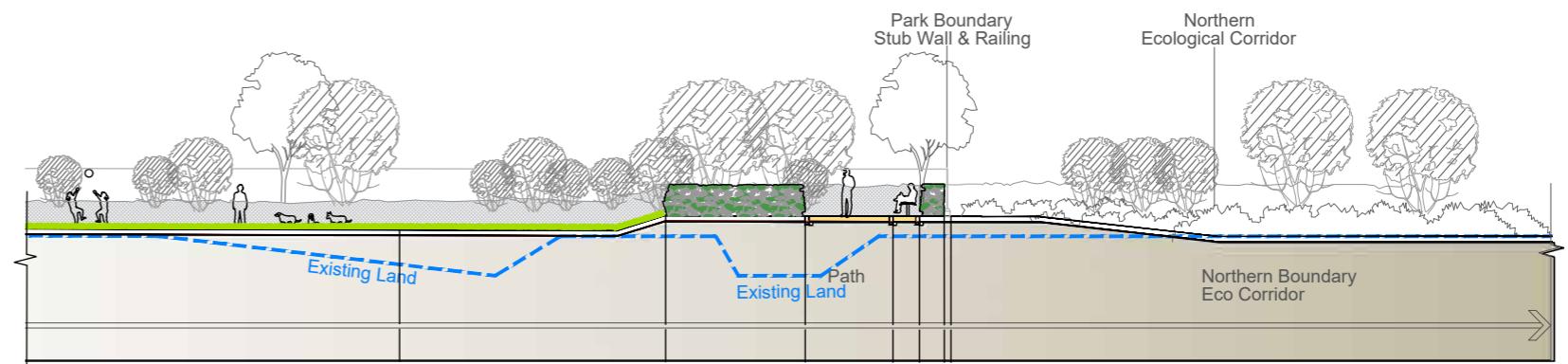


Landscape Section West to East of Local Park

Local Park Landscape Sections



Key Plan

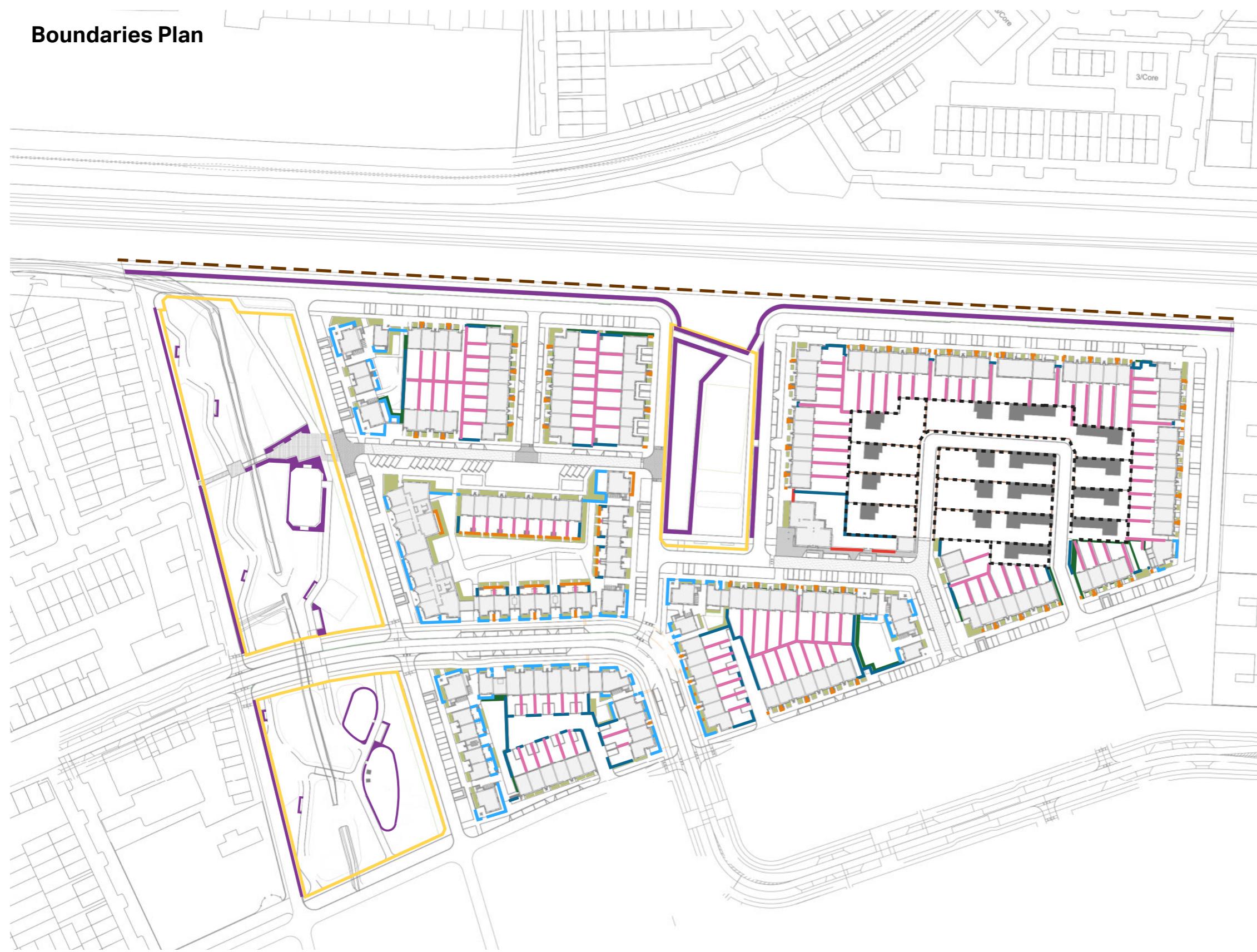


Landscape Section South to North of Local Park

Scale 1:200@A3

Proposed Boundaries

Boundaries Plan



Legend:

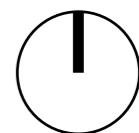
Existing & Enhanced:

— Palladin Fence

.... Existing Accommodation Wall

Proposed:

- 1.8m Brick Wall & Railing
