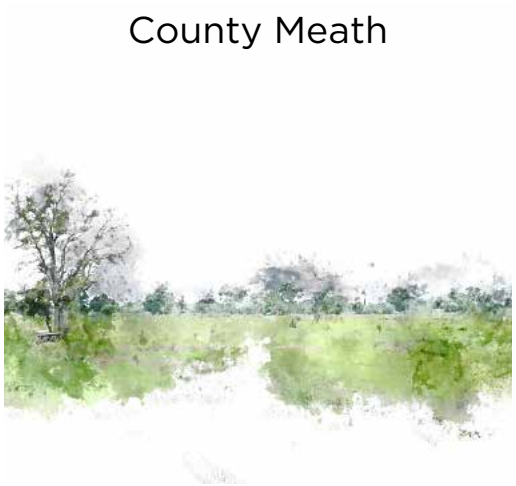
June 2024

Ballybin Road Large-Scale Residential Development

County Meath



Landscape Design Statement

LRD_Stage 3

NMP LANDSCAPE ARCHITECTURE

John Fleming Architects

Applicant: Marshall Yards Development Company Limited

CONTENT

The proposed development is at a site with a total area of 5.48 hectares principally located at Main Street/R125 and Ballybin Road, Ratoath, Co. Meath. The total site contains a proposed residential development site with an area of 3.66 hectares (bisected by a proposed realigned Ballybin Road) and a proposed infrastructural development site with an area of 1.82 hectares (principally for road and related works, water services and open space amalgamation). The site is generally bound by: Fox Lodge Woods and Fox Lodge Manor to the west and north; existing agricultural lands and residential development to the north and east; existing Ballybin Road and Moulden Bridge to the east; and Main Street/R125 and Jamestown Road/L1016 to the south. The site also incorporates parts of: the existing Ballybin Road (north and west of Moulden Bridge), Main Street/R125, Jamestown Road/L1016 and green open space in Fox Lodge Manor.

The proposed development principally consists of the demolition of 2 No. dwellings (594 square metres gross floor area combined) and 1 No. agricultural shed (988.7 square metres gross floor area) and the construction of 141 No. residential dwellings with a gross floor area of 12,428 square metres in buildings of 2 No. and 3 No. storeys. The dwellings include 117 No. houses (57 No. 2-bed, 52 No. 3-bed, 7 No. 4-bed and 1 No. 5-bed) and 24 No. maisonette/duplex units (18 No. 1-bed and 6 No. 3-bed).

The development also proposes a reconfiguration of the road layout at the south (Main Street/R125 and Jamestown Road/L1016) and east (Ballybin Road) of the site. Specifically, it is proposed to demolish/remove the existing 5-arm roundabout and to replace same with a new 4-arm signalised junction and reconfigured access to the existing Ratoath Childcare site. The new junction arrangement will facilitate a proposed realignment of the southern section of the existing Ballybin Road (approximately 172 metres) as the northern arm of the new signalised junction and a revised entrance for the existing dwelling to the north-east of the site at Ballybin Road (known as 'Fox Lodge Farm', Eircode A84 KF97). The proposed road infrastructure works also include: road markings, traffic signals, traffic signage, footpaths and cycle infrastructure.

The development also proposes:

- 2 No. new multi-modal accesses onto the proposed realigned Ballybin Road to serve the bisected residential site;
- 2 No. pedestrian accesses onto Main Street/R125 and 1 No. pedestrian access onto the realigned Ballybin Road;
- Relocation of existing eastbound bus stop at Main Street/R125 approximately 130 metres to the west;
- Repurposing of the closed section of Ballybin Road as a pedestrian/cycle greenway;
- Internal roads and footpaths;
- 228 No. car parking spaces;
- Cycle parking spaces;
- Hard and soft landscaping, including public open space, communal amenity space and private amenity space (as rear gardens and terraces/ balconies facing multiple directions);
- Demolition of the wall at the north-west corner of the site interfacing with Fox Lodge Manor and the amalgamation of existing public open in the estate and proposed public open space;
- Boundary treatments;
- Public lighting;
- Rooftop PV panels;
- 2 No. ESB sub-stations; and
- All other associated site and development works above and below ground.

INTRODUCTION 01.00

1.0 Response to LRD Opinion

MCC Notice of LRD Opinion (LRD0027)

Comment: 1.2 Design, Layout including Residential Unit Mix - (a) Connectivity/ Permeability - The applicant shall demonstrate that the proposal integrates with its surroundings and there is a high level of connectivity and permeability through and around the site to facilitate sustainable travel and movement. A clear interface must be presented between proposed and adjoining lands, including existing/ permitted developments and proposed infrastructure. The applicant is advised to provide several contiguous elevations and CGIs to illustrate this aspect and viewpoints from the surrounding area, and within the site.
Response: We have ensured that the proposal smoothly integrates with its surroundings. Our design promotes a high level of connectivity and permeability, facilitating sustainable travel and movement throughout and around the site. It is possible to see diagrams of connectivity of open spaces and circulation in this document (items 3.1 and 3.2). A clear interface has been established between the proposed and adjoining lands, with different treatments of boundaries. Viewpoints from the surrounding area and within the site have been included to provide a comprehensive understanding of the project's integration with its environment.

Comment: 1.2 Design, Layout including Residential Unit Mix - (d) Design Issues - There must be visual interest within the site, key focal points, character areas for placemaking/ providing a sense of place, etc. A variety of building types and heights, hard/ soft landscaping finishes are required, and the massing, scale and form of the proposed development must be appropriate to the site. There must be a flexible mix of housing sizes, types and design. High quality designs with a mix of high-quality finishes are required within the proposal. Open space must be useable and not limited to pocket parks and located where the maximum no. of residents can benefit from it.While the character areas should have clear differences, there should be aspects of the design which link the houses, duplexes and maisonette apartments so that there is an overall coherent development. Care is required to ensure that the proposal is legible for future occupants and visitors to the housing development The applicant is advised to propose sub-character areas within the development, to enhance legibility within the scheme.The residential units should be designed to ensure there is a good mix of tenure, that there are dual aspect structures, dual frontage design is presented at junctions, an avoidance of blank walls at key locations and there is a strong roadside presence (road/ street frontage).
Response: The development is divided into distinct character areas, such as The North Park, The Serpentine Park, The Kick-About Park, and The Woodland Walk, each with its own characteristics and functionalities (item 4.1), contributing to a sense of place and community identity. Open spaces are designed to be functional and accessible. Communal gardens, children's play areas, and multi-use lawns are centrally located to maximise their accessibility and benefit to all residents. A balanced mix of hard and soft landscaping is employed throughout the site. This includes concrete walkways, seating areas, grassy lawns, and wildflower areas, ensuring a rich and varied texture across the development. The landscaping features high-quality materials and finishes, as detailed in item 5.1 of this document. Finally, the landscape design ensures a strong roadside presence with front gardens and clear entranceways, creating an inviting streetscape.

Comment: 1.2 Design, Layout including Residential Unit Mix - (l) Boundary treatment - Boundary treatment must be in accordance with MCDP Chapter 11 Boundary Treatments. Open plan layouts at the front of dwelling houses are not acceptable. The crèche must also have secure play areas.Front boundaries shall be defined by walls or fences at least 0.5 metres high in keeping with the house design and to a uniform scheme design. Boundaries between the rear of proposed dwellings and boundaries within the development shall be a minimum of 1.8 metres high and shall be constructed as capped, rendered concrete block or brick walls, to ensure privacy, security and permanency. To encourage the use of measures specifically designed to enhance wildlife in residential schemes such as gaps/holes, should be considered and incorporated into boundary treatments to allow for passage of all wildlife including hedgehogs, bat boxes and swift bricks/boxes.Boundary treatment proposals, including the amount of vegetation to be removed must be clarified; and details provided for entire scheme. The proposed rubble stone wall must be neat and tidy. Boundary treatment may be required where car-parking is proposed near play equipment (e.g. Open Space C).A presence/ formal entry point should be provided at the pedestrian connections into the estate from the R-125. The applicant needs to clarify if a pedestrian entrance if proposed close to the proposed pedestrian crossing.
Response: We have ensured that all boundary treatments are in accordance with MCDP Chapter 11 Boundary Treatments. Open plan layouts at the front of dwelling houses are not included in the design. The majority of the units feature back gardens, providing private outdoor spaces for residents. Units that have front spaces facing the street, such as duplexes, include boundary treatments with railings and hedges. Boundaries between terraces have been exchanged for a 1.8-metre-high gossip wall, finished with bricks to ensure privacy. Additional measures to enhance wildlife have been incorporated, including gaps and holes in boundaries and a green corridor to facilitate bat passage between the two existing hedgerows in the scheme. Boundary treatment proposals have been clarified with detailed information, both indicated on plans and included in construction details as part of the drawing package. The extent of vegetation removal is assessed in the arborist's files. Public spaces with play areas adjacent to parking have had vegetation densified as a buffer. Additionally, each formal play area has been enclosed by a hedge fence. Pedestrian access to the R-125 has been realigned according to the crossing.

Comment: 1.2 Design, Layout including Residential Unit Mix - (p) Visual Impact - The applicant is advised to address the visual impact of the proposed development on the area, providing continuous elevations and CGIs with viewpoints from the surrounding area. A robust assessment of visual impact is required as urbanisation of this area will have a significant visual impact.
Response: Refer to Landscape and Visual Impact Assessment prepared by JBA.

Comment: 2. Landscaping - (a) Please provide a detailed, site-specific Landscaping Report and Landscape Management Plan as part of the planning application.
Response: The Landscaping Report had indeed been submitted previously as part of the landscape submission. We have now updated it to address the comments provided and to include any additional information requested. This updated report comprehensively covers all aspects outlined in the comments and provides a detailed overview of the landscaping plans and management strategies specific to the site.

Comment: 2. Landscaping - (b) Site-specific design proposals are required for each area of public open space (P.O.S) (rather than indicative no's), communal spaces, semi-private spaces, etc. and the applicant must demonstrate the benefit, use and function of each area.
Response: Site-specific design proposals for each area of public open space (P.O.S), communal spaces, semi-private spaces, etc., were already prepared and submitted as part of our initial application request for LRD Meeting. These proposals have been updated to address the comments provided and to further demonstrate the benefit, use, and function of each area.

Comment: 2. Landscaping - (c) Open space must be useable and not limited to pocket parks. An existing public open space which adjoins the site in Fox Lodge Manor should be clearly linked to Open Space D (as currently proposed) in the north-west of the site with proposals to join the spaces together included as part of the forthcoming application.
Response: Our design emphasizes the creation of diverse and multi-functional green areas that cater to various community needs beyond the concept of pocket parks. We have extended The North Park to enhance connectivity with Fox Lodge Manor, providing ample space for formal and informal play activities.

Comment: 2. Landscaping - (d) The application must include high quality, usable, functional public open space and high- quality landscaping is required, with a mix of formal and informal play spaces. The applicant is requested to identify proposed 'active' and 'passive' P.O.S. within the development.
Response: We have incorporated a mix of formal and informal play areas to cater to diverse needs. The intention is that the formal play areas will serve as space for structured / natural play, incorprating play elements with the multi-functional lawn areas serving as space for unstructured / informal play to include kick-abouts, free play, frizbee play, etc. The same way, the proposed development features both 'active' and 'passive' public open spaces. The 'active' spaces include playgrounds, sports facilities, and areas designated for physical activities, while the 'passive' spaces comprise quiet parks, walking paths, and areas intended for relaxation and contemplation.

Comment: 2. Landscaping - (e) The applicant should ensure that P.O.S. calculations do not include communal space requirements or F1 zoned land -
Response: We have ensured that the P.O.S. areas do not include communal space requirements or F1 zoned land. Refer to Open Space Diagram contained in the JFA Design Statement.

1.0 Response to LRD Opinion

Comment: 2. Landscaping - (f) Boundary treatments shall be provided in accordance with the MCDP Chapter 11 requirements. The applicant refers to an existing boundary treatment along the west 'to be retained where possible and made good', however the tree survey drawings indicate that much of this vegetation is to be removed at this location. The proposed concrete post with timber panel fencing and Concrete Kicker is not acceptable to MCC. The proposed Ibex Fence along east/ landowners' house is acceptable. The proposed Rimini Fence at 0.96m high between the Maisonettes is insufficient for separation of private amenity spaces. The rubbles stonewall with railing is acceptable but must be neat and tidy. The hedgerow along R-125 may need to be strengthened.
Response: We have adhered to the regulations set out in Chapter 11 of the MCDP. The boundaries to be retained (and made good where necessary) have been clearly identified as two existing types: the concrete block wall and the fence amid the hedgerow. Additionally, the concrete timber panel fence is located solely within the interior sections of the back gardens, not bordering any public areas, ensuring it remains out of external view. The Rimini fence between the terraces of the maisonettes has been replaced with a 'gossip wall' finished with bricks. Furthermore, the hedgerow along the R-125 will be enhanced with tree planting at its extremities.

Comment: 2. Landscaping - (g) Landscape management should not be excessively onerous for residents' committees' private management companies and/ or Meath County Council's Taking in Charge Team. Detailed management arrangements and practical proposals which can be readily maintained for biodiversity and amenity are required.
Response: This document addresses the requirement. Detailed management plans and practical landscaping proposals, which are easy to maintain for residents' committees, private management companies, and Meath County Council's Taking in Charge Team, are included in the appendix at the end of the file. These proposals ensure both biodiversity and amenity are preserved without being too demanding.

Comment: 2. Landscaping - (h) Details on a management plan for hedgerows and trees, areas of public open space, landscaping, management of invasive species on/ introduced to the site, management and maintenance of play equipment, boundary treatment around play spaces to discourage running onto adjoining roadways, etc. should be provided. Play spaces must have at least 1.2m railing to ensure the safety
Response: Where it is proposed to retain trees and hedgerows on site, the management of these features has been included in the Tree and Hedgerow Management Plan, submitted by Charles McCorkell Arboricultural Consultancy under separate cover with the Planning Application documentation. Mitigation and monitoring proposals included have been included in the Construction Management Plan (CMP). Railing and hedging to be placed around play areas.

