

PROPOSED PART 8 RESIDENTIAL DEVELOPMENT

Social Housing Bundle 4, Development at Collins Avenue, Whitehall

Dublin City – Dublin City Council

Landscape Report and Biodiversity Management Plan – REV 03

July/ 2024

Mitchell + Associates
5 Woodpark. The Rise,
Glasnevin
Dublin 9

info@mitchell.ie
+353 01 4545066

Table of Contents

DEVELOPMENT DESCRIPTION

INTRODUCTION

Landscape design aims and objectives

Landscape design description

Planting Strategy

Furniture and Finishes

LANDSCAPE MANAGEMENT STRATEGY

BIODIVERSITY

The proposed development is described as follows in the public notices.

Notice is hereby given of the construction of 106 apartments on a site c.1.72 ha at the former bring centre and Dublin City Depot site accessed via Collins Avenue Extension and Collins Avenue, Whitehall, Dublin 9. The site is bound to the north by the Shanowen Business Estate and the Shanowen Hall and Shanowen Square, to the east by Crestfield Estate and Crestfield Park and Collins Avenue Extension Estate fronting Collins Avenue immediately adjoins the site to the west and south. Development at the site will consist of the following:

- The demolition of the existing office building, sheds, warehouses and garages and site clearance works.
- Three apartment blocks comprising a total of 106 residential units and 375 sqm of community, arts and cultural space.
 - Block A ranges from 3 to 6 storeys and consists of 50 no. residential units (22 no. 1 bed, 20 no. 2 bed and 8 no. 3 bed units) and 275 sqm of community, arts and cultural facilities at ground floor level.
 - Block B ranges from 4 to 6 storeys and consists of 38 no. residential units (17 no. 1 bed, 9 no. 2 bed and 12 no. 3 bed units) and 100 sqm of community, arts and cultural facilities at ground floor level.
 - Block C ranges from 4 to 5 storeys and consists of 18 no. residential units (10 no. 1 bed and 8 no. 2 bed units).
- 183 no. long-stay and 63 no. short-stay bicycle parking spaces, 57 no. car parking spaces and 5 no. motorcycle spaces.
- 1,925 sqm of public open space and 3,140 sqm of communal open space.
- One signalised vehicular access is proposed via Collins Avenue and Collins Avenue Extension.
- Provision of pedestrian and cyclist access at northern boundary to allow for future link via Shanowen Business Estate and the Shanowen Hall and Square
- Boundary treatments and planting, public lighting, site drainage works, internal road surfacing and footpath, ESB meter rooms, stores, bin and cycle storage, plant rooms, landscaping; and
- All ancillary site services and development works above and below ground.

Landscape Design Aims and Objectives

The landscape structure of the proposed residential development adopts the open space strategy of the Landscape Masterplan which provides for a varied, accessible and permeable open space network for community use that as it matures will become a significant resource.

As the Covid pandemic has brought into sharp relief for people's health and well-being there is a community requirement for open, natural spaces, which facilitate exercise, recreation, and free play.

The proposed open space network provides for these flexible activities in a natural environment with inclusive access.

The design incorporates wildlife considerations in the retention/ protection/ management and reinforcement of existing hedgerows/treelines. Existing trees and hedgerows on the site will be protected where possible in line with the objectives of the Arboriculture assessments & Landscape Masterplan and brought back into a managed state and reinforced with new planting.

Varied habitats are created for ecological connections and landscape visual amenity;

- detention basins and swales
- Mixed shrub and herbaceous planting in the amenity spaces and privacy strip
- new tree planting
- native woodland shrub planting
- flexible amenity lawn areas

Management Structure

The landscape areas will be managed by the development management company for a period of 25 years.

Bird Season Restrictions

Vegetation clearance will take place outside the breeding bird season (i.e. the start of September to the end of February, inclusive) to avoid any potential impact on breeding birds. Where this seasonal restriction cannot be observed, a check for active nests will be carried out immediately prior to any site clearance and repeated as required to ensure compliance with Irish wildlife law. This will be carried out under the supervision of a qualified Ecologist.

Ecology

The open space landscape network has been designed to provide for ecological value in the area and this function will be enhanced in accordance with further recommendations from the Ecologist Consultant.

The three main design principles of landscape and biodiversity for this site are as follows.