- 1.35m Stub Wall & Railing
- 1.35m Brick Wall
- 1.8/2m Brick Wall
- 1.8m Concrete Post and Panel
- 1.8m Stub Wall & Railing
- Native Hedge
- Residential Hedge
- Privacy Planting



Boundaries Reference Images

(Refer to details Sheet 7005 for further details)



Existing:

— — Palladin Fence

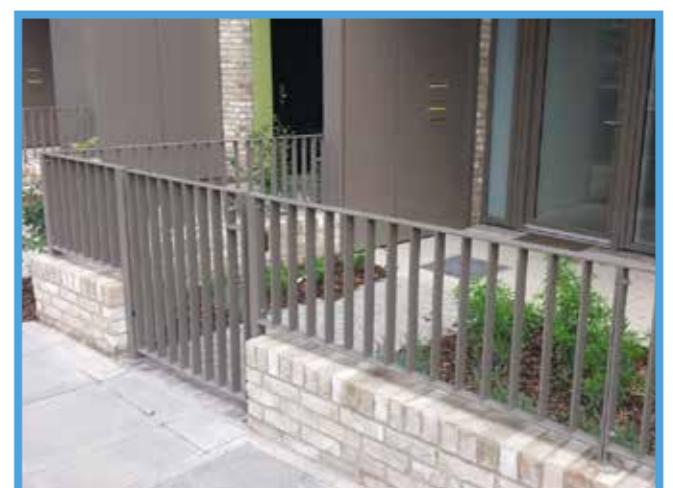
Note:

Boundaries to be refined at detailed design following co-ordination and sign off with South Dublin County Council.