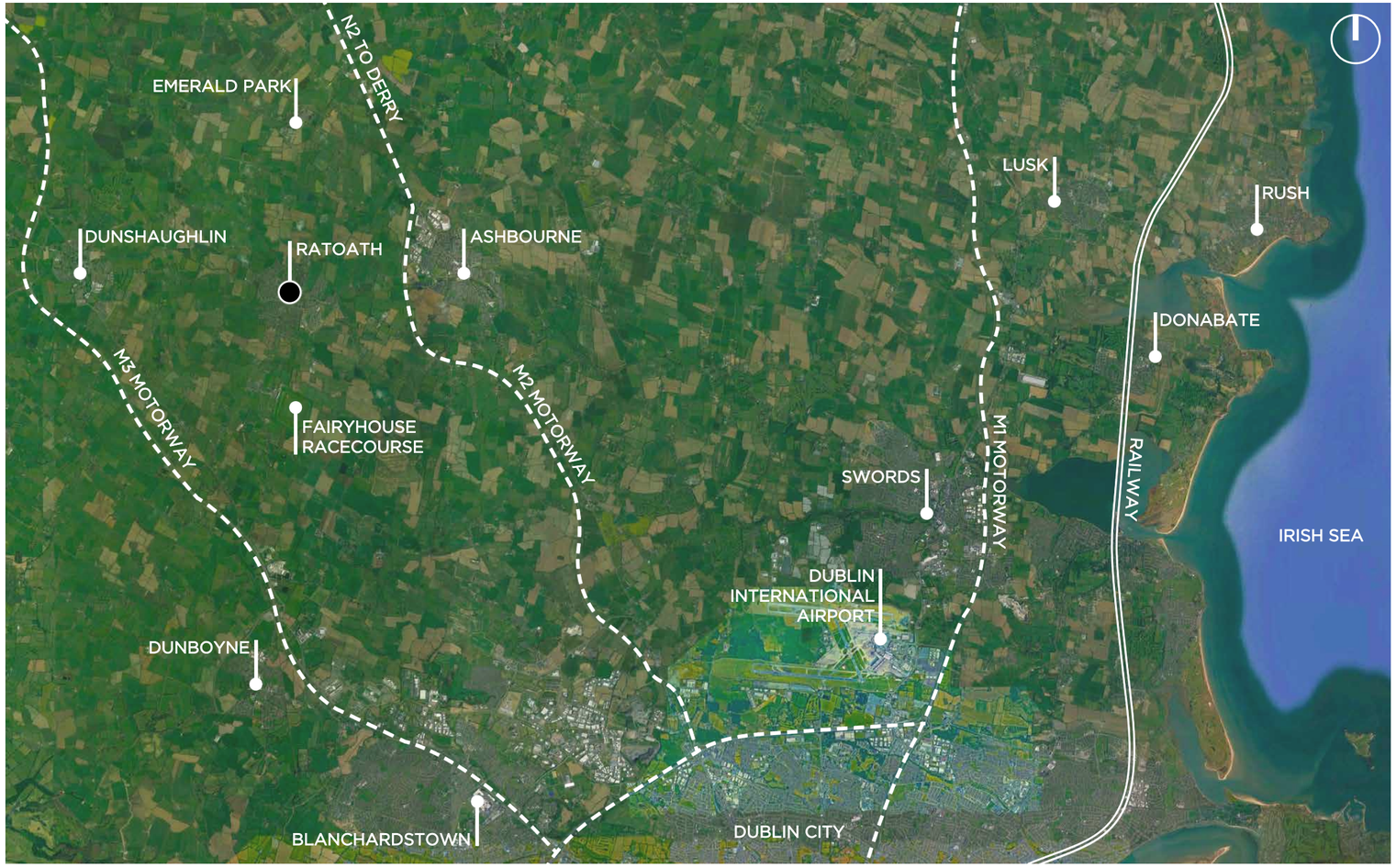
Comment: 2. Landscaping - (j) The Planting Strategy should have an emphasis on native plant and tree species of local provenance with reference to the All-Ireland Pollinator Plan. Natural wildflower colonisation is also recommended. A detailed Planting Schedule will be required. The applicant should identify the native species (trees, shrubs, flower species to be used on the site) and avoid presenting a generalised list.
Response: Our Planting Strategy emphasises native plant and tree species of local provenance. We also recommend natural wildflower colonisation. A detailed Planting Schedule, specifying the native species of trees, shrubs, and flowers to be used on the site, is included in this document (item 5.3).

Comment: 2. Landscaping - (k) Tree planting should not interfere with public lighting scheme or affect
passive supervision and public lighting should not interfere with bats.
Response: The tree planting strategy has been coordinated across disciplines to ensure it does not interfere with the public lighting scheme or affect passive supervision.

Comment: 2. Landscaping - (l) Privacy strips (as per Section 4.10 of the Apartment Guidelines 2023) need to be addressed (private and communal amenity space).
Response: The provision and future maintenance of well-designed communal amenity space, as emphasized in Section 4.10 of the Apartment Guidelines 2023, have been carefully considered. The minimum required areas for public communal amenity space, as outlined in Appendix 1, have been adhered to. Additionally, while private and communal amenity spaces may adjoin each other, clear distinctions have been established with appropriate boundary treatments. This includes the implementation of hedges with railings between them, ensuring privacy and usability for residents.

Comment: 2. Landscaping - (m) The Compact Settlement Guidelines (January 2024) have introduced minimum private open space and maximum semi-private (in lieu) space requirements. The final iteration of the application which is submitted should ensure that such standards have been met, noting that housing developments which provide private open space at the minimum standard throughout the scheme will be discouraged (as per Section 11.5.12 of the MCDP).
Response: The final iteration of the submitted application has met and exceeded the requirements outlined in the Compact Settlement Guidelines (January 2024). We have ensured that minimum private open space and maximum semi-private space requirements have been fulfilled.

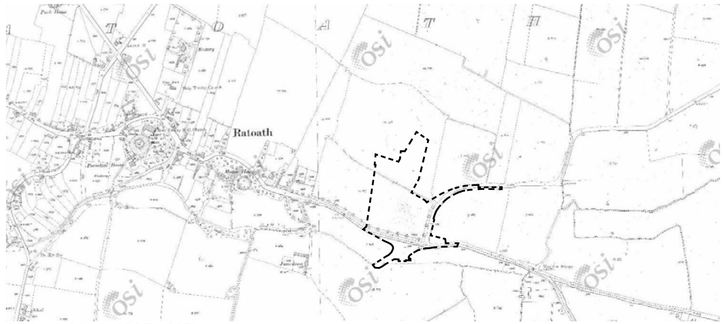
Comment: 17. Public Artwork - A proposal for a public art work will be required in the residential development, which should ideally be incorporated in the landscape scheme in a central area of public open space. Please submit details of same as part of the application.
Response: The location for the artwork has been incorporated into the landscape scheme, positioned prominently within a central area of public open space. Details regarding the specific artwork have not been provided at this stage, as it will be crafted in accordance with the available list of artists.



LANDSCAPE ANALYSIS 1.0

1.1 Landscape Analysis: Historical Context

6 Inch Map - First Edition (1829-1841)



25 Inch Map (1897-1913)

Aerial Photography (1995)

There is evidence of settlement in Ratoath as early as the 4th century. The Book of Armagh, a Latin manuscript containing early exploits of St. Patrick, describes a place in Meath where he founded a church called Mruigtuaithe, later to be identified as Ratoath. "Mruig" meaning a grazing plain in Irish.

Before the Norman invasion of Ireland, the Kingdom of Meath was ruled by native kings or chieftains with the nearby Hill of Tara being there main residence.

When the Normans invaded, many of the native kings were displaced to help introduce the new feudal system of land tenure, one of whom was the King of Meath or Tara. The land was granted to Hugh de Lacy. Sometime after 1196, his son Walter granted "the whole land of Rathtowth" to his younger brother, Hugh. Hence we have now the sub-division of the county Meath, named the Barony of Ratoath and it has the distinction of being perhaps the first instance that the term barony was used in Ireland for a division of a county.

Walter is said to have constructed the Motte and Bailey Castle next to the local Catholic church, clearly visible on the 6 and 25 inch maps, labled as Moat (old french for hill). This small castle would lead to the name of the area we know today, Ratoath, "Ráth" meaning fort, and "tuath " meaning a territory belonging to a family.

Native chieftains would regularly raid the new Norman territories, though Ratoath was well inside the Norman territory and it was not necessary for them to build a stone castle for defense such as was erected at Duleek, Slane, and Dunshaughlin. Walter is credited with erecting the first church in Ratoath. Although, the fact that the church's patron is the Most Holy Trinity suggests either an earlier foundation or they borrowed the title from an existing church in the area. Normans usually dedicated their churches to Our Blessed Lady or to one of the Saints.

Ratoath would enjoy a certain prestige as the center of the Barony as well as a base for an early local magistrate. It would hold fairs and markets. A manor house was built in 1780 and was later used for local court hearings, functioning up until 1850 and is now a nursing home.

Old Ratoath Church

Ratoath Manor

Old Motte and Bailey Castle Mound with Holy Trinity Ratoath Church in the Background

1.2 Landscape Analysis: Local Context

Ratoath sits nestled between the towns of Ashbourne and Dunshaughlin as well as the M2 & M3 motorways respectively, allowing for ease of access to Dublin city. The surrounding landscape is rich and flat, perfect for crop farming, although a large number of stud farms are located within the area as well. Horse riding and horse racing are very popular in the community due to the proximity to Fairyhouse Racecourse and Tattersalls to the south.

The county of Meath has a rich history, and the area is dotted with old ring forts, stone castles and manor houses, many of which have been redeveloped in the past century into hotels, spas and golf courses. Emerald Park is located directly north of Ratoath, and is one of the best examples of a theme park in Ireland.

Industry & Transport

Industrial Estate

Proximity to M2 & M3 Motorways

Nature

Rural Landscape

Historic Landscape

Leisure

Leisure Park

Horse Racing

1.3 Landscape Analysis: Site Context

The site is located on the eastern outskirts of Ratoath and an approximate 10 minute walk from the centre of the town. It is abutted by agricultural lands and residential development. The site itself is principally a greenfield site, dominated by pastoral lands / grasslands, mature landscape / wooded areas along portions of the periphery and a hedgerow traversing the site centrally. Built elements include as a large farm shed and residential houses with ancillary buildings.

Main Street (R125), connecting the M2 and M3 Motorway via Ratoath and Dunshaughlin, runs along the southern boundary of the site. The bus stop located at the Main Street (R125) roundabout has a regular service, connecting the local towns as well as to Drogheda, Dublin, and Dublin Airport.

Jamestown Road, off Main Street (R125), is lined with a large array of new housing developments as well as the new St. Paul's National School and Ratoath College, to accommodate the growing population.

Ratoath Tennis and Athletic Club is located along this Road, in close proximity site. The Broadmeadow River and river walk, also in close proximity to the site, create a substantial green corridor within Ratoath.

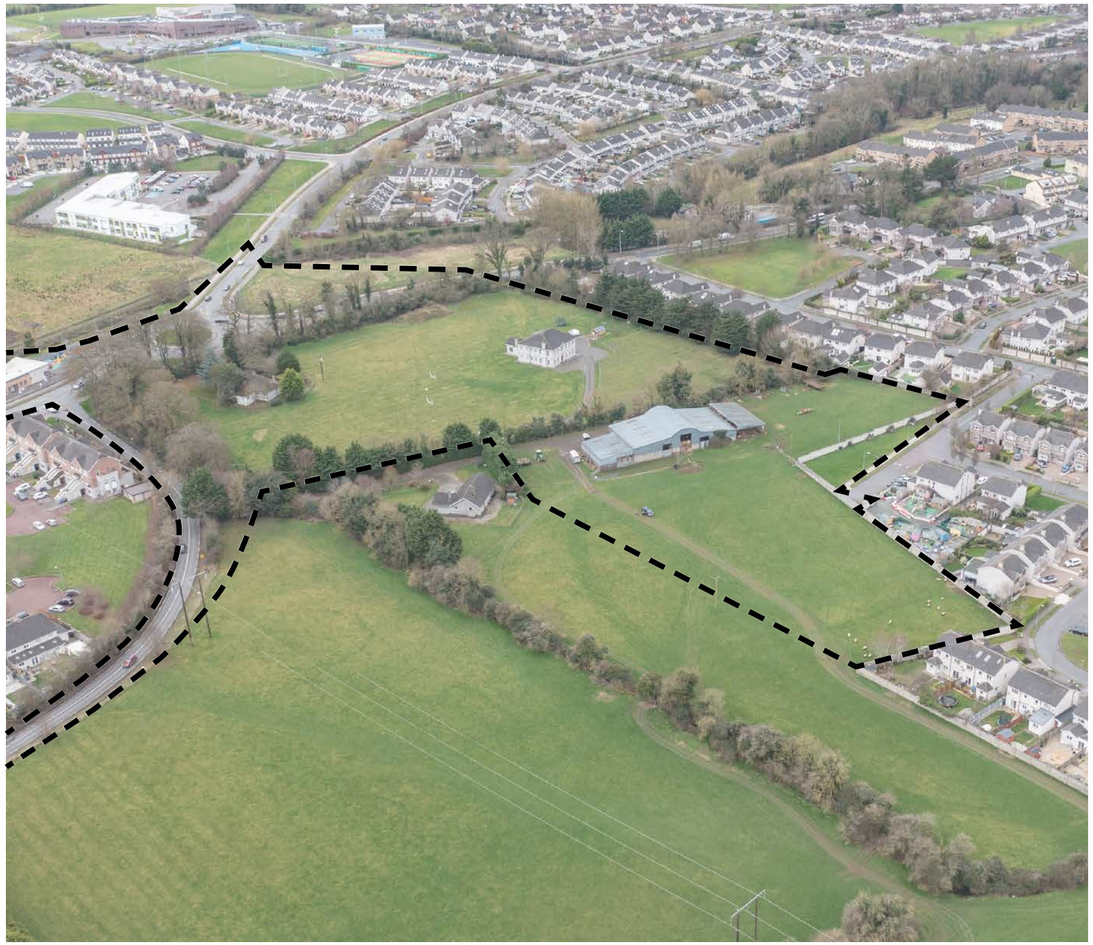
Ratoath Tennis and Athletic Club

Broadmeadow River

1.4 Landscape Analysis: Existing Site Views

Understanding the site and its existing character provides clues as to how it should be developed as amenity for residential use. The existing characteristics such as the mature landscape / wooded areas should be retained as best possible, protected, enhanced and embraced whilst Main Street (R125) should be screened.

The following views capture these components.



1.5 Landscape Analysis: Topography + Micro-climate

Topographically, the site slopes gently eastward with a level change of approximately 5m.

The lower portion of the site along the eastern and southern periphery of the site is characterised by low linear mounding and is also partially sheltered by mature landscape.

The site has a positive aspect to take advantage of solar gain.