1. **Retention of existing ecological features.**
2. **Biodiversity enhancement in the landscaping scheme.**
3. **Biodiversity enhancement for fauna**

These are outlined further in the biodiversity chapter below.

All Ireland Pollinator Plan 2021-2025

Planting and management of the landscape areas shall be undertaken in accordance with pollinator friendly management objectives as outlined in the “All Ireland Pollinator Plan 2021-2025 (Councils: Actions to Help Pollinators)” National Biodiversity Data Centre and will include interpretative signage highlighting the areas Managed for Wildlife. Varied grass cutting regimes will provide for a species richness within the grassland areas, especially in the context of their location on the outskirts of an urban area.

SUDS integration for water management

A coordinated approach within the landscape design has been taken to site services, in particular SUDS integration for water management and habitat creation.

Design criteria for swales will include the following:

- Maximum side slopes will be 3:1. Slopes and depths should be minimised to the extent practical for aesthetic and safety reasons. The base width should be a minimum width of 2 feet.
- Check dams should be installed at regular intervals along the swales to promote ponding. Large rocks that are obvious and do not become concealed by vegetation should be used as check dams. Such rocks will create an attractive as well as effective check dam and will provide micro-habitat for species (e.g. basking sites for invertebrates etc.).
- Broadleaved trees should be planted along the filter strips.
- Grassy verges along retained field boundaries and new green corridors will function as natural filter strips.

Standards of Care

High standards will be maintained in all areas of service delivery.

High standards of care will be achieved by:

- a landscape maintenance specification
- maintenance works to be undertaken by trained staff members, providing on-site supervision of trainees
- providing Health & Safety training for staff
- proactive maintenance of hard landscape areas, play elements and seating
- a programme of tree works
- monitoring of standards of care
- working with local interest groups to ensure community ownership of the site
- updating risk assessments for operations by the landscape staff
- periodic review of standards and procedures

- perceptions of safety will be increased, and vandalism and other anti-social behaviour discouraged with additional natural surveillance by increasing circulation, overlooking from the residential development, and maintaining open views across the woodland area.

Landscape design description

The development at Collins Avenue will include one public open space and three communal open spaces.

The main constraint on this site is a wayleave which runs east-west through the site. Therefore, no trees are allowed to be planted along the northern boundary of the site development as indicated on the drawing.

A public open space is located at the entrance of the development, in front of the Block B while the communal open spaces are located at the back of the Blocks A, B and C.

All landscaped areas are designed to be attractive and usable, catering for both active and passive uses and at the same time fulfilling the objectives of movement and access, biodiversity enhancement and nature-based SUDS requirements.

Public open space is located centrally within the development and includes the area along the boundary with the strip of the existing trees that follows the alignment of the shared road surface.

This public open space will allow for east west permeability as well as connections to the north and south. The extensive inclusion of the planted swales along the road at the east and west side of the public open space provide a buffer zone for the pedestrians. Together with the selection of native and pollinator friendly trees, swale features will provide for a particular habitat and enhance the site's biodiversity.

Planting zone with the line of trees along the north side of the open space will also provide a buffer zone for the residents of Block A.

The open space is providing the opportunities for informal recreation and active play for smaller children with the traditional and natural play equipment chosen for individual and group play; social interaction, imaginative play and climbing and sliding movements. The flexible grass and meadow space with mounding, tree planting will allow for kick-about areas and will inspire natural play.

South facing seating along the play space is provided to allow parents, guardians, and residents passive supervision, while the seating at the north-east corner of the open space is provided for relaxation and social interactions. Seating will be robust and will utilise composite timber seating tops, back and arm rests for the comfort.

The landscape character of the linear open space along the southern boundary will be passive, focusing on biodiversity and passive amenity. Existing trees and hedgerows along the boundary will be protected, retained, and managed to maximise the visual softening of the proposed scheme and to maintain and improve site's biodiversity.

Communal open space at the south-west side of the development is located within the Block A, and it is in a proximity to the neighbouring houses. For that reason, the boundary along the south is carefully considered to provide a well-defined boundary to rear of adjoining housing. The existing trees and hedgerow will be cut back and reinforced with additional screen planting with the selection of proposed evergreen and deciduous trees which will provide a good screening and seasonal interest through the whole year.

This communal open space is delineated with the soft landscape. Shrub, groundcover planting at lower scale and tree planting to give a vertical, upright structure and spatial definition while the hard landscaping will inform a general hierarchy.