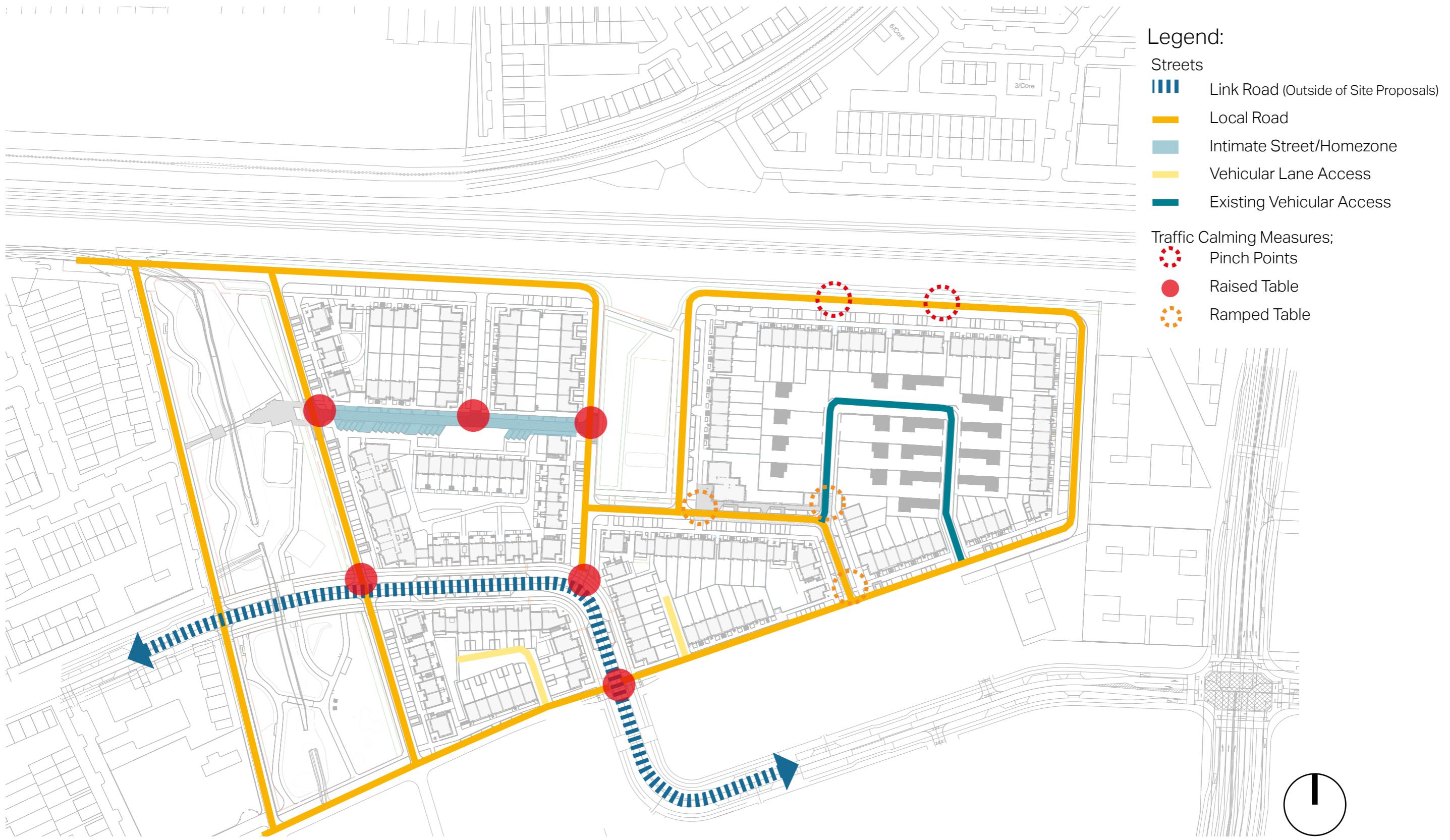


Proposed:

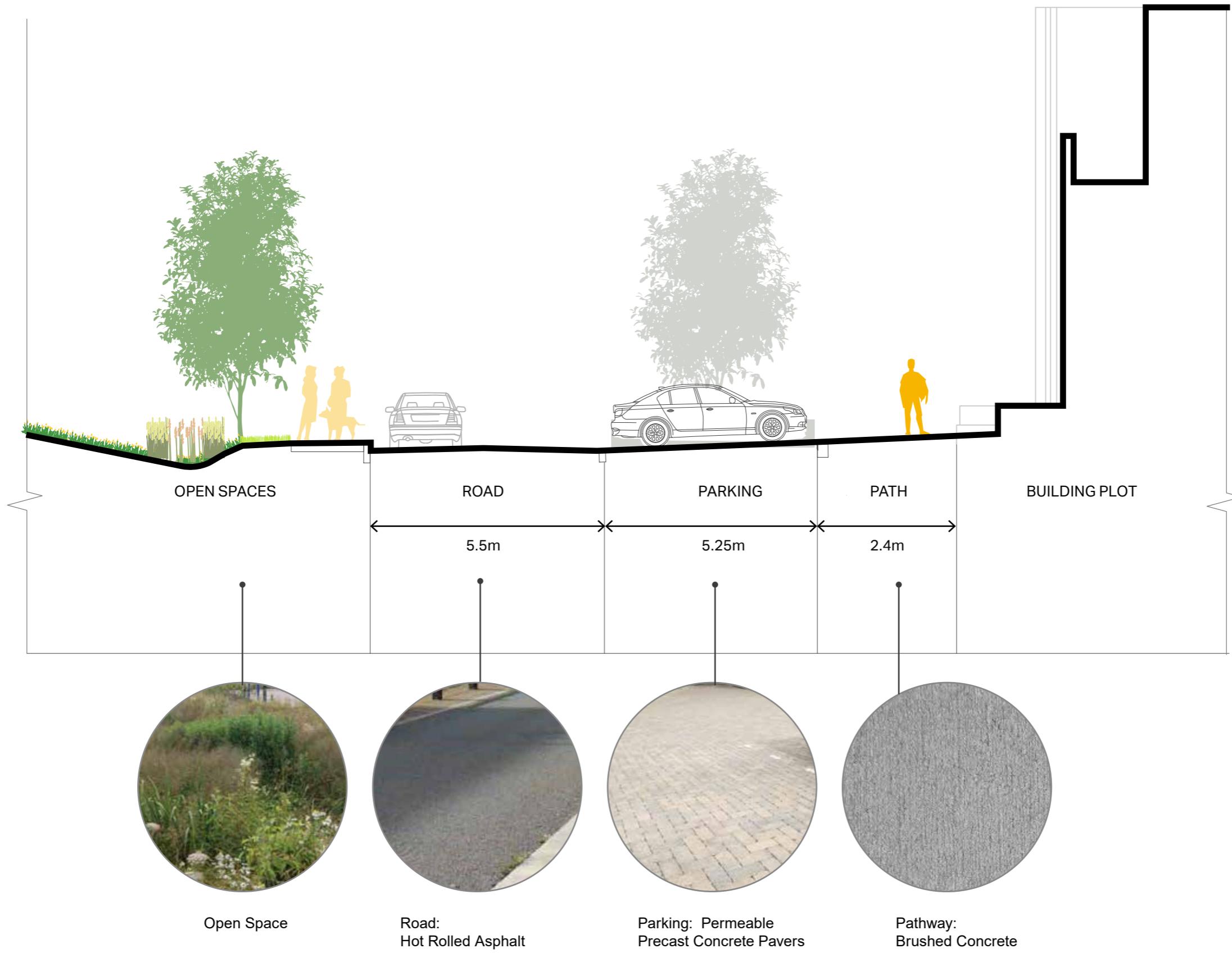
- 1.8m Stub Wall and Railing
- Residential Hedge
- Roadside Hedge
- Privacy Planting
- 1.8/2m High Brick Wall
- 1.35m High Stub Wall & Railing
- 1.8m High Post and Panel