1.6 Landscape Analysis: Landscape Character

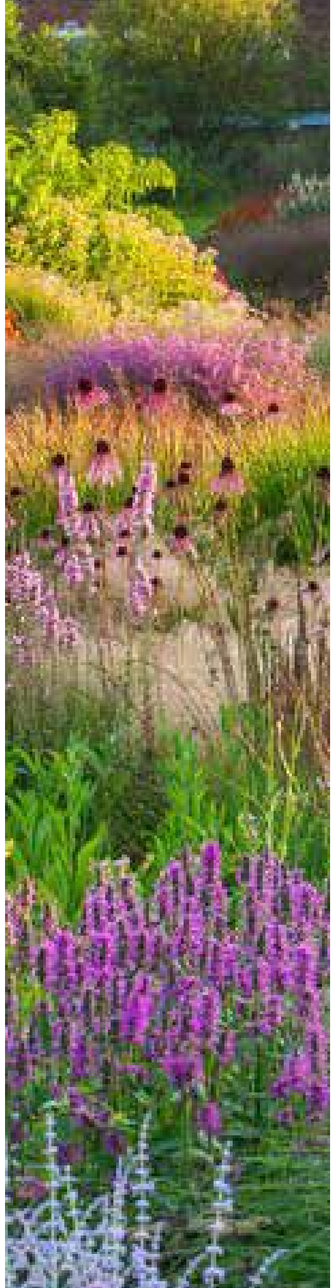
Pastoral Land / Grassland

Mature Landscape / Wooded Areas

Pastoral / Grassland

Mature Landscape / Wooded Areas

02 LANDSCAPE VISION + CONCEPTUALISATION

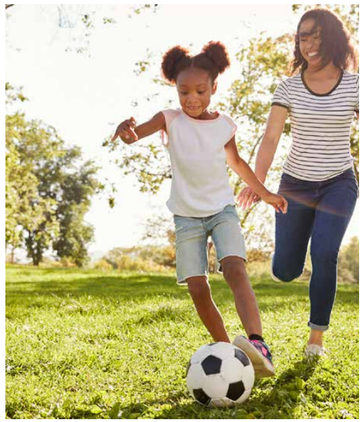


2.1 Landscape Vision

Retain

Enhance

Curate



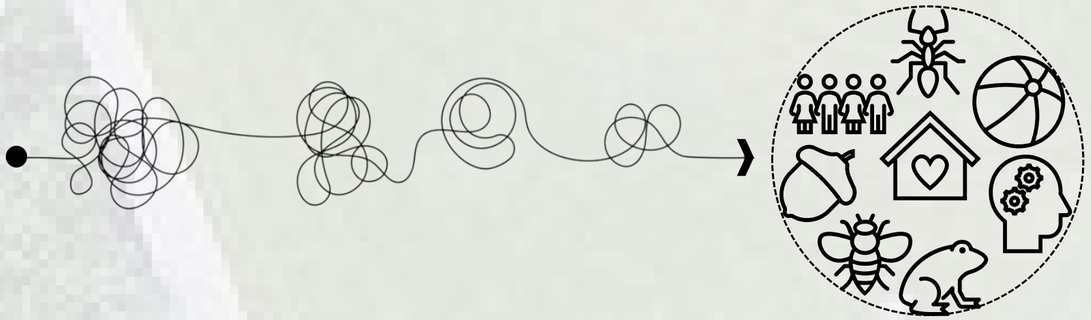
The development offers an opportunity to curate community. The masterplan has been crafted in such a way so as to promote placemaking, creating opportunity for interactions on a social level and generating a sense of neighbourhood & connection, thereby supporting the essence of community in providing verdant nature- & sensory positive space, set within a semi-urban context.

Influenced by its formative years as pastoral land and an objective both at a project, national and a global level to meaningfully increase our biodiverse credentials, the public realm will be predominantly characterised by planting.

The use of native tree & shrub planting and wildflower meadow grass areas to respond to, support and promote the National Pollination Plan, will have a positive net gain for biodiversity. This will enhance the existing ecological system, creating more habitat and diversity. Additional tree planting will promote carbon sequestration as well as a varied habitat, roosting for bird life and screening of the development.

The overall site serves the development in encouraging social interaction and a connection with community & nature, thereby creating a sense of well-being.

2.2 Conceptualisation
Connecting with Nature - Connecting Community

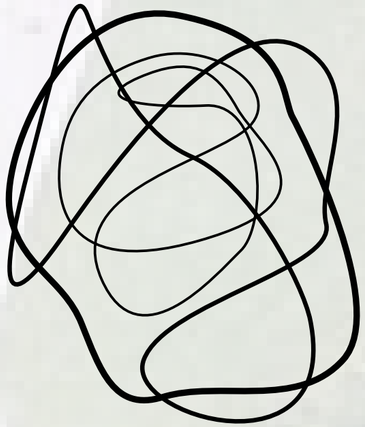


From the area's colourful past, comes a need to create calm and a sense of community. A layered approach to the design narrative creates connections on multiple levels, from within the community, to surrounding communities, to connecting the user to the environment and accommodating the need for nature to connect above, below and through the landscape.

The landscape expression should be welcoming, calm and memorable. To complement but not compete with, the design should respond to the needs of the residents & greater community as well as to the architecture, in a legible and elegant manner.

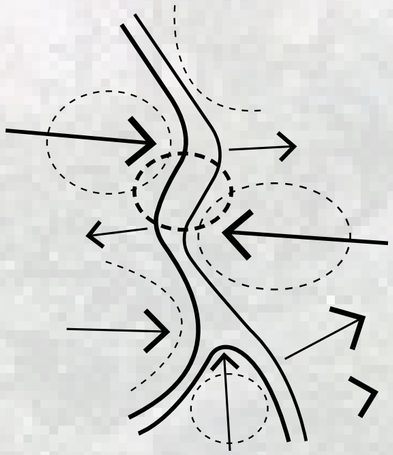
2.2 Conceptualisation - Translation into Space

Life



Untangle + Simplify

Shape



3.0 LANDSCAPE DESIGN STRATEGIES

3.1 Landscape Design Strategies: Activity Spine

In the landscape design of this development, particular attention has been given to the creation of a dynamic and cohesive public space system. A central activty spine, extending from north to south, serves as the backbone of the design, weaving through the parkland areas. This strategic layout not only enhances the functionality of the landscape but also fosters connectivity and coherence within the environment.

Furthermore, the activity spine's design expression anticipates the integration with any possible future development as well as a connection to the adjacent development of Fox Lodge Manor, thereby assiting with connecting the developemt to the greater community. Emphasizing smooth transitions between different areas, features like shared surfaces to the south and raised tables effectively promote traffic calming, enhancing pedestrian safety and the overall experience of traversing the public realm and open spaces.

LEGEND

- Activity Spine
- Public Open Space
- Shared Surface
- Traffic Calming

3.2 Landscape Design Strategies: Accessibility + Circulation

By the nature of its geographical positioning, the site is well connected to its greater context, public transport and a key artery into and out of the Ratoath town centre with access to bus networks within a short walking distance.

Its positioning as a sustainable development lends itself to making use of public transport as well as non-motorised transport such as walking and cycling. The pedestrian routes within the public open space allow for leisurely meandering and enjoyment of the amenities.

Primary access point to the site is from proposed realigned Ballybin Road. Internal roads provide access into the site with traffic calming spots, allowing for an additional layer of permeability and fucntionality.

Service- & emergency vehicles will have access to areas around the buildings as appropriate with a possible emergency access proposed off Ballybin Road.

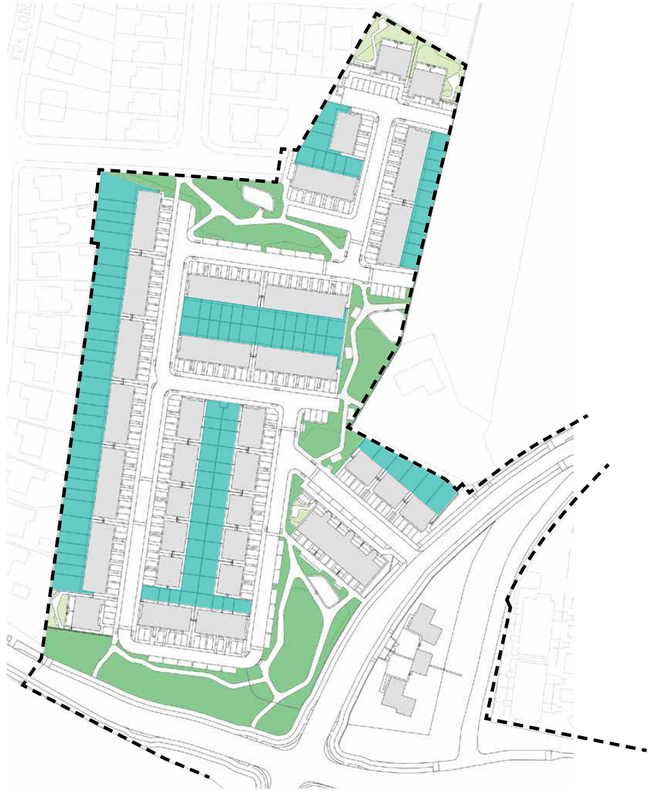
The pedestrian- & cycle routes throughout the development, with several proposed access points into the lands, assist with accessibility & permeablility. Pedestrian routes traversing the public open spaces allow for leisurely meandering and enjoyment of the amenities.

LEGEND

- Shared Surface
- Traffic Calming
- Vehicular Route
- Vehicular Access (Private)
- Pedestrian Route
- Bicycle Route
- Possible Future Road Connection
- Possible Future Pedestrian + Bicycle Connection
- Possible Future Pedestrian Connection

Reference Images

3.3 Landscape Design Strategies: Open Space Quantum



Reference Images

Spatial quality is centered around strategies, policies, design and effective creation & use of spaces. This applies to buildings, landscapes and infrastructure. Effective design will have a higher spatial quality as functioning increases, use rises and a variety of needs for the user is met. A variety of spatial typologies and scale of spaces add to the overall landscape experience as users pass through, actively using and participating in the spatial experience. The more users encouraged into the space, the more successful the development will be, thereby creating active, engaging and fun communities.

The current landscape expression creates interest and allows for the creation of "landscape rooms" that facilitate 'moments' for interactions, crafting a sense and extension of the community for the wider neighbouthood with programme dotted within the open space to maxamise functionality and enjoyment.

LEGEND

- Public Open Space
- Communal Open Spaces (Maisonettes)
- Private Amenity Spaces

3.4 Landscape Design Strategies: Play + Exercise + Rest

Reference Images

The activity scheme is dotted within the overall open space arrangement. These will promote health & wellbeing, learning and social interactions which underpin creating a well-integrated community whilst encouraging greater use of the outdoor environment.

Flexible space and inclusive natural play spaces are provided throughout the masterplan and respond to age, context and ability, encouraging users to interact with each other.

Exercise has been provided throughout with fixed and flexible spaces arranged appropriately. Opportunities for larger groups to exercise in the open space and engage in yoga or 'HITT' / 'HIRT' training sessions are encouraged. Exercise stations will allow for structured exercise.

Seating opportunities, as a passive amenity, will provide pause spaces as points of rest and simple opportunities in the public realm to meet others.

LEGEND

- Multi-functional Lawn Space / Informal Play
- Formal Play (Structured / Natural)
- Exercise Station
- Seating Opportunities
- Biodiversity Interventions

3.5 Landscape Design Strategies: Vehicular + Bicycle Parking

The landscape project integrates both car and bicycle parking facilities seamlessly into its design. Perpendicular parking spaces are predominantly situated along the typical roads, while parallel spaces are strategically placed around public park areas. The design includes deliberate spacing between parking bays, allowing for the integration of tree pits and creating breathing room amidst the parking blocks.

To enhance sustainability and environmental friendliness, all parking areas, except those within shared surfaces, utilize permeable pavement. This feature not only facilitates efficient water drainage but also promotes water absorption.

Additionally, strategically located bicycle parking spaces have been incorporated into public areas and internal gardens of communal spaces, catering to both public and private bicycle parking needs.

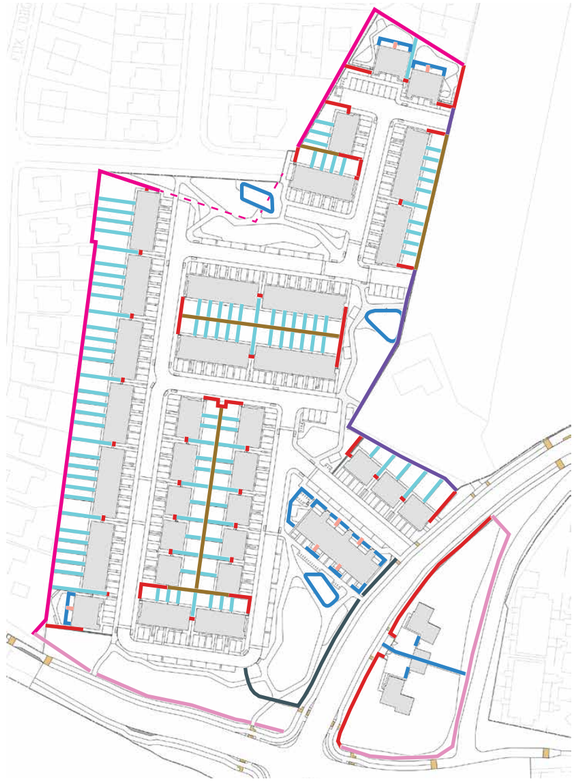
Furthermore, besides the parking spaces designated for residential units and maisonettes, approximately 27 visitor parking spaces have been allocated. These visitor parking spots are mainly distributed along the public spaces to the north and south, ensuring convenient access for guests.

Reference Images

LEGEND

- Allocated Parking
- Non-Allocated Parking
- Private Parking
- Bike Parking

3.6 Landscape Design Strategies: Boundary Treatments



Reference Images

The proposed residential landscape development incorporates a diverse array of boundary treatments, meticulously designed to harmonise with the surrounding environment while ensuring privacy, security, and aesthetic appeal. The project prioritises preserving existing boundaries, especially along the western perimeter along the back gardens. Towards the south and east, where lush foliage thrives, efforts are made to maintain the existing fence line with enhancements to minimise disruption to vegetation. Ibex fences are used where necessary to preserve existing vegetation while establishing boundaries.

Rubble stone walls with railings demarcate the park area, creating a transition between The Woodland Walk and The Kick-About park. Timber panel fences define back gardens, while rear boundaries are defined by capped and fair block walls. Privacy is delicately integrated into the design with railings and hedges in terraces and communal gardens, providing seclusion and enhancing aesthetic appeal. Strategic placement of hedges within residential units further delineates properties, fostering tranquillity and exclusivity.

LEGEND

- Existing Boundary - Block Concrete Wall to be Retained Where Possible and Made Good
- Existing Boundary - Fencing to be Retained Where Possible and Made Good
- Existing Boundary to be Removed
- Rimini Style Railing
- Render Finished Block Wall with Capping & Brick Piers
- 1800mm High Brick Clad Gossip Wall
- Rubble Stone Wall with Railing
- Ibex Fence
- Concrete Post with Timber Panel & Concrete Kicker
- Capped & Fair Faced Block Wall

3.7 Landscape Design Strategies: Trees


Native Tree Species


Woodland Trees


Accent- & Specimen


Parkland Trees

All trees within the lands subject to this planning application have been surveyed by Charles Mccorkell Arboricultural Consultancy. The existing trees within the bounds of the Residential site are located primarily with some groupings of smaller trees located around the existing residencial dwellings. The masterplan has been envisaged to retain as many of the existing trees as possible of the 133 trees and 12 tree groups surveyed. 27 trees and 1 tree groups were considered to be of poor quality or -value and have been identified for removal. Of the remaining trees, 50 trees and 3 tree group have been identified for removal as a result of development.