Within the communal open space there are opportunities for play and spaces for both active and passive involvement. Play opportunities are provided in the form of open grass 'kick-about' space and natural play equipment for smaller children.

The communal open spaces at the back of the Block B and C have the similar landscape language through the materiality used and amenities provided. In addition, these two areas contain the detention basins which are used as a part of SUDS strategy.

As the detention basins are normally dry, those depressed areas are designed to provide useable play opportunities by incorporating natural play elements, such as stepping logs, boulders, tree trunks or a slide.

Seating opportunities (benches) will be provided along the path and around the amenity areas with the planting incorporated to enhance site's biodiversity and visual amenity as outlined above.



Play Strategy

Opportunities for Play:

Play amenity is achieved in 3 ways:

1. For residents in their own residential open space. This amenity encourages social interaction between residents within a passively supervised communal space.
2. Play space for younger children within public open space. It is provided to fulfil the requirements of the residents, but it is available to wider community.
3. Playfulness – the design is aimed at encouraging playfulness, offering space for spontaneous and imaginative play, with elements that may stimulate that – such as mounds, tree trunks, detention basins, swales, biodiversity etc.

Play area provision required is noted in the document *'Sustainable Urban Housing: Design Standards for New Apartments'*.

Children's Play

4.13 The recreational needs of children must be considered as part of communal amenity space within apartment schemes. Experience in Ireland and elsewhere has shown that children will play everywhere. Therefore, as far as possible, their safety needs to be taken into consideration and protected throughout the entire site, particularly in terms of safe access to larger communal play spaces. Children's play needs around the apartment building should be catered for:

- within the private open space associated with individual apartments (see chapter 3);
- within small play spaces (about 85 – 100 sq. metres) for the specific needs of toddlers and children up to the age of six, with suitable play equipment, seating for parents/guardians, and within sight of the apartment building, in a scheme that includes 25 or more units with two or more bedrooms; and
- within play areas (200–400 sq. metres) for older children and young teenagers, in a scheme that includes 100 or more apartments with two or more bedrooms.

Extract from 'Sustainable Urban Housing: Design Standards for New Apartments – Section 4.0'

Per the guidelines noted in *'Sustainable Urban Housing: Design Standards for New Apartments'*, Block A is the only block within the development which require a small play space as it consists of 20no. 2bed and 8no. 3 bed units. Based on the unit calculation, this triggers the provision of 85-100 sq. meters of the play space for smaller children set in the document which is shown on the plan.

The play space of 90 sq. meters within Block A communal open space is designed with “free” and natural strategy in mind with formal play equipment and natural, incidental play elements. The similar approach is used in communal open spaces within Block B and C.

Furthermore, formal play space of 100 sq. meters is proposed within the public open space. This formal secured play space will serve ages 0-6 yrs. and will be inclusive for all residents.

All play areas to conform to European standards EN 1176 and EN 1177 Playground equipment and surfacing.

1 - Formal Play Area within Public Open Space

Formal play area of 90m² with timber play equipment and Wetpour safety surfacing for young children ages 0-6 yrs. is located within public open space and is secured with a safety fencing and a hedge planting to give a further definition and security.

The chosen play equipment enables individual play, group play, social interaction, imaginative play, climbing and sliding movement.

Seating within the play space is provided to allow parents, guardians and residents passive supervision. Seating will be robust and will utilize composite timber seating tops, back and arm rest for comfort.

The flexible grass area with meadow planting and mounding at the north side of the public open space will provide the opportunities for informal recreation and will inspire natural play.

Selected play equipment supplied and manufactured by Kompan Robinia range or equivalent. See '*LSOC003 Collins Avenue Concept Sketchbook*' for more information.

NOTE: all play equipment shall conform to European Standards

EN 1176-1-11 and EN 1177 Playground equipment and surfacing.

A post installation certification by the Royal Society for the Prevention of Accidents shall be submitted to the local authority.

2 - Play Area within Block A Communal Open Space

The play area of 90 sq. meters within the secured Block A Communal Open Space with formal play equipment, recycled rubber play surface and adjacent natural play elements will cater for children aged 0-6 yr.

The chosen play equipment enables individual play, group play, social interaction, imaginative play, climbing and jumping movement.