Streetscape Plan



Typical Local Road Street Section



Typical Local Road Street Tree



T1- *Carpinus betulus 'Frans fontaine'*



T2- *Crataegus monogyna 'Stricta'*



T3- *Pyrus calleryana 'Chanticleer'*



T4- *Acer campestre 'Elsrijk'*



T5- *Sorbus 'Sheerwater Seedling'*



T6- *Amelanchier x grandiflora 'Robin Hill'*

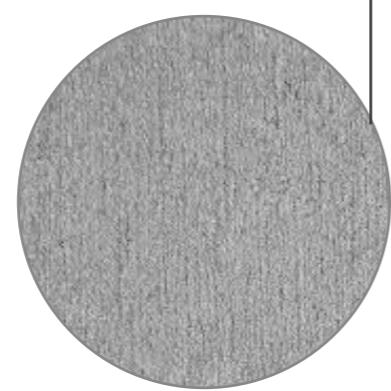
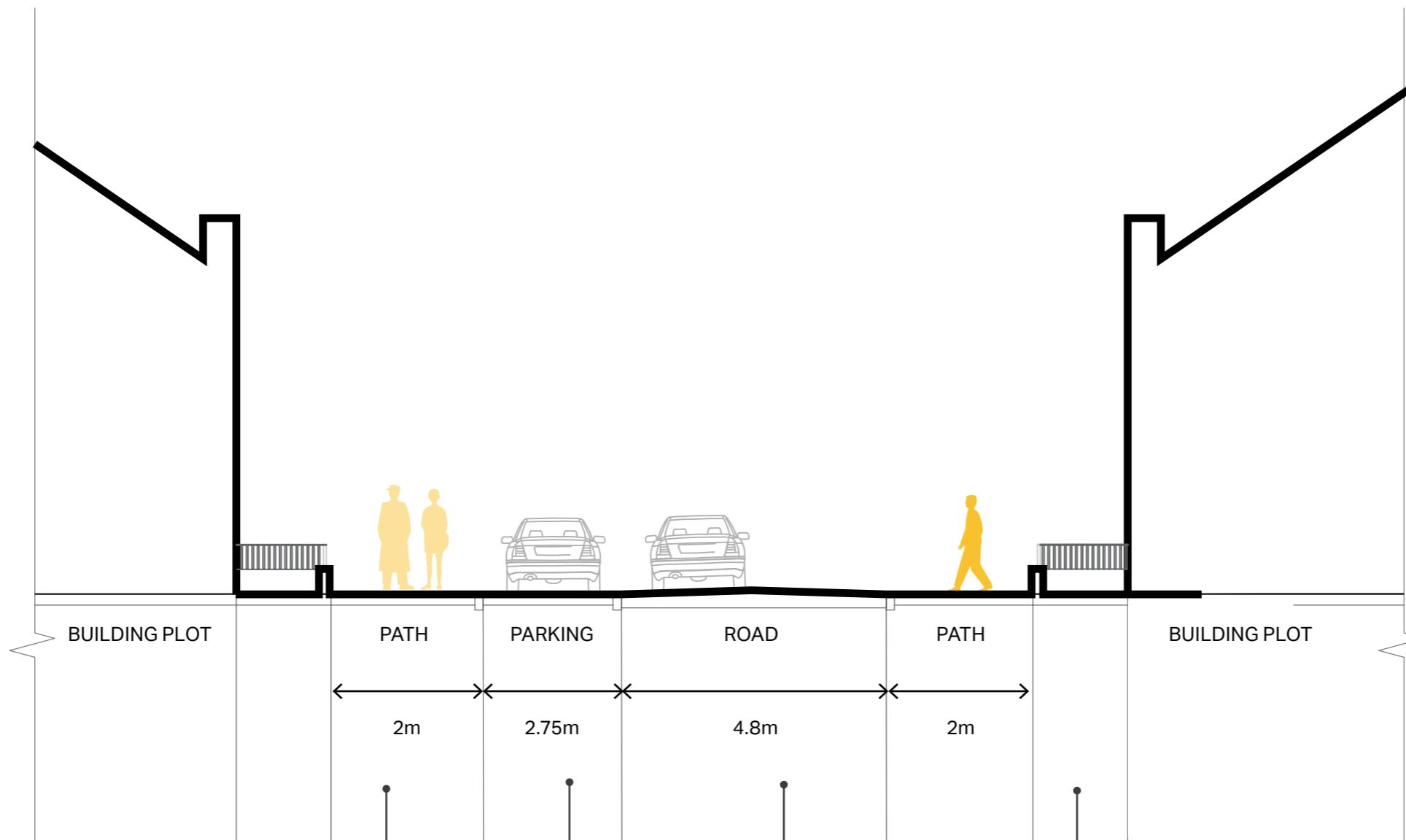