The proposed new trees are intended to enhance the landscape character & aesthetic quality of the site as well as the biodiversity credentials (net gain in biodiversity) and will be located along streets and within public- & communal spaces with the intention of mitigating existing tree loss. The new trees will vary in specification of size and species. There will be a majority of trees selected from native tree species, which will be deciduous and evergreen, as well as having a variable habit. Clusters of trees rather than formal rows will dominate the landscape expression. There will be a total of 220 new trees planted.

LEGEND

- Proposed Trees: ca. 220 No.
- Existing Tree to be Retained
- Existing Trees to be Removed
- Existing Mature Planting to be Retained
- Existing Mature Planting to be Removed

3.8 Landscape Design Strategies: Vegetation

Shrub- & groundcover mixes will be utilised to define space with planting styles and types varying, depending on use, thereby assisting in creating distinctive landscape typologies. The scale of planting and transition in planting from low, medium and high to define space, has been planned according to programme, thresholds and spatial hierarchy. Within the public realm, plants will be robust, mostly evergreen and require less maintenance. Street trees will be tried and tested urban species.

Parkland planting is earmarked for the public open space and surrounds with plant species suited as understorey planting being proposed for the woodland- / periphery type planting zones, where applicable.

The All-Ireland Pollinator Plan 2021-2025 has richly informed the planting palette and soft landscape approach and in conjunction with a selection of native plant species, will characterise the landscape expression.

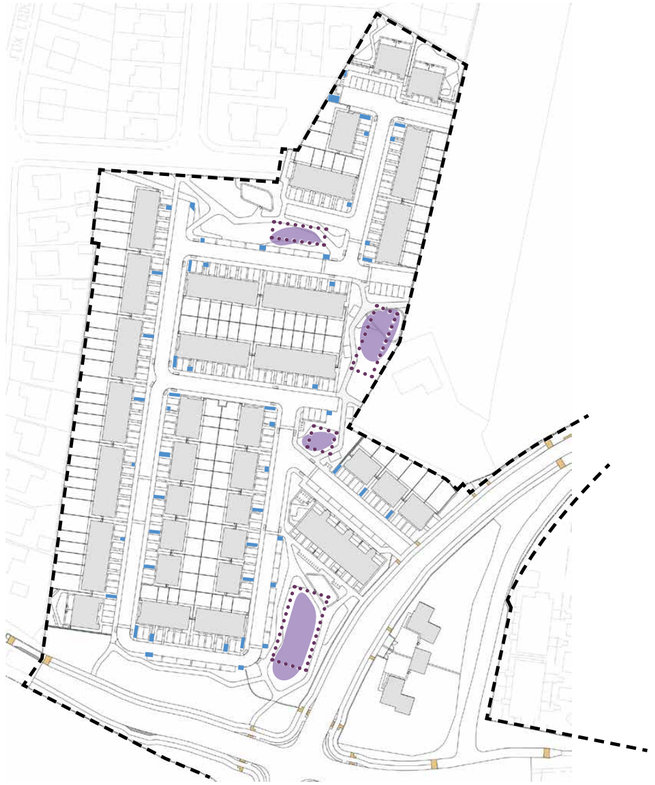

Shade Loving Plants for Mature Landscape / Wooded Areas


Perennials for Seasonal Variety

LEGEND

- Streetscape Planting
- Parkland Planting
- Woodland Planting
- Lawn

3.9 Landscape Design Strategies: Water Story



Reference Images

Sustainable Drainage, or SuDS, is a way of managing rainfall that mimics the drainage processes found in nature and addresses the issues with conventional drainage. The landscape surface water drainage strategy incorporates SuDS features and has been designed in line with best practice.

The soft landscape will allow water to drain freely to recharge the ground water if not captured by filter drains before release. In addition it is proposed to create several rain gardens on the courtyards and pocket parks to capture run off. Bio retention tree pits are proposed for streets and have been detailed in coordination and collaboration with engineers.

A bioretention structure differs from a rain garden in that it employs an engineered topsoil and is used to manage polluted urban rainfall runoff in street locations and carparks. The free-draining nature of engineered soils leads to the washing away of nutrients from the soil. The proportion of organic matter should be relatively high and replenished yearly by the application of a mulch layer of well composted green waste or shredded plant matter arising from maintenance.

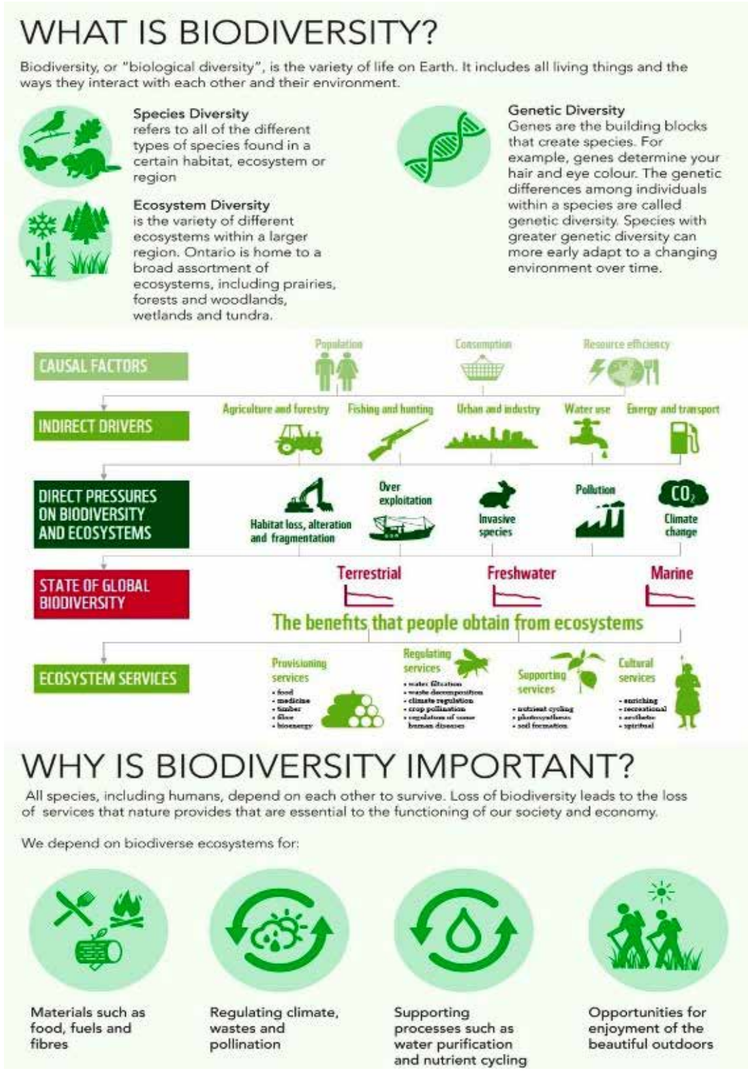
LEGEND

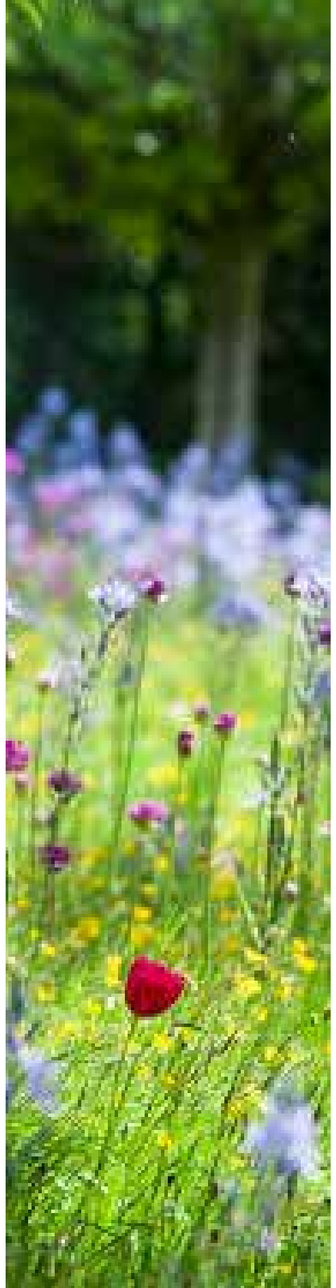
- Proposed Attenuation Tanks
- Proposed Bioretention Areas
- Tree Pits

3.10 Landscape Design Strategies: Biodiversity

Reference Images

An awareness and the enhancement of the site's existing natural features will inform the character of vegetation and the sense of place it derives from this character. In turn, there will be a net gain in biodiversity by planting native tree species, coupled with plants selected fom a list of pollinator friendly species and maintained to increase the availability of flowering plants in the shoulder months. The loss of habitat will be negated by the inclusion of native tree- & plant species within the vegetation palette and complemented with habitat boxes, etc.





4.0 LANDSCAPE CONCEPT DESIGN

4.1 Landscape Masterplan

The public open space is conceived as verdant destination park spaces, dotted within the Masterplan for ease of access, that seamlessly blend together with the shared surfaces and beyond, thereby unifying the public realm. The vision underpinning the landscape expression is centred around the creation of welcoming nature-positive, legible, interactive and healthy landscape experiences that will encourage and promote the essence of community.

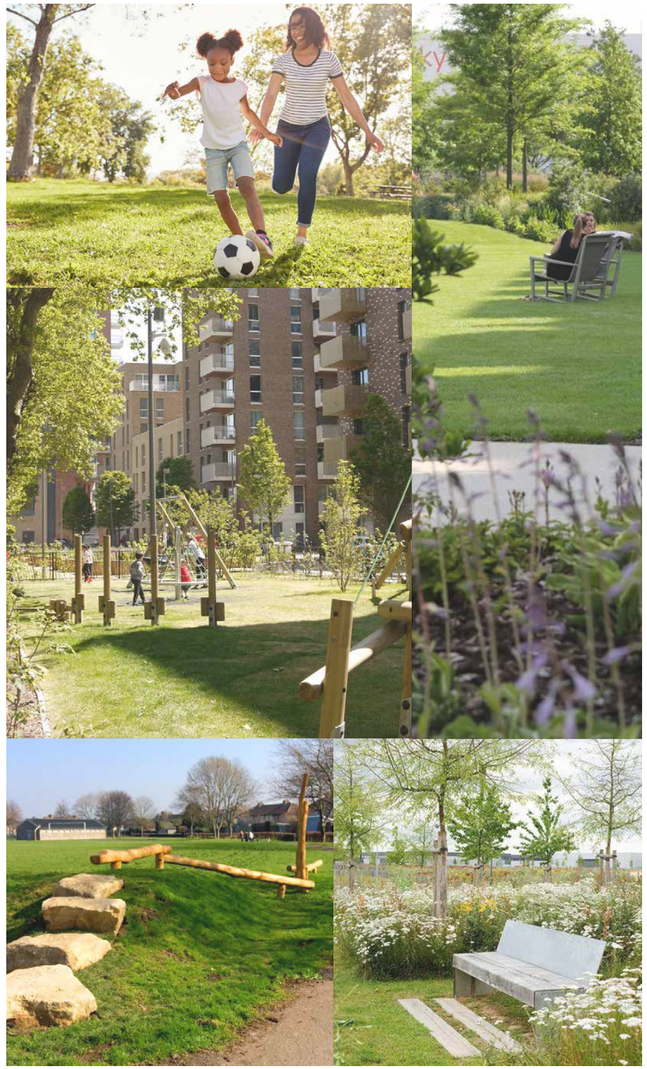
The use of native tree & shrub planting and wildflower meadow areas to respond to, support and promote the National Pollination Plan, will have a positive net gain for biodiversity. This will enhance the existing ecological system, creating more habitat and diversity. Additional tree planting will promote carbon sequestration as well as a varied habitat, roosting for bird life and screening of the development.

Inclusive natural play spaces are provided throughout the Masterplan and respond to age, context and ability, encouraging users to interact with each other. Several principles have driven the design all of which underpin creating a well-integrated community:

- Equipment that stimulates the senses.
- Equipment that is accessible to all such as rockr's with the width for wheelchair access and Part M compliant including space for children who do not like to be touched.
- Equipment that has similar tasks but different levels of challenge for age groups and abilities thereby providing children with choice
- Surface materials that meet EN 1176 and EN 1177 standards, to be safe and visually pleasing
- Providing for calm and landscaped areas with seating, or cubby holes in tree houses, etc.
- A variety of routes to encourage exploration but also allowing for solitary play, onlooker play, parallel play (playing beside one another), associative play (playing close by and mimicking other children), etc. with natural play encouraged to include imaginative play, discovery, exploration and adventure.

Exercise has been envisaged throughout within flexible spaces arranged appropriately. Opportunities for larger groups to exercise in the open space and engage in yoga or 'HITT' / 'HIRT' training sessions are encouraged.

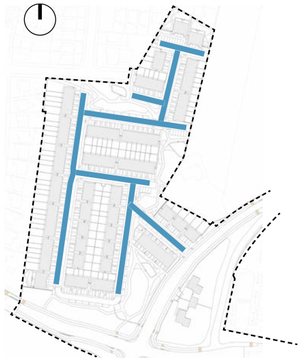
Ultimately the provided programme will encourage greater use of the outdoor environment, greater opportunities for interactions and places health & wellbeing at the forefront of spatial planning.