Seating within the communal open space is provided to allow parents, guardians and residents passive supervision. Seating will be robust and will utilize composite timber seating tops, back and arm rest for comfort.

The flexible grass area and mounding with stepping logs adjacent to equipped play area will provide the opportunities for informal recreation and will inspire natural play for all age groups.

The tree trunks and boulders are arranged as an obstacle course within the existing trees and hedgerows which offer the opportunities for children to freely explore nature.

Selected play equipment supplied and manufactured by Kompan Robinia range or equivalent. See '*LSOC003 Collins Avenue Concept Sketchbook*' for more information.

NOTE: all play equipment shall conform to European Standards

EN 1176-1-11 and EN 1177 Playground equipment and surfacing.

A post installation certification by the Royal Society for the Prevention of Accidents shall be submitted to the local authority.

3 - Play Area within Block B Communal Open Space

The provision for play within the secured Block B Communal Open Space with formal play equipment, recycled rubber play surface and adjacent natural play elements will cater for children aged 0-6 yr.

The chosen play equipment enables individual play, group play, social interaction, imaginative play, climbing and jumping movement.

Seating within the communal open space is provided to allow parents, guardians and residents passive supervision. Seating will be robust and will utilize composite timber seating tops, back and arm rest for comfort.

The tree trunks and boulders adjacent along the proposed native shrub planting are arranged as an obstacle course which offer the opportunities for children to freely explore nature.

The flexible grass area and mounding with stepping logs adjacent to equipped play area will provide the opportunities for informal recreation and will inspire natural play for all age groups.

Furthermore, the design of this courtyard utilizes the nature-based detention basin creatively, incorporating natural play elements such as stepping stones and logs to encourage exploration and physical activity among younger users.

As detention basin are normally dry, this depressed area carefully integrated into the courtyard is designed as a playful feature.

Selected play equipment supplied and manufactured by Kompan Robinia range or equivalent. See '*LSOC003 Collins Avenue Concept Sketchbook*' for more information.

NOTE: all play equipment shall conform to European Standards EN 1176-1-11 and EN 1177 Playground equipment and surfacing.

A post installation certification by the Royal Society for the Prevention of Accidents shall be submitted to the local authority.

4 - Play Area within Block C Communal Open Space

The provision for play within the secured Block C Communal Open Space with formal play equipment, recycled rubber play surface and adjacent natural play elements will cater for children aged 0-6 yr.

The chosen play equipment enables individual play, group play, social interaction, imaginative play, climbing and jumping movement.

Seating within the communal open space is provided to allow parents, guardians and residents passive supervision. Seating will be robust and will utilize composite timber seating tops, back and arm rest for comfort.

The flexible grass area and mounding adjacent to equipped play area with tree trunks and boulders arranged as an obstacle course will provide the opportunity for informal recreation and will inspire natural play for all age groups.

Furthermore, the design of this courtyard utilizes the nature-based detention basin creatively, incorporating natural play elements such as stepping stones and slide will encourage exploration and physical activity among younger users.

As detention basin are normally dry, this depressed area carefully integrated into the courtyard is designed as a playful feature.

Selected play equipment supplied and manufactured by Kompan Robinia range or equivalent. See '*LSOC003 Collins Avenue Concept Sketchbook*' for more information.

NOTE: all play equipment shall conform to European Standards EN 1176-1-11 and EN 1177 Playground equipment and surfacing.

A post installation certification by the Royal Society for the Prevention of Accidents shall be submitted to the local authority.

Planting Strategy

The general planting strategy throughout the scheme is for significant structure tree planting with 2 metre clear stems to provide a leafy canopy layer, softening the proposed buildings and a base layer of shrub planting to create low level seasonal interest and colour softening the hard surfaced areas, curtilage, and car parking. Eye level between the two planting types is kept clear to maintain sight lines throughout the scheme.

The priority is given to locally sourced and native planting, when appropriate, to enhance biodiversity and support local biome.

Open space structure trees

Native and naturalised tree species are to be planted within the amenity space to increase opportunities for native wildlife. The existing trees and hedgerows are to be protected where possible in order to preserve the identity of the site and reduce the impact of the development on the existing biodiversity.