T7- *Malus tschonoskii*



T8- *Magnolia kobus*

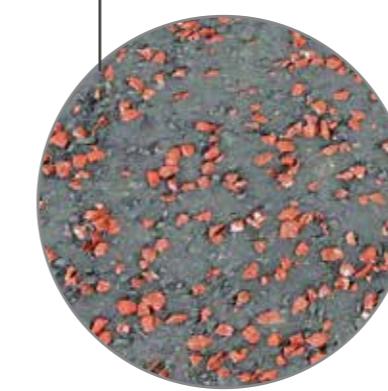
Typical Intimate Road Street Section



Pathway:
Brushed Concrete



Parking: Precast
Permeable Paving

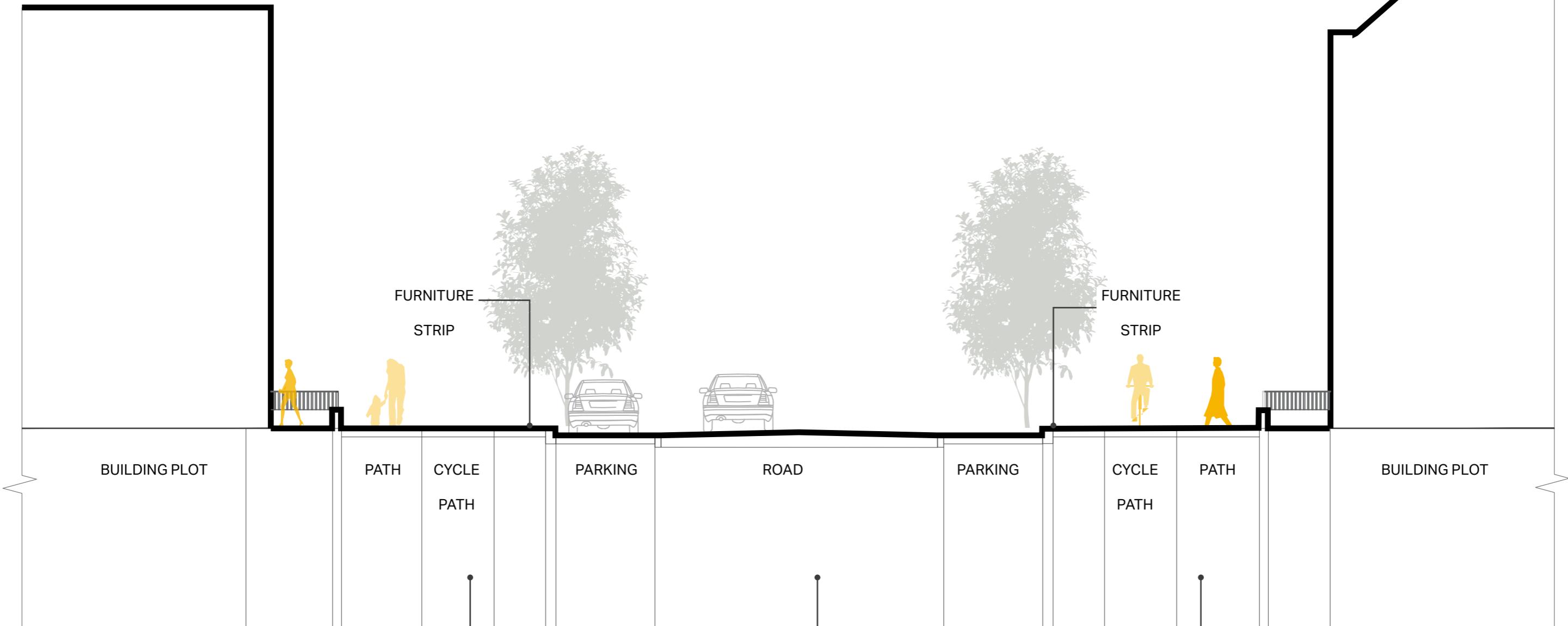


Intimate Road:
HRA(Hot Rolled
Asphalt) with Precoated
Red Chipping



Plot Entrance:
Precast Entrance
Paving

Typical Link Road Street Section (Refer to Link Road Planning Application)



Cycleway:
Red Coloured Asphalt

Road:
Hot Rolled Asphalt

Pathway:
Brushed Concrete

Materiality

05

Materiality

Drawing on our extensive experience of design projects of similar scale and complexity, we will develop a bespoke hierarchical materials palette for both hard and soft landscape areas within Clonburris Phase 1.



Soft landscaping with native provenance and trees appropriate to location will be specified to further reinforce the character and enhance biodiversity at Clonburris.



Hardworks Palette

The hardworks palette has been chosen to be sympathetic and contextual to the surroundings, yet the materials equally need to be robust and durable with the intention of bringing a more modern and contemporary feel to enhance the space.