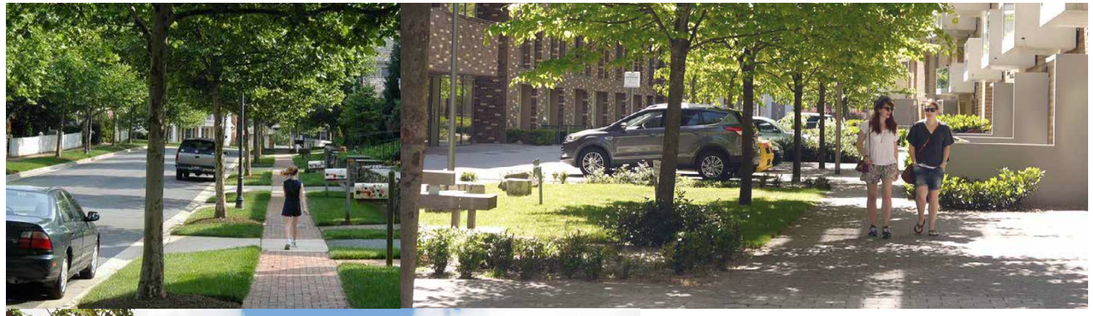
Reference Images

4.2 Streetscape: Typical Roadscape

Bird's-eye View



Locality Plan



Reference Images

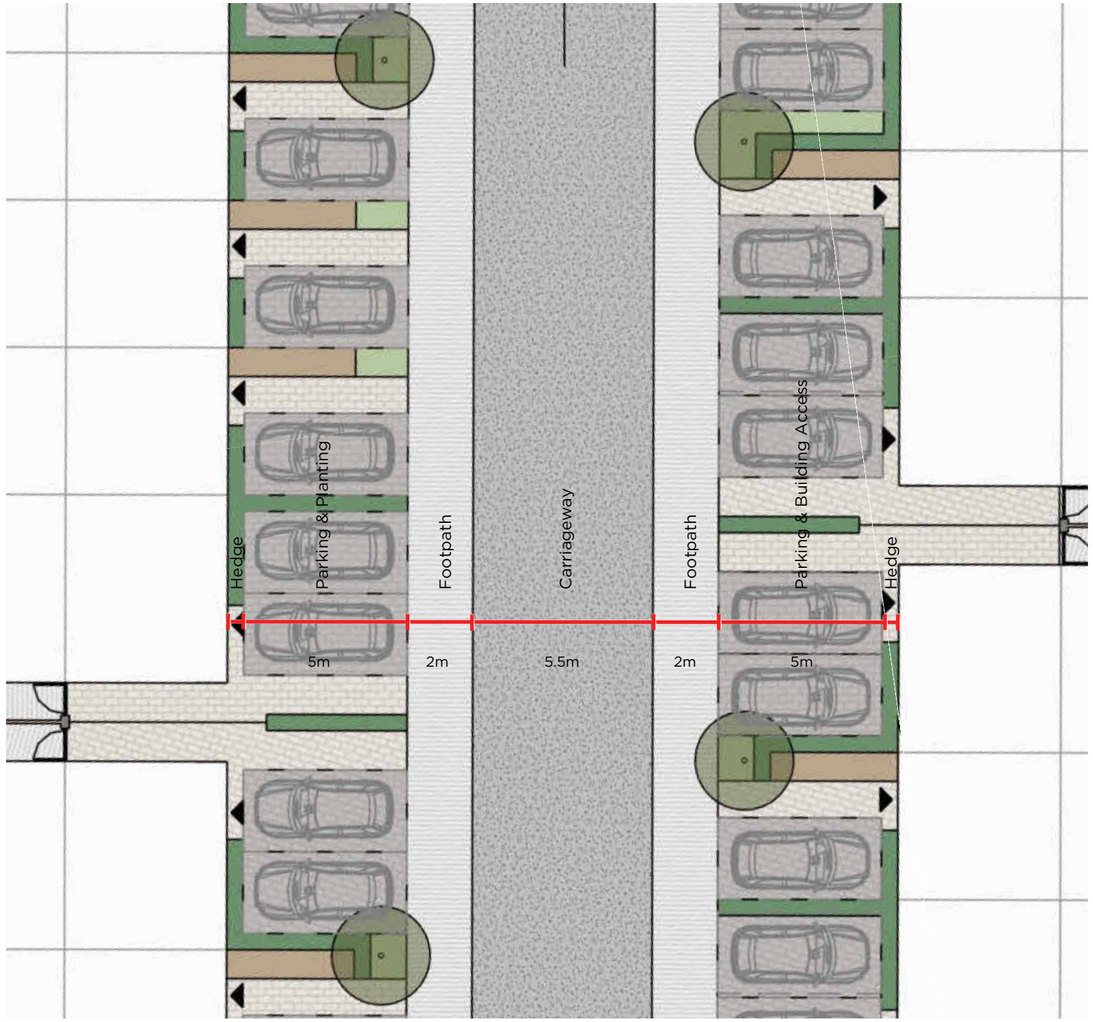
There are a large number of local streets located within the masterplan to facilitate general accessibility and circualtion.

These streets provide connections from external road networks to residential zones within the greater neighbourhood.

Typically the cross section consists of a 5.5m carriageway and 2m wide footpaths provided on either side of the carriageway.

A variety of car parking arrangements are proposed including in-curtilage and on-street arrangements in perpendicular and parallel arrangements.

Horisontal deflections within the roadways will assist as traffic calming measures as well create interest within the streetscape.



Typical Plan View

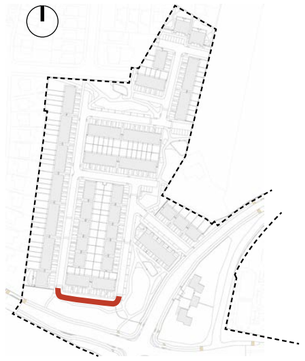
4.3 Streetscape: Typical Shared Surface

Reference Images

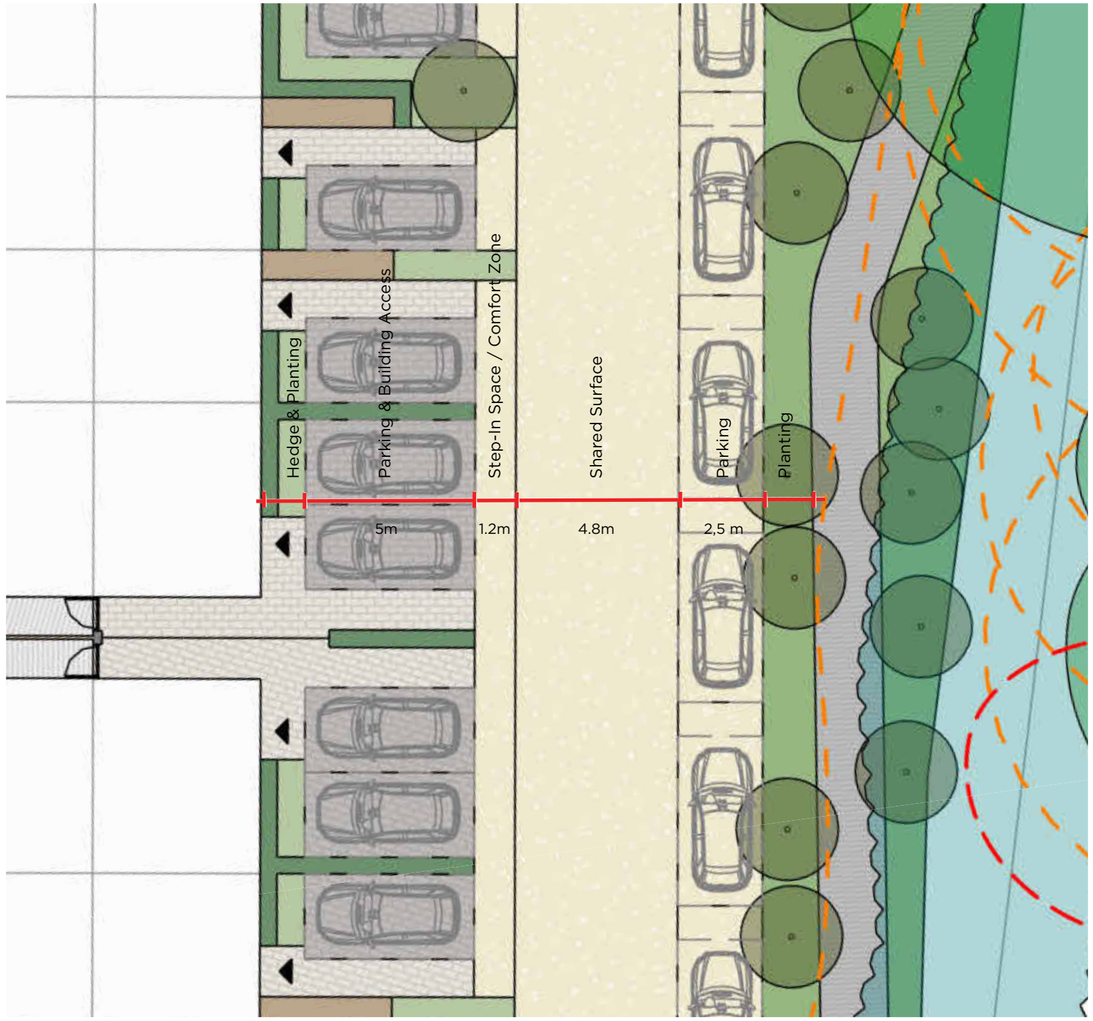
The shared surface is located in a low traffic speed location and in proximity & leading up to the public open spaces, where pedestrians, cyclist and vehicles share the street and is defined by a colour finished tarmac.

Typically the cross section consists of a 4.8m shared surface with a 1.2m pedestrian or step-in spaces or comfort zone. These shared surfaces act as an extension to public open spaces in encouraging meandering, pause and leisurely enjoyment, thereby assisting with creating a sense of community.

Bird's-eye View



Locality Plan



Typical Plan View

4.4 Public Gardens: The North Park

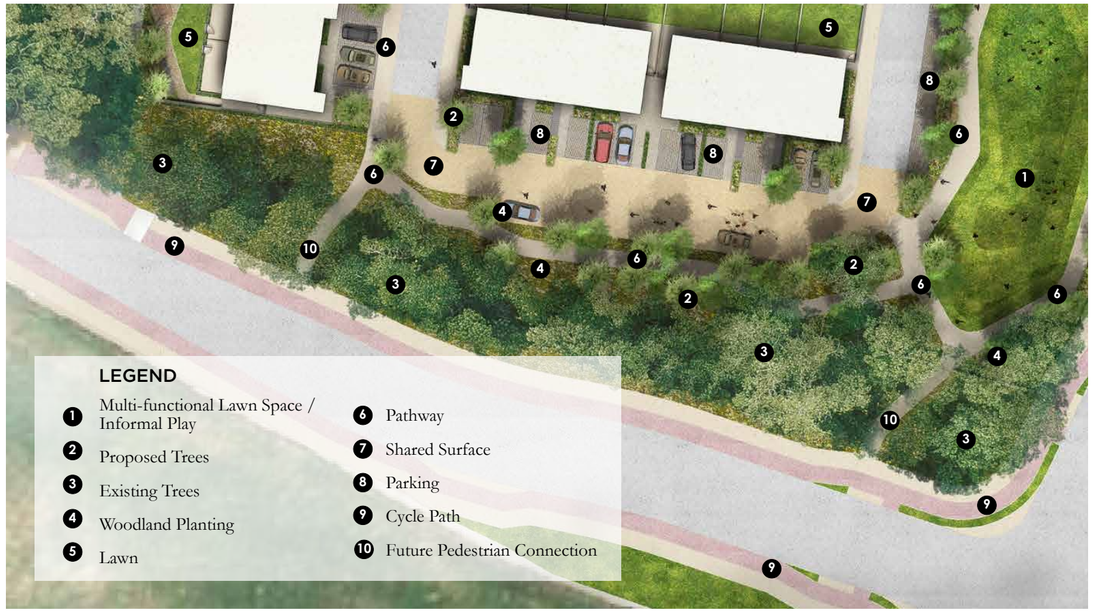
4.4 Public Gardens: The Serpentine Park

4.4 Public Gardens: The Kick-About

Typical Section: Kick-About

Bird's-eye View

4.4 Public Gardens: The Woodland Walk



Typical Woodland Walk Section

4.5 Maisonette & Duplex Gardens

4.5 Maisonette & Duplex Gardens

Landscape Plans and schedules included in the application, prepared by NMP Landscape Architects, include a detailed schedule of proposed planting and illustrates the location and extent of tree, shrub-, groundcover- and manicured planting.

The selection of high quality hard landscape materials is determined by function but also provides a cohesive palette of materials throughout to define and complement the space.

Tree species are selected for longevity, suitability to the micro-climate and biodiversity. Proposed tree sizes range from large- & smaller sized trees to fit the scale of the landscape space as well as multi-stemmed trees to assist with creating volume and screening.

Shrub- & groundcover planting is utilised to make and reinforce the landscape vision, create visual interest and for ecological purposes. The planting is conceived as subtle textured layering of greens with flashes of colour shades.

LANDSCAPE MATERIALS PALETTE

5.0

5.1 Indicative Hard Landscape Materials Approach

Surface Finishes

The hard materials palette has been selected to represent and respond to use and character of specific spaces in a cohesive manner. The materials have been selected for durability, but where practical are proposed to be constructed in a way which is sensitively integrated with lawn and soft landscape in order to minimise the impact of hard landscape surfaces. The hard materials palette is proposed as selectin of durable materials with robust construction.

Boundary + Edge Treatments

The boundary- and edge treatments, both along the periphery of the lands as well as internally, will be of high quality, act as physical barriers and provide a degree of visual transparency where required.

Landscape Elements / Furniture

The family of landscape element / furniture has been selected as appropriate to the design language and surroundings within which they fit. The family will be visually cohesive, aesthetically pleasing and robust. These, for the most part, will be off the shelf products and specified accordingly.

5.2 Indicative Soft Landscape Materials Approach

Planting styles and types will vary depending on use. Planting within the streeetscapes will have an element of formality. Within the public realm, planting will be more organic in look and feel, robust, mostly evergreen and require less maintenance. Tree species are selected for longevity, suitability to local soil conditions and micro-climate, biodiversity (native species) and where required, suitability for proximity to residential buildings. The scale of planting and transition in shrub planting from low, medium and high to create defensible space has been planned according to programme, thresholds and spatial hierarchy.

Streetscape

The structured expression of the avenue trees, earmarked for the Linear Park, will strengthen the space as a visual cue to this linking element.

The intention with the planting is to, along with the structured tree planting, create a memorable avenue experience along the Linear Park.

Parkland / Meadow Type Planting

Informed by the existing and formative tree planting & a native palette, the tree planting will bleed into the site to create a memorable landscape expression.

The planting palette is earmarked for the public open space and surrounds to complement the parkland / meadow landscape typology.

Woodland / Periphery Type Planting

Informed by the existing and formative tree planting & a native palette, the tree planting will enhance the existing woodland area.

The shrub & groundcover planting palette will assist in expanding the net gain in boidiversity. Sun & shade loving species make up the palette.