Softworks Palette

The softworks palette will consist of hardy street trees to give colour and seasonal interest. Raingarden/ Bioretention pits will feature throughout the streetscape providing an interesting mix of grass and flowering forms. Grasses will give movement and form as well as being durable. Semi-mature trees will be included complete with underground drainage and guying systems to help promote establishment.

Furniture

Street furniture has been chosen to be robust and solid but similarly to the hardworks palette we have selected furniture with a contemporary and modern design to help promote and stylise the space and thereby give ownership to residents and users of the park.



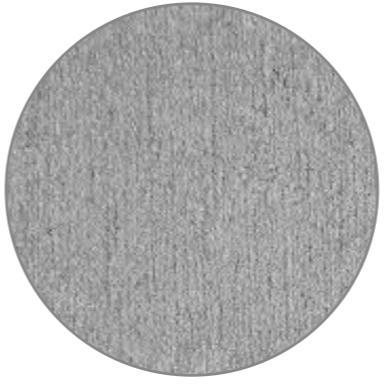
Proposed Hardworks Materials



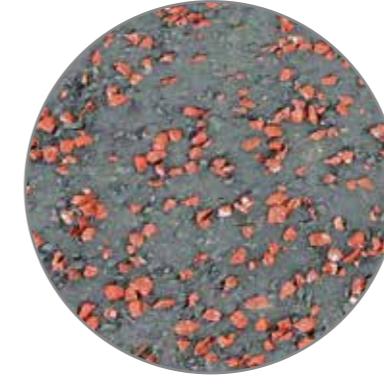
Road:
Hot Rolled Asphalt



Parking: Permeable
Precast Concrete Pavers



Public Pathway:
Brushed Concrete



Intimate Road: HRA(Hot Rolled
Asphalt) with Precoated Red Chipping



Privacy Paving:
Precast Entrance
Paving



Cycleway:
Red Coloured Asphalt



Public Realm Plaza:
Permeable Precast
Concrete Pavers



Park Path: Resin Bound
Gravel



Furniture: Bench



Furniture: Picnic Bench



Furniture: Cycle Stands



Furniture: Bin

Planting Strategy

Please refer to Compensatory Planting in Section 3 of this report for context to the overall planting strategy for this scheme.

The general planting strategy throughout the scheme is for significant structure tree planting with 2 metre clear stems to provide a leafy canopy layer, softening the proposed buildings. A base layer of perennial and grass planting in the form of rain gardens will create a seasonal interest and provide a strong sense of identity to the scheme. Eye level between proposed trees and planting is kept clear to maintain sight lines throughout the scheme.

Planting

Native and naturalised tree species are to be planted within the public open space to increase opportunities for native wildlife. These will ultimately be large scale trees to designate a parkland character. Mixed native hedgerow is proposed in the open spaces to mitigate the removal of hedgerow during site construction. This is to be maintained at 1.1m in height unless otherwise stipulated. Biodiverse whip planting with a copse of standard and semi mature trees along the northern boundary will form a 'Ecological corridor' for wildlife along the site.

Trees

Street tree planting will consist of species with fastigiate or neat forms suitable to the scale of the streetscape and those which will thrive in a streetscape environment. Street tree planting is designed together with the street lighting to avoid shading. Street trees will be planted into a minimum of 7cu.m. topsoil, with the use of urban tree soils, root barriers to protect water utilities and topsoil loaded rootcells to increase rooting areas outside the main tree pit area as necessary.

Bioretention planting /Rain gardens

A mix of structure grasses and perennial planting form the overall planting palette for the raingardens throughout the scheme. Proposed species will respond to the existing location of beds with a maximum of 7 species proposed per node. All planting proposed will maintain clear sight lines at maturity. This planting palette will provide biodiverse corridors throughout the scheme and create a strong sense of identity to the phase 1 development.

The planting beds will be filled with engineered soils comprised of 7% crushed sandstone aggregate, 20% composted green waste, 10% sandy silt loam. A 50mm mulch layer of sandstone aggregate is to be spread over this creating a weed free and easily maintained surface.

Focal Trees in Semi Private Open Space

Amelanchier lamarckii are small trees with seasonal charm. They will provide a strong identity in the proposed locations



Structural Shrub Planting

Transition zones between public space and residential frontages.



Raingardens/ Bioretention Pits

The proposed streetscape will have raingardens between parking.