5.3 Indicative Plant Schedule

Trees

Type	Species Name
Street Trees	Acer campestre
	Betula utilis subsp. Jacquemontii
	Carpinus betulus 'Frans Fontaine'
	Liquidambar styraciflua
	Sorbus aria
Open Space- / Woodland Trees	Aesculus hippocastanum
	Acer campestre
	Arbutus unedo
	Betula pendula
	Betula pubescens
	Betula utilis subsp. Jacquemontii
	Carpinus betulus 'Frans Fontaine'
	Cornus kousa
	Corylus avellana
	Crataegus laevigata 'Paul's Scarlet
	Crataegus monogyna
	Liquidambar styraciflua
	Magnolia 'Kobus'
	Malus hupehensis
	Malus sylvestris
	Pinus sylvestris
	Prunus padus
	Prunus serrulata
	Sorbus aria
	Sorbus aucuparia

Hedging

Type	Species Name
Varying Heights Depending on Function & Location	Ilex crenata
	Griselinia littoralis
	Taxus baccata

Shrubs & Groundcovers

Type	Species Name
Flowering Shrub & Perennial Mix, Low Height @ 0.2 - 0.5m	Agapanthus africanus 'Blue'
	Agapanthus africanus 'Alba'
	Asplenium scolopendrium
	Athyrium filix-femina
	Bergenia cordifolia 'Purpurea'
	Betonica officinalis 'Hummelo'
	Dryopteris filix-mas
	Echinacea purpurea
	Echinops 'Retro Blue'
	Geranium 'Rozanne'
	Helleborus x ericsmithii 'Pink'
	Hedera helix
	Libertia grandiflora
	Pachysandra terminalis
	Pennisetum alopecuroides 'Hameln'
	Persicaria affinis 'Superba'
	Scabiosa 'Butterfly Blue'
	Sedum spectabile 'Autumn Joy'
	Scabiosa 'Butterfly Blue'
	Stachys byzantina
	Stipa tenuissima 'Pony Tails'
	Tulbaghia violacea
	Vinca major
Flowering Shrub & Perennial Mix, Medium Height @ 0.5 - 1.5m	Daphne odora
	Perovskia atriplicifolia 'Blue Spire'
	Verbena bonariensis
	Viburnum davidii
Specimen Shrubs	Magnolia stellata
	Pinus mugo var. pumilio
	Stipa gigantea
Bulb Planting	Allium 'Purple Sensation'
	Allium 'Mount Everest'
	Camassia leichtlinii 'White'
	Galanthus plicatus
	Narcissus 'Petrel'
	Tulipa 'Spring Green'
Wild Flower Planting Mix	Agrostemma githago
	Centaurea cyanus
	Matricaria chamomilla
	Papaver rhoeas
	Silene dioica 'Red Campion'
	Trifolium pratense
	Trifolium repens

APPENDIX 6.0

Appendix 1 - Pollinator Plan

All-Ireland Pollinator Plan 2021-2025 has richly informed the planting palette and soft landscape approach. This in conjunction with a selection of native plant species will characterise the landscape design. Planting will inform and define public routes to differentiate from communal or private space.

Wildflower Meadow

Meadows managed in the following way will allow wildflowers to bloom throughout the pollinator season. A further benefit is that bumblebees are provided with an undisturbed area for nesting. Over a number of years, the area will become more and more flower-rich with local species that are adapted to the site.

Short Flowering '6-Week Meadow'

Identify areas of grass that could be cut on a 6-weekly rotation to allow Clovers and Bird's-foot-trefoil to flower. This will provide food for pollinators where shortly mown grass does not. Such areas could be beside areas of shortly mown grass, a path or a meadow.

Flowering Trees + Shrubs

Incorporate a mix of pollinator friendly trees and shrubs into the local community that will flower throughout the season. An orchard can be a wonderful addition for pollinators and the community. It is important to prioritize increasing native plants (trees, shrubs, wildflowers) across the landscape to provide food for pollinators.

Perennial Flowers For Pollinators

Incorporate pollinator friendly perennial plants into the local community to provide food for pollinators from spring through to autumn. Pollinator friendly perennial plants are excellent sources of pollen and nectar. They are much more attractive to bees when planted in blocks rather than as single plants.

Annual Flowers For Pollinators

Work with local authorities to ensure a component of annual planting in parks is with pollinator friendly annual plants - single rather than double flowered varieties. You should always try to select scented, single-flowered varieties. The block planting of these can be an excellent source of food for pollinators.

Pollinator Friendly Urban Planters

Identify some urban planters or hanging baskets where the standard annual bedding mix could be replaced by perennial pollinator friendly plants.

Native Wildflower Meadows

Identify areas where it may be possible to create a native wildflower meadow using commercially purchased seed. This would be more flower-rich than the meadow but it is also more costly and requires careful planning and management. It is very important to buy a pollinator friendly seed mix that has been grown in Ireland from native wildflowers and is suitable for your soil type.

Hedgerows For Pollinators

Flowering hedgerows that contain Hazel, Willow, Blackthorn and Hawthorn provide food in spring when wild bees come out of hibernation. Bramble is a good source of food in summer, and Ivy in the autumn. Bumblebees often nest in long grass at the base of hedgerows.

Eliminate The Use Of Pesticides

Identify some areas where the use of pesticides could be eliminated. This could be streets/areas where your group is willing to take responsibility for manual weed control. Most herbicide use is along edging or tree bases that mowers can't access. Identify areas of south facing edging that could not be sprayed to provide solitary bee nesting habitat.

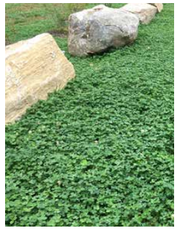
Pesticide Avoided

Identify areas of grass that could be cut on a 6-weekly rotation to allow Clovers and Bird's-foot-trefoil to flower. This will provide food for pollinators where shortly mown grass does not. Such areas could be beside areas of shortly mown grass, a path or a meadow.

Bee Hotels For Pollinators

Incorporate a mix of pollinator friendly trees and shrubs into the local community that will flower throughout the season. An orchard can be a wonderful addition for pollinators and the community. It is important to prioritize increasing native plants (trees, shrubs, wildflowers) across the landscape to provide food for pollinators.

Clover Lawns



Identify small areas where grass could be entirely replaced with a permanent clover mix. Red and white clovers will provide colour, and are a very important food source for bees.

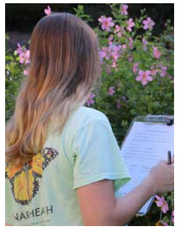
Awareness

Promote the All-Ireland Pollinator Plan to local businesses and encourage them to make their outdoor spaces pollinator friendly or to sponsor local pollinator friendly actions

Signage

Put up signage explaining the importance of pollinators and what is being done locally to support the All-Ireland Pollinator Plan. Templates that can be used to create signage can be downloaded from the website.

Training



Deliver training programmes locally on pollinators and how to take action to protect them. Resources will be available to allow interested parties to deliver training on: creating nest sites for wild pollinators: how to participate in the All Ireland Bumblebee Monitoring Scheme; collection, storage and use of local wildflower seed to improve areas that are being managed as small meadows in parks, greenways.

Appendix 2 - Sustainable Drainage Systems (SuDS)

Sustainable drainage systems are a collection of water management practices that aim to align modern drainage systems with natural water processes. Integration of SuDS make urban drainage systems more compatible with components of the natural water cycle such as storm surge overflows, soil percolation, and bio-filtration, mitigating the effect that human development may have on the natural water cycle, particularly surface runoff and water pollution trends.

Public Realm Paved Areas:
The public realm paved surfaces will be finished in impermeable surfacing, either flexible bituminous pavement, cast in situ concrete paving or impermeable precast concrete pavers. The car parking spaces will be finished with permeable precast concrete paving to assist with direct infiltration. Typically, all streets are provided with trees and soft landscaping zones, with car parking. The roads and footpaths will be drained by gullies with the water directed to above ground detention basins and proposed underground attenuation tanks with the public open spaces.

Direct Infiltration to Ground:
Planting areas shall discharge surface water directly to ground. Hard landscaping shall, where possible, be drained to adjacent soft landscaped areas where possible. Rain gardens will assist with localised direct infiltration to ground.

Reference Images: Typical Above Ground Detention Areas

Reference Image: Sustainable Urban Drainage (SuDS) / Rain Gardens

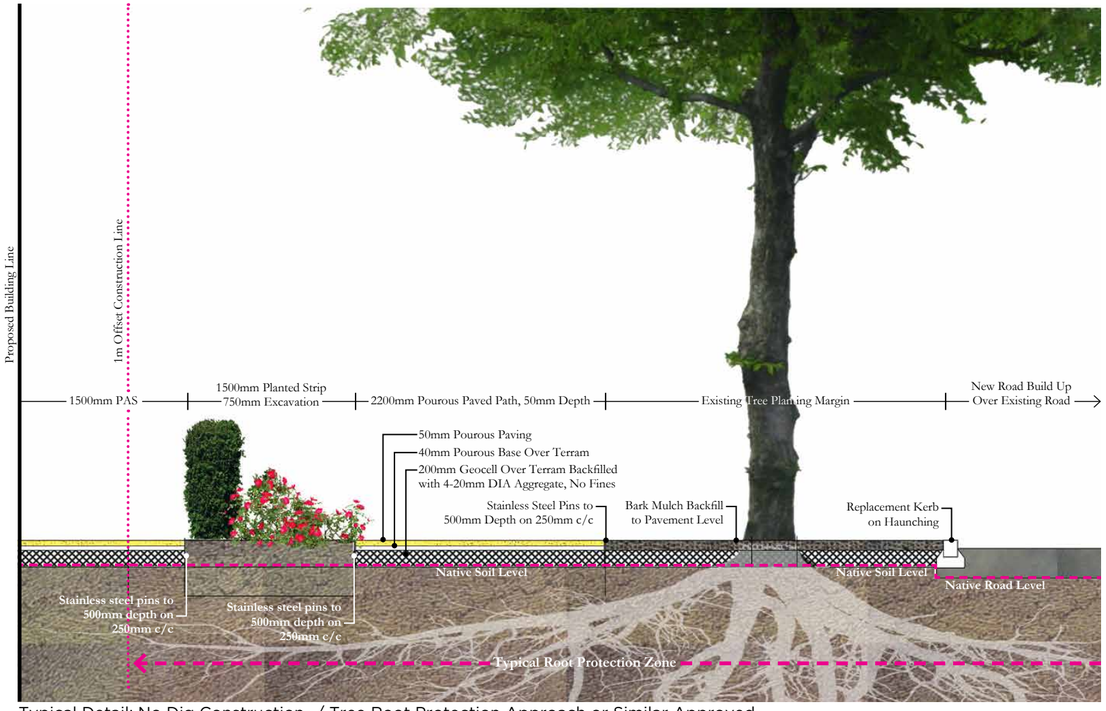
Appendix 3 - No Dig / Tree Protection Build Up

Every effort has been made to conserve existing trees. The very principles of the masterplan have been underpinned by it. As such, in certain scenarios, where pedestrian or vehicular access is required, a no dig construction methodology is proposed.

By scrapping off the top 100mm of topsoil and not altering levels in or around tree root protection zones as little as possible, it is envisaged that this can be achieved, also taking guidance from the Arborist into consideration.

A web cell system will be used as part of the build up, allowing for air and water to permeate through the top surface and into the native soil where tree roots will search for it.

Reference Image



Typical Detail: No Dig Construction- / Tree Root Protection Approach or Similar Approved

Appendix 4 - Soft Landscape Outline Specifications

1.0 Specifications for Supply:

1.1 Schedule of Supply:

The nursery stock material will be delivered following consultation between the Landscape Architect, landscape contractor and the selected nursery, and the Engineer. Delivery will be at all times by means of covered vehicles, and all plant material will be clearly labeled. The source of origin must be from the selected nursery as no other additional stock from other nurseries will be permitted without prior inspection and approval.

1.2 Programme of Works:

The planting works shall be executed at the earliest opportunity.

1.3 Nursery Stock:

All plant material shall be good quality nursery stock, free from fungal, bacterial or viral infection, aphids, red spider or other insect pests and any physical damage. It shall comply with the requirements of B.S. 3936: Parts 1-10: 1965 Specification for Nursery Stock, where applicable.

All plants shall have been nursery grown in accordance with good practice and shall be supplied through the normal channels of the wholesale nursery trade. They shall have the habit of growth that is normal for the species. Country of origin must be shown in all cases for species grown from seed.

Unless otherwise stated, the plant materials shall be supplied in accordance with the following codes where stated:

- 1+0 1 Year old seedling
- 1+1 1 Year old seedling lined out for 1 year
- 1+2 1 Year old seedling lined out for 2 years
- 1+1+1 1 Year old seedling lined out for 1 year, lifted and lined out for one further year
- 1u1 1 Year old seedling undercut then 1 more year in seedbed.
- 1u2 1 Year old seedling undercut then 2 more years in seedbed.
- 0/1 1 Year old Hardwood cutting
- 0/2 2 Year old Hardwood cutting
- 2X Twice transplanted tree
- 3X Three times transplanted tree
- 4X Four times transplanted tree
- P9 Containerised plant in 9cm pot

1.4 Species:
All plants supplied shall be exactly true to name as shown in the plant schedules. Unless stipulated, varieties with variegated and/or coloured leaves will not be accepted, and any plant found to be of this type upon leafing out shall be replaced by the contractor at his/her own expense.
Bundles of plants shall be marked in conformity with B.S. 3936: Part 1: 1965 and B.S. 3936: part 4: 1966. The nursery supplier shall replace any plants which, on leafing out, are found not to conform to the labels. Definitions of all terms used are in accordance with the following British Standards:

B.S. No. 3936: Part 1: 1965 entitled “Nursery Stock- Trees and Shrubs”
B.S. No. 3936: Part 4: 1966 entitled “ Nursery Stock- Forest Trees”
B.S. No. 3936: 1967 entitled “Specification for Nursery Stock”

2.0 Tree Specifications:

2.1 Trees shall have a sturdy, reasonably straight stem, and a well-defined straight and upright central leader, with branches growing out of the stem with reasonable symmetry. The crown and root systems shall be well formed. Roots shall be in reasonable balance with the crown and shall be conductive to successful transplantation.

2.2 Standard trees shall have a clear stem 1.70m in height from ground level to the lowest branch, a minimum girth of 8cm measured at 1.00m above ground level and a total height of 2.75-3.00 m.

2.3 Light Standard trees have a clear stem 1.30m in height from ground level to the lowest branch, a minimum girth of 6cm measured at 1.00m above ground level and a total height of 1.80-2.40m.

2.4 Select standard trees shall have a clear stem 1.70 m in height from ground level to the lowest branch, a minimum girth of 10 cm. measured at 1.00.m. above ground level and a total height of 3.0 to 3.5 metres.

2.5 Heavy standard trees shall have a clear stem 1.80-1.90m in height from ground level to the lowest branch, a minimum girth of 14 cm. measured at 1.00.m. above ground level and a total height of 4.0 to 4.5 metres. All trees shall have been undercut a minimum of three times.

2.6 Extra Heavy standard trees shall have a clear stem 2.0m in height from ground level to the lowest branch, a minimum girth of 16 cm. measured at 1.00.m. above ground level and a total height of 4.5 to 5 metres. All trees shall have been undercut a minimum of three times.

2.7 Semi-mature trees shall have a clear stem 2.0m in height from ground level to the lowest branch, a minimum girth, as specified in the Bill of Quantities, measured at 1.00.m. above ground level and a total height of min. 5 metres. All trees shall have been undercut a minimum of three times.

All standards shall be clearly labeled.

2.8 Feathered Trees 180-240cm
Feathered trees shall be not less than four years old, and shall have been transplanted at least three times. Trees of species not listed in BS 3936: Part 4: shall be sturdy, with a balanced root and shoot development. Size shall conform to the schedules.
Trees shall be well furnished with lateral fibrous roots, and shall be lifted without severance of major roots. Roots shall be of the habit normal for the species, without deformation. Transplants shall be wrapped in polythene in bundles of 50 no. and clearly labeled from the time of lifting until planting to conserve moisture.