Shrub & Groundcover (Privacy Strips & Courtyards)

Low level shrub and groundcover planting will be in single species blocks taken from an overall palette of species throughout the scheme with flowers and fruits attractive to wildlife such as bees and butterflies. Species will be of maximum 1m height at maturity to maintain clear sight lines.

Landscape Implementation Programme

Planting on the site will commence with the completion of each stage of the works and as a result the programme is closely tied to building works. Ground preparation will precede planting and will include weed clearance and amelioration where necessary. Planting of species will be carried out in the dormant period from November – March, with grass seeding carried out from April – September, this will ensure ample opportunity for planting to establish properly, omit and reduce casualties during the maintenance period.

Proposed Planting

Refer to Landscape Drawing 1004 for reference on sizing and spacing.

The objective of the landscape proposals is to provide a high-quality public realm, which is accessible, safe and distinctive. Planting and landscape works will be carried out in accordance with BS4428. Trees will be advanced/semi-mature rootballed stock, in accordance with BS 8545.

Low level, low maintenance shrub planting will be used in planting beds. They will have been grown in the pot to avoid root damage, with a minimum size of 2 litre pots, with a 75mm well composted fine bark mulch.

Street Tree Planting

Selected species suitable for physical characteristics (scale, form) and adaptive/ compatible to site conditions, microclimate and whole of life impacts and costs. Species chosen have been highlighted in the SDZ Parks and Landscape Strategy Document and or SDCC 'Living with Trees' documents.

- *Carpinus betulus 'Frans Fontaine'*
- *Crataegus monogyna 'Stricta'*
- *Pyrus calleryana 'Chanticleer'*
- *Acer campestre 'Elsrijk'*
- *Sorbus 'Sheerwater Seedling'*
- *Amelanchier x grandiflora 'Robin Hill'*
- *Malus tschonoskii*
- *Magnolia kobus*

Open Space Tree Planting

- *Quercus robur*
- *Betulus pendula*
- *Corylus avellana*
- *Prunus avium 'Plena'*
- *Salix alba*
- *Pinus sylvestris*
- *Amelanchier lamarkii*
- *Prunus 'Umineko'*

Native Hedgerows-

- Mixed- *Crataegus monogyna*, *Prunus spinosa*, *Rosa canina* and *Ilex aquifolium*
- Residential- *Ligustrum vulgare*

Northern 'Ecological Corridor'

- Whip Planting of; *Crataegus monogyna*, *Prunus spinosa*, *Rosa canina* and *Ilex aquifolium*, *Cornus sanguinea* and *Corylus avellana*
- Tree Planting of; *Quercus robur*, *Alnus glutinosa*, *Betula pubescens* and *Euonymus europaeus*

Raingardens/Bioretention Planting

(Note this proposal is to be co-ordinated with SDCC)

- *Carex pendula*
- *Calamagrotis acutiflora 'Karl Foerster'*
- *Dryopteris felix mas*
- *Aster ageratoides 'Stardust'*
- *Aster thomsonii*
- *Liatris spicata*
- *Perovskia atriplicifolia*
- *Carex oshimensis 'Everest'*
- *Echinacea purpurea*
- *Nepeta 'Six Hills Giant'*
- *Salvia nemorosa 'Lubecca'*
- *Sedum 'Herbsfreude' (Autumn Joy)*

Sample of Privacy Planting

- *Lonicera pileata 'Maygreen'*
- *Prunus laurocerasus 'Zabeliana'*
- *Euonymus fortunei 'Silver Queen'*
- *Pittosporum tenuifolium 'Toms Thumb'*
- *Prunus laurocerasus 'Otto Luyken'*
- *Sarococca hookeriana*
- *Dryopteris felix mas*

Sample of Shrub, Grass and Groundcover (Courtyards)

- *Lonicera pileata 'Maygreen'*
- *Stipa arundinacea*
- *Heuchera Plum pudding*
- *Anthriscus sylvestris 'Ravenswing'*
- *Lavandula augustifolia*
- *Phlomis russeliana*
- *Geranium 'Azure Rush'*
- *Rudbeckia fulgida var.sullivantii 'Goldsturm'*
- *Stipa tenuissima*

Native Meadows

- Native Dry Meadow
- Native Wet Meadow

Bulbs

- *Narcissus*
- *Camassia*
- *Muscaris*