2.9 Feathered Transplants 120-150cm
Transplants shall be not less than two years old, and shall have been transplanted at least once. Trees of species not listed in B.S. 3936: Part 4: shall be sturdy, with a balanced root and shoot development. Size shall conform to the schedules.
Trees shall be well furnished with lateral fibrous roots, and shall be lifted without severance of major roots. Roots shall be of the habit normal for the species, without deformation. Transplants shall be wrapped in polythene in bundles of 50 no. and clearly labeled from the time of lifting until planting to conserve moisture.

2.10 Feathered Transplants 90-120 cms, 60-90 cm, 40-60 cm, 30-40 cm
Transplants shall be not less than one year old. Trees of species not listed in B.S. 3936: Part 4: shall be sturdy, with a balanced root and shoot development. Size shall conform to the schedules. Trees shall be well furnished with lateral fibrous roots, and shall be lifted without severance of major roots. Roots shall be of the habit normal for the species, without deformation. Transplants shall be wrapped in polythene in bundles of 50 no. and clearly labeled from the time of lifting until planting to conserve moisture.

3.0 Shrub Specifications:

3.1 Containerised Shrubs shall be of the size specified in the schedules, with several stems originating from or near ground level and of reasonable bushiness, healthy, vigorous and with a sound root system. Pots or containers shall be appropriate to the size of shrub supplied and clearly labeled. Shrubs shall not be pot bound or with girdled or restricted roots.

3.2 Bare Root Shrubs shall be of size specified in the schedules, with several stems originating from or near ground level, with reasonable bushiness, healthy, and vigorous. They shall be well furnished with fibrous roots and shall be lifted without severence of major roots. All bare root shrubs shall be wrapped in polythene in bundles of 50 no. and clearly labeled from the time of lifting until planting to conserve moisture.

3.3 Container Grown Conifers:
Conifers shall be of the size specified in the schedules, with one main stem originating from or near ground level and of reasonable bushiness and health, with a well-grown, root system. Pots or containers, where required, shall be appropriate to the size of plant supplied and clearly labeled. Plants shall not be pot bound, or with deformed or restricted roots.

Appendix 4 - Soft Landscape Outline Specifications

3.4 Protection:
The interval between the lifting of stock at the nursery and planting on site is to be kept to an absolute minimum. Plants shall be protected from drying out and from damage in transport. All stock awaiting transport shall be protected from the wind and frost and from drying out.
Protection shall include for the supply of stock to site to a suitable heeling-in/ storage area prior to planting. The landscape contractor shall allow for liaison with the site engineer to arrange the heeling-in area/ storage. The contractor shall continue to be entirely responsible for the maintenance of this stock to ensure that at the time of planting the stock complies with the requirements for the supply of nursery stock as per clause 1.0 thereof. No responsibility for the maintenance of the stock will attach to the site engineer whilst the stock is protected on site. No time limit shall attach to the period of protection.

In the event of the Landscape Architect being dissatisfied with the care and attention given to the stocks, following heeling-in, he shall notify the Landscape Contractor who shall take steps to ensure careful heeling-in procedures.

The preparation of the heeling-in area and its subsequent maintenance is the sole responsibility of the Landscape Contractor.

3.5 Damage:
On completion of lifting of plants in the nursery, any broken shoots or severed roots shall be pruned, areas of damaged bark neatly pared back to sound tissue.

3.6 Inspections:
The Landscape Architect will inspect the hardy nursery stock on the selected nursery during the execution of the works. Only plants selected and approved in the landscape contractors selected nursery will be accepted on the site.

3.7 Delivery and Heeling In:
All plants will be delivered on a phased basis as called up in advance in agreement with the Engineer, Landscape Architect and the appointed Landscape Contractor. In the event of the Landscape Architect being dissatisfied with the care and attention given to the stocks, following heeling-in, he shall notify the Landscape Contractor who shall take steps to ensure careful heeling-in procedures.

The preparation of the heeling-in area and its subsequent maintenance is the sole responsibility of the Landscape Contractor.

4.0 Specifications for Site Operations:

4.1 Setting Out:
Setting out shall be in accordance with site meetings with the Landscape Architect, and the drawings listed in the preliminaries. No planting works shall take place when the soil /fill is in a waterlogged condition.

4.2 Finished Grading:
All planting pits and topsoiled areas disturbed by the landscape contractor shall be left in an even state, with all soil clumps broken up and stones of greater than 50mm diameter shall be removed.

5.0 Specifications for Planting and Plant Materials:

5.1 Stakes:
Round stakes shall be of peeled larch, pine or Douglas fir, preserved with a water-borne copper chrome arsenic composition in accordance with I.S. 131. For standard and select standards stakes shall be 1.8m long, 75mm in diameter. Stake all whips and transplants greater than 120cm in height. For all transplants exceeding 120cm height stakes shall be 1.2m long, 37mm x 37mm square. Stakes shall be pointed at the butt end. Set stakes vertically in the pit, to the western side of the tree station, and drive before planting. Drive stake with a wooden maul or cast-iron headed drive. Stakes shall be driven into the excavated planting pit to a depth of:

- 800mm for Standards / Light Standards / Feathered Trees
- 1000mm for Heavy Standards
- 500mm for Whips / Transplants

5.2 Cane:
Bamboo canes or similar approved shall be used to provide spot spraying location markers for small plants including Pinus, species. The canes are not to be attached to the plants.

5.3 Tree Ties:
For standard and select standards, tree ties shall be of rubber, PVC or proprietary fabric laminate composition and shall be strong and durable enough to hold the tree securely in all weather conditions for a period of three years. They shall be flexible enough to allow proper tightening of the tie. Ties shall be min. 25mm wide for 120cms height trees and min. 38mm for larger sizes. They shall be fitted with a simple collar spacer to prevent chafing. Two ties per tree shall be applied to standards; for staked transplants, one tie per tree is required.
Ties shall be nailed to the stake with one galvanised nail.

5.4 Protection:
The interval between the lifting of stock at the heeling-in area and planting on site is to be kept to an absolute minimum. Plants shall be protected from drying out and from damage in transport. All stock awaiting planting on site shall be stored in a sheltered place protected from the wind and frost and from drying out.

All transplants shall be wrapped in polythene from the time of lifting to conserve moisture. Except when heeled-in, they shall be protected in polythene at all times until planted into their final position on site.

5.5 Damage:
On completion of planting any broken branches shall be pruned, areas of damaged bark neatly pared back to sound tissue.

5.6 Watering / Alginure / Fertilisers:
All bare rooted light standards and select standards shall be soaked in water overnight, on site, before planting in a liquid solution containing "Alginure" at the recommended dilution rate. Fertilisers shall conform to BS 5581: 1981. In the case of granular fertiliser being added to plantings, it must be mixed through and incorporated into the base of the planting hole and covered over in order to avoid roots of plants coming in direct contact.

5.7 Setting Out:
Setting out shall be in accordance with site meetings with the Landscape Architect. Transplants in mixtures shall be planted in staggered rows. Species shall be planted in groups, as indicated in the planting drawings.
No planting shall take place until all planting holes (with ameliorants) have been inspected and approved by the Landscape Architect, or a person appointed by him as a representative, to ensure accordance with the specifications. No planting shall take place when ground conditions are frozen or waterlogged. All planting holes shall be opened and closed on the same day.

5.8 Tree Planting:
5.8.1 Trees to be planted in the centre of the planting pit and planted upright. Stones or other rubbish over 75mm shall be removed. Supply and drive the stake 800mm into the ground for standards, 500mm for other transplants. Backfill planting hole 4.7 Tree planting:
Trees shall be planted at the same depth as in the nursery, indicated by the soil mark on the stem of the tree. They shall with excavated topsoil, and remove all stones and debris, firming plant into position

5.8.2 Select Standards / Standards:
Excavate tree pits to 800mm x 800mm x 600mm deep, or as approved. The base of the pit shall be broken up to a depth of 80mm and glazed sides roughened. F.Y.M. at the rate of 0.047 cu.m.(equivalent to 60mm deep) and 100gms of 0.10.20 shall be applied to each tree pit prior to planting. Farm manure shall consist predominantly of faecal matter and shall be free of loose, dry straw and undigested hay. It shall be free of surplus liquid effluent. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position.

5.8.3 Heavy and Extra Heavy Standards:
Excavate tree pits to 1000mm x 1000mm x 800mm deep, or as approved. The base of the pit shall be broken up to a depth of 100mm and glazed sides roughened. F.Y.M. at the rate of 0.047 cu.m. (equivalent to 60mm deep) and 100gms of 0.10.20 shall be applied to each tree pit prior to planting. Farm manure shall consist predominantly of faecal matter and shall be free of loose, dry straw and undigested hay. It shall be free of surplus liquid effluent. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position.

5.8.4 Semi-mature Trees:
Excavate tree pits to 1200mm x 1200mm x 1000mm deep, or as approved. The base of the pit shall be broken up to a depth of 200mm and glazed sides roughened. F.Y.M. at the rate of 0.047 cu.m. (equivalent to 60mm deep) and 100gms of 0.10.20 shall be applied to each tree pit prior to planting. Farm manure shall consist predominantly of faecal matter and shall be free of loose, dry straw and undigested hay. It shall be free of surplus liquid effluent. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position.

Appendix 4 - Soft Landscape Outline Specifications

5.8.5.Light Standard Trees:
Excavate tree pits to 500mmx500mmx500xx deep, or as approved. The base of the pit shall be broken up to a depth of 80mm and glazed sides roughened. F.Y.M. at the rate of 0.047 cu.m. (equivalent to 60mm deep) and 100gms of 0.10.20 shall be applied to each tree pit prior to planting. Farm manure shall consist predominantly of faecal matter and shall be free of loose, dry straw and undigested hay. It shall be free of surplus liquid effluent. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position.

5.8.6 Feathered Trees 180-240cm, container grown conifers (>2l):
Excavate tree pits to 400mm x400mm x 400 mm deep, or as approved (slit or notch planting are not acceptable planting methods). The base of the pit shall be broken up to a depth of 80mm and glazed sides roughened. Trees shall be planted at the same depth as in the nursery and backfilled with compound fertiliser 0.10.20 at the rate of 50gm per tree and 0.020m3 of Mushroom Compost or similar approved. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position.

5.8.7 Feathered Whips 120-150 cm:
Excavate tree pit to depth of 300mm x 300mm x 300mm deep, or as approved (slit or notch planting are not acceptable planting methods). Excavation to be achieved by machine digging or augering methods, approved by the Landscape Architect. The base to be broken up to a depth of 60mm and glazed sides roughened. Whips to be planted at same size as in the nursery. Apply 60gm 0.10.20 and 0.020m3 of Mushroom Compost or similar approved.per tree pit to plants. Stakes 1.2m high x 37mm dia. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position.

5.8.8 Feathered Whips and Transplants 90-120cm, 60-90 cm, 40-60cm, 30-40cm, container grown conifers (<2l size) and container grown shrubs (<2l size):
Excavate planting hole to a depth of 300mm x 300mm x 300mm deep; the base to be broken to a depth of 50mm and glazed sides roughened (slit or notch planting are not acceptable planting methods). Excavation to be achieved by machine digging or augering methods, approved by the Landscape Architect. Apply 30gm 0.10.20.per planting pit. Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position.

5.9 C. G. Shrubs / C. G. Wall Shrubs / C.G. Climbers:
Excavate planting hole to a depth of 300mm x 300mm x 300mm deep; the base to be broken to a depth of 50mm and glazed sides roughened. The following products are to be supplied and incorporated in to the bottom 100mm of topsoil at the base of the planting pit and in to the topsoil for backfilling around each plant: (1)Seanure soilbuilder as supplied by Farmura @ 1.5Kg per cu.m of topsoil, (2) clean and friable green waste compost @ 25 Kg per cu.m of topsoil and (3) Sierrablen Flora 15:9:9 slow release fertiliser @ 70 grams per m2 Backfill planting hole with excavated topsoil, and remove all stones and debris, firming plant into position.

5.10 Grassing:
All grass areas to be ripped with a tractor mounted tine prior to rotovating. The Contractor shall grade off all areas to smooth flowing contours, removing all stones greater than 10mm diameter and tip off site. All hollows to be filled in. Roll all areas with a roller as approved. Following the completion of final grading and raking, the area is to be left fallow for a period of 14 days. Spray with 'Basta' at recommended rates, and seed with fine grass mix at a rate of 35gr/Sq.m together with fertilizer 10:10:20 at a rate of 50gr/Sq.m use Coburns Irish premier low maintenance mixture or other as approved by the Landscape Architect.

5.10.1 Grass Cutting:
Grass cutting shall be carried out during the three year maintenance period and is defined into three categories:

5.10.2 Regular Grass Cutting:
Shall be carried out to the frequencies indicated in the Bill of Quantities. Attention to neat and tidy cutting shall be required to all areas. Sightlines, as set out with the Engineer, at junctions and roundabouts must be kept clear of vegetation at all times.

6.0 GENERAL:
Upon completion of planting, all pits shall be raked over lightly to leave an even surface and neat appearance. All stones greater than 50mm dia. to be removed. Provision should be made for the watering of light and select standards during periods of prolonged drought in the first year following planting.

6.1 Inspections:
The Landscape Architect will inspect the site with the Landscape Contractor during the execution of the works and following maintenance visits.

6.2 Presentation of Certificates:
The Landscape Contractor shall present for the Landscape Architect's inspection, all seed and fertiliser bags, together with their markings. If requested, the contractor shall furnish the Landscape Architect with receipts of purchase for these respective materials.

6.3 Spraying:

1) Following planting of embankments, slopes etc., weed free circles to be formed around individual plants, as directed, using an approved broad-spectrum contact herbicide, as approved by the landscape architect, in mid-spring following planting. Herbicide to be applied using controlled drop applicator containing a dye to indicate areas sprayed. In areas where grass is excessively long, such grass will be strimmed off and collected prior to spraying. The contractor shall be responsible for keeping the ground (1m diameter circle) around all planted material weed free by means of herbicidal application, using approved sprays, during the course of the contract. Weeds to be removed include grasses ,broad-leaved annual and perennial weeds and all noxious weeds.

2) Selective spot spraying will be carried out to all grassed areas, whether planted or unplanted through the application of contact herbicide to control broad-leaved annual and perennial weeds, including thistle, dock and ragwort. Contact herbicide to be approved by the landscape architect prior to application. Herbicide to be applied using controlled drop applicator containing a dye to indicate areas sprayed. The contractor shall allow for the removal of gorse by cutting, as required prior to spraying to ensure its eradication from all grassed areas for the duration of the contract.

3) The boundary hedgerows shall be kept weed free by herbicidal application by forming a 300mm wide spayed strip along the full length of each respective hedgerow. Approved herbicide (broad-spectrum contact herbicide) to be applied using controlled drop applicator containing a dye to indicate areas sprayed. Spraying of planted areas on roundabouts is also included in this spraying application.

4) Such routine spraying (1, 2 and 3 above) shall be carried out during maintenance visits over the three-year period. No spraying shall take place during adverse weather conditions or at times not recommended by the manufacturer.

6.4 Cutting Back:
Plants for cutting back/tip pruning shall be cut back after inspection by the Landscape Architect. This work to be carried out initially following planting for plants suffering from wind damage.

6.5 Mulching:
Mulching may be considered as an optional factor that may be implemented. Mulch shall be from coniferous trees. It shall be shredded, but not pulverised, so that no dimension exceeds 75mm. Bark shall have been composted for a min. of 3mths. In the case of areas requiring mulch the depth of bark shall measure 30 mm.

6.6 Ground Finish:
Upon completion of planting, all ground finish shall include for the removal of stones greater than 50mm excavated during the course of the digging for planting purposes.

Appendix 5 - Hard Landscape Outline Specifications

PAVING & KERBS:

FOOTPATHS:

General: Public footpaths, roadways, kerbs etc. shall be constructed in accordance with the requirements of the Roads Maintenance, Dublin County Council.

Accuracy of Levels and Alignment: The levels of paths and paving shall be carefully set out and frequently checked. All care shall be taken to ensure that the correct cross sections are maintained. The finished face of paths shall be formed so as to provide adequate fall and satisfactory run off to surface water outlets, gullies, etc. Cross-falls of paths shall be carried without break across verges and kerbs to prevent ponding of water between back of kerb and path.

Sub-Base: Granular material shall comply with Clause 804 of the D.o.E. Specification for Roadwork's and shall be spread uniformly over the formation and compacted by vibrator roller. Rolling shall continue until there is no movement under the roller. The finished surface of the compacted sub-base shall be parallel to the proposed finished surface of the footpath. The surface levels for each layer shall not deviate from the design levels by more than +15mm or –15mm.

For sub-base thickness in paved areas see area engineers spec. and attached following schedule. Each contractor shall do all necessary tests to ensure a well compacted, plain even surface on all areas with traffic movement. If paving shows settling after 1 year which normally is related to an insufficient depth and compaction of the sub-base the contractor shall rebuilt the failed area to his own cost.

Use of Surfaces by Construction Traffic:
Constructional traffic used on pavements under construction shall be suitable in relation to the courses it traverses so that damage is not caused to the sub-grade. Where damage is caused to the formation of the sub- grade in strength or level the damaged area shall be excavated for an area and depth which shall be determined by the Architect and this area shall be filled to the required levels with crushed rock of 50mm maximum size. The degree of compaction for this area shall be the same as that specified for the remainder of the formation. All this excavation and making good of damaged areas shall be carried out at the expense of the Contractor. Where damage is caused to the sub-base, the damaged area shall be made good as noted above, using the material of which the sub-base is composed. The wheels or tracks of plant moving over the various pavement courses shall be kept free from deleterious materials.

MODULAR PAVING:

Concrete Pavers Precast concrete pavers shall conform to the requirements of BS 6717 Part 1.
Ensure that sub-bases are suitably accurate and to specified gradients before being laid.

Sample: Before placing orders submit representative samples for approval.
Ensure that delivered materials match sample.

Laying Generally:

1.0 Laying Specification:

1.1 Paving blocks/bricks shall be laid to the requirements of Part 3: 1997, BS 7533, except that the lip onto gully gratings is modified to 5 - 6 mm.
Note, in particular, the following requirements of Part 3.
i. The difference in level between two adjacent blocks shall not exceed 2 mm.
ii. The finished pavement surface shall not deviate more than 10 mm under a 3m straight edge.
iii. The accuracy of cutting a block should be such that the resulting joint should not exceed 5 mm.
iv. The surface course should be between
(a) 3 - 6 mm above drainage channels
(b) 5 - 10 mm above gullies (*BRL modify this to 5 - 7 mm above gullies to reduce "trips")
v. The surface course should be inspected soon after completion and at regular intervals thereafter - additional sand should be brushed in where necessary.
1.2 The surface course for chamfered units should be 3 - 5 mm above the kerb to facilitate surface drainage. The surface course for non-chamfered units should be 2 mm above the kerb to facilitate surface drainage.
1.3 When paving units need to be trimmed, pieces with a dimension less than 50 mm should not be used.

2.0 Drainage Channels

2.1 Where paving blocks are used in a channel, they shall be laid on freshly mixed moist 3:1 sand-cement mortar. The mortar should have thickness between 10 mm and 40 mm. Vertical joints should be filled with 3:1 wet sand-cement mix.
2.2 Mortar, which has been mixed for over 2 hours, should be discarded.
2.3 The mortar should be laid on a previously prepared concrete base as per construction drawing detail. Select blocks/paviors vertically from at least 3 separate packs in rotation, or as recommended by manufacturer, to avoid colour banding. Lay blocks/paviors on a well graded sand bed and vibrate to produce a thoroughly interlocked paving of even overall appearance with sharp sand filled joints and accurate to line, level and profile. Refill joints once a week three weeks after first fill. Commencing from an edge restraint lay blocks/paviors hand tight with a joint width of 2-3mm for pedestrian use and 3-5 mm for areas with traffic. Maintain an open working face and do not use mechanical force to obtain tight joints. Place blocks/pavers squarely with minimum disturbance to bedding. Supply blocks/paviors to laying face over newly laid paving but stack at least 1 m back from laying face. Do not allow plant to traverse areas of uncompacted paving. Continually check alignment of pavers with string lines as work proceeds to ensure maintenance of accurate bond. Infill at edge restraints as work proceeds. Wherever the type of bond and angle of edging permit, avoid very small infill pieces at edges by breaking bond on the next course in from the edge, using cut blocks/pavers not less than 1/3 full size. Cut stones shall be rectangular or trapezoidal; the smallest point shall be a minimum of 35mm. (May be pavers have to be turned by 90 deg.)Half stones shall be cut at manufacture. Thoroughly compact blocks/pavers with vibrating plate compactor as laying proceeds but after infilling at edges. Apply the same compacting effort over the whole surface.
Do not compact within 1 m of the working face. Do not leave uncompacted areas of paving at the end of working periods, except within 1 m of unrestrained edges. Checks paving after compacting first few metres, then at frequent intervals to ensure that surface levels are as specified; if they are not, lift blocks/pavers and relay. Brush sharp sand into joints, revibrate surface and repeat as required to completely fill joints. Make sure that paving is held by a kerb on both sides before vibration to avoid uneven joints. Avoid damaging kerb haunching and adjacent work during vibration. Do not begin vibration until kerbs have matured. The paving pattern will be stretcher bond, make sure that the joints will be in straight line after vibrating. Also ensure joints are off equal width. The block pavement shall have a surface regularity/ flatness tolerance of less than 10 mm under a 3 m straight edge.

Sample: Before placing orders submit representative samples for approval.
Ensure that delivered materials match sample.

PRECAST CONCRETE FLAGS:
Pre-cast Concrete Flags:
1. Precast concrete flags shall be laid to the requirements of BS 7533 Part 4.
Note the following selected items from BS 7533, Part 4.
• The difference in level between two adjacent flags should not exceed 3 mm.
• The top surface of the paving units should stand 3 - 6 mm above the drainage channel.
• A 30 - 50 mm (compacted thickness) of the sand laying course is given as suitable (for narrow joints)
2. Flags should be laid with narrow joints (2 - 5 mm).Joints should be filled with dried sand (conforming to table 4 of the code), or as determined by the Landscape Architect.

KERBS:
Kerbing General: Kerb radii shall be in accordance with Architects and Engineers drawings. Use radius kerbs for all new kerbs.

Laying Generally:
Natural stone and precast concrete kerbs shall meet the requirements of BS 435 and BS 7263-1.

1. Precast concrete kerbs shall be laid to the requirements of BS 7533, Part 6.
2. Units shall be laid on fresh concrete or mortar bed and adjusted to line and level.
3. Concrete for foundations and haunching shall be to BS 5328.
4. Bedding mortar shall be freshly mixed, moist 3:1 sand-cement between 12 and 40 mm thick.
5. Kerbs shall be backed with concrete as per drawing.
6. Radius kerbs shall be used on radii of 12 m or less.
7. Kerbs should not deviate from the required level by more than 6mm.
8. Kerbs should not deviate by more than 3 mm under a 3 m straight edge.
9. Open-jointed kerbs should have joints of 2 - 4 mm wide.
10. Mortar jointed kerbs should have joints of 7 - 10 mm wide filled completely with 3:1 sand-cement mortar, and finished to give a smooth flush joint or as specified by the Landscape Architect.

Appendix 6 - Programme For Implementation, Maintenance + Defects Period

1.0 MAINTENANCE:

1.1 Period:

The Contractor shall be responsible for aftercare of the completed works for 1 Year from the date of completion of planting. Subject to satisfactory performance the maintenance contract may be extended for two further periods of 12 months. Maintenance in years 2 and 3 shall be provisional. Maintenance during years 2 and 3 may be assigned directly to the Managementl. This will include grass cutting, weed control of all planted areas, litter clearance and watering of Select Standard trees during dry weather.

1.2 Organisation:

The aftercare programme will be organised as follows:-
(1) Scheduled operations, in whose timing the contractor will be permitted some flexibility and which will be the basis of payment to the Contractor.
(2) Performance standards, which the Contractor is required to meet at all times, and on which his performance will be assessed.
(3) Critical dates, by which time scheduled operations, shall have been completed, and at which performance will be assessed.

1.3 Performance standards:

Shrub, woodland and hedgerow planting to be maintained in accordance with specifications e.g. spraying, firming, tree tie adjustment. Weeds shall not cover more than 20% of the ground surface within planting areas and the maintained 1m diameter weed free circles at any time, and neither shall they exceed 100mm in height. Weeds shall be treated before they establish.

Within grass areas noxious and competitive weeds shall not be allowed to establish and all perennial weeds shall be spot treated at each maintenance visit, 3 times per year.

1.4 Watering:

The contractor is responsible for the survival of all plants during the maintenance period. Apply water to moisten full depth of root run using proprietary irrigation system. Avoid washing or compaction of the soil surface. The Landscape Contractor is responsible for informing the Landscape Architect if the plants require watering. A minimum of 16 no. waterings year1, 8 no. year 2, 4 no. year 3. Prior notification to the landscape architect and a record of attendance will be requested for each visit. Spot checks will be made to ensure full compliance with this condition.

2.0 PROGRAMME

Year One (After Planting): Period of 12 months from date of practical completion

2.1 By end of May (Year One):
Application of herbicide agreed with Landscape Architect to all planting areas. Protect all plants. Hand weed all large weeds too close to nursery stock for safe treatment. Strim long grass prior to spray application. Provision for 1 no. visit for spot weed control application to areas where perennial weeds are apparent in the grass sward. Tip prune, firm plants. Grass cutting. All necessary cultural/husbandry methods to be completed in order to leave the sites in a clean, orderly and tidy manner. Water select standard trees.
Critical date: 30 May (Year One)

2.2 By end August (Year One):
Application of herbicide agreed with Landscape Architect to all planting areas. Protect all plants. Hand weed all large weeds too close to nursery stock for safe treatment. Provision for 1 no. visit for spot weed control application to areas where perennial weeds are apparent in the grass sward. All necessary cultural/husbandry methods to be completed in order to leave the sites in a clean, orderly and tidy manner. Grass cutting. All necessary cultural/husbandry methods to be completed in order to leave the sites in a clean, orderly and tidy manner. Water select standard trees.
Critical Date: 30 August (Year One)

2.3 October (Year One):
Remove dead plants after Landscape Architect's inspection.

2.4 November (Year One):
Replacement planting. Tree care shall mean pruning deciduous trees including those of hedgerow form when dormant to promote open frame works in the crown. Remove all suckers and dead branches, and branches that are encroaching on to footpaths should be cut back to point of branching.

2.5 By end December:

Application of herbicide agreed with Landscape Architect to all planting areas. Grass cutting. All necessary cultural/husbandry methods to be completed in order to leave the sites in a clean, orderly and tidy manner. Water extra heavy standard trees, standard trees.
Critical Date: 30 December (Year One).

2.6 Year 2:

As year 1.

2.7 Year 3:

As year 1 . Hedgerow to be fully pruned at end of season.

2.8 Sweeping and Cleaning:

Sweeping shall mean sweeping of the footpaths, playing courts, car parks and the schools road network and removal of all grit rubbish moss and leaves, keeping the hard landscaped areas of the site in a neat and tidy manner. Number of sweepings per annum -12no.

Cleaning shall mean the removal of paper, plastic bags and all other rubbish from grassed areas, roads, car parks, playing courts, shrubbery's, hedging etc. or any part of the school grounds. This operation shall be carried out twice a month.
All dirt and rubbish to be removed off site to a tip to be provided by the Landscape contractor.
Autumn leaves shall be swept on a weekly basis from end of October to mid-November (three weeks). Any additional cleaning and sweeping deemed necessary, during the year, and requested by the school for any part of the schools grounds will be paid for at a pro rata basis to the rates for the programmed maintenance schedule.

2.9 Other Maintenance Works:

All grassed areas are to be edged 3 times a year using a machine and are not to be sprayed.

Carry out any other maintenance to ensure the works are kept in a satisfactory state during the defects liability period.

Appendix 6 - Programme For Implementation, Maintenance + Defects Period

2.10 Grass Cutting

Grass cutting shall be deemed to include for:
[a] Removal of lodged grass.
[b] Removal and disposal of grass cuttings from adjoining roads and paving.
[c] Removal and disposal of stones and other obstructions from area of grass to be cut.

high profile grassed areas, eg. central gardens are to be Fine cut. Fine cutting shall mean mowing to 25mm high. This operation is to be carried out in each location shown on the landscape drawings and in locations as directed on site by a representative of the management team. A rough schedule is as follows:

- March: 1cut
- April: 3 cuts
- May: 4 cuts
- June: 4 cuts
- July: 4 cuts
- August: 4 cuts
- September: 4 cuts
- October: 4 cuts
- November - February: 1 cut
- Total 29 cuts

Fine cutting shall be deemed to include for grass cut to 25mm high evenly over the whole area, with cuttings left evenly spread over the surfaces. Grass not to exceed 50mm between cuts.

Other grass areas of which are less high profile are to be cut 16 times a year. These will include the grassed areas around the woodland areas, in between the pitches and any grassed area hidden from the main road by the school.

Areas indicated as wildflower mix shall be cut three times per annum. Cuts shall be carried out at specified times as agreed with landscape architect and recommended by the wildflower seed producer. Remove cuttings after each cut and remove offsite to tip.

Leave cuttings evenly spread. This operation is to be carried out in each location shown on the landscape drawings and in locations as directed on site by a representative of the Board of Management.

At every second grass cut, grass shall be trimmed from around the base of walls and fences, back of footpaths and kerbs, litter bins, sluice valves and hydrant markers, trees, shrubberies poles and public lighting columns etc., and kept in a neat and tidy condition.

The contractor shall apply a broad spectrum weed killer, once a year, mid April, at the recommended application rate, to control weeds in the grassed areas during the growing season. In addition, 1 no. applications of herbicide to kill off clover in the grass areas shall be applied in April in line with approved herbicides under current legislation.

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LANDSCAPE ARCHITECTURE