Proposed tree list (indicative):

- Sorbus aucuparia
- Betula utilis 'Jacquemontii'
- Quercus ilex
- Quercus robur
- Carpinus betulus
- Corylus avellana
- Prunus avium
- Pinus sylvestris
- Amelanchier lamarkii
- Malus sylvestris
- Alnus glutinosa
- Pyrus calleryana 'Chanticleer'

Street trees

Street tree planting will consist of species with fastigate or neat forms suitable to the scale of the streetscape and those which will thrive in a streetscape environment. A selection of tree will be implemented along the access road that will vary in species, size, and shape to future proof the street planting in case an unknown disease to this date.

Proposed tree list (indicative):

- Betula pubescens
- Alnus cordata
- Acer rubrum
- Pyrus calleryana 'Chanticleer'
- Tilia cordata 'Streetwise'
- Sorbus aucuparia

Street tree planting is located to avoid impacts with street lighting. Street trees will be planted into a minimum of 1.2m³ topsoil (or to the requirements of the local authority parks department, whichever

is greater), with the use of urban tree soils and topsoil loaded root cells to increase rooting areas outside the main tree pit area as necessary.

Swale planting:

Proposed planting: water mint (*Mentha aquatica*), water plantain (*Alisma plantago-aquatica*), lesser spearwort (*Ranunculus flammula*), meadowsweet (*Filipendula ulmaria*), marsh woundwort (*Stachys palustris*), purple-loosestrife (*Lythrum salicaria*), horsetail species (*Equisetum* spp), marsh pennywort (*hydrocotyl vulgaris*), sneezewort (*Achillea ptarmica*), wild angelica (*Angelica sylvestris*), marshmarigold (*Caltha palustris*), cuckooflower (*Cardamine pratensis*), wavy bitter-cress (*C. flexuosa*), hairy bitter-cress (*C. hirsuta*), common mouse-ear (*Cerastium fontanum*), sedge species (*Carex* spp), creeping bent (*Agrostis stolonifera*), red fescue (*Festuca rubra*), smooth meadow grass (*Poa pratensis*), rough meadow grass (*Poa trivialis*), marsh foxtail (*Aleopecurus geniculatus*).

General shrub herbaceous and groundcover planting

- *Anemone 'Honorine Jobert'*
- *Berberis darwinii*
- *Calamagrostis 'Karl Foester'*
- *Choisya ternata*
- *Crocosmia 'Lucifer'*
- *Escallonia 'Apple Blossom'*
- *Kniphofia 'Prince Igor'*
- *Lavandula 'Hidcote'*
- *Libertia grandiflora*
- *Liriope muscari*
- *Luzula nivea*
- *Perovskia atriplicifolia*
- *Rosmarinus officinalis*
- *Sarcococca humilis*
- *Skimia japonica*
- *Verbena bonariensis*
- *Viburnum tinus*
- *Ilex aquifolium*
- *Hebe* spp.

Native hedgerow

- *Crataegus monogyna*
- *Corylus avellana*
- *Acer campestre*
- *Prunus spinosa*
- *Rosa canina*

Wildflower mix

Birdsfoot Trefoil, Black Meddick, Cowslip, Devil's Bit Scabious, Meadow Buttercup, Field Scabious, Hemp Agrimony, Kidney Vetch, Lady's Bedstraw, Lady's Ann lace, Lesser Knapweed, Meadowsweet,

Mullein, Ox-eye Daisy, Purple Loosestrife, Ragged Robin, Red Campion, Red Clover, Ribwort Plantain, Rough Hawksbit, Sorrel, St Johnswort, Wild Angelica, Wild Carrot, Yarrow, Yellow Agrimony, Yellow Rattle, Teasel and more. Also includes 35% annuals: Corn Marigold, Corn Poppy, Corncockle, Cornflower, Scented Mayweed

Hedge planting

- *Crataegus monogyna*
- *Fagus sylvatica*
- *Prunus lusitanica*

Green/Blue roofs

Green/Blue roofs are included as part of the strategy to enhance the biodiversity in the city. The below recommendations follow the DCC green and blue roof guide (issued in 2021), and the document should remain the technical baseline of each rooftop development.

The proposed development will provide intensive green roof (topsoil depth over 200mm) planted with a mix of sedum and Irish native wildflowers. As appropriate, a diversity of habitat will be created by:

- Modulating the depth of topsoil, while maintaining appropriate depth to maintain the water storage capacity
- Installing piles of logs and stones
- Providing bare patches of soil
- Creating localised ponding/water retention.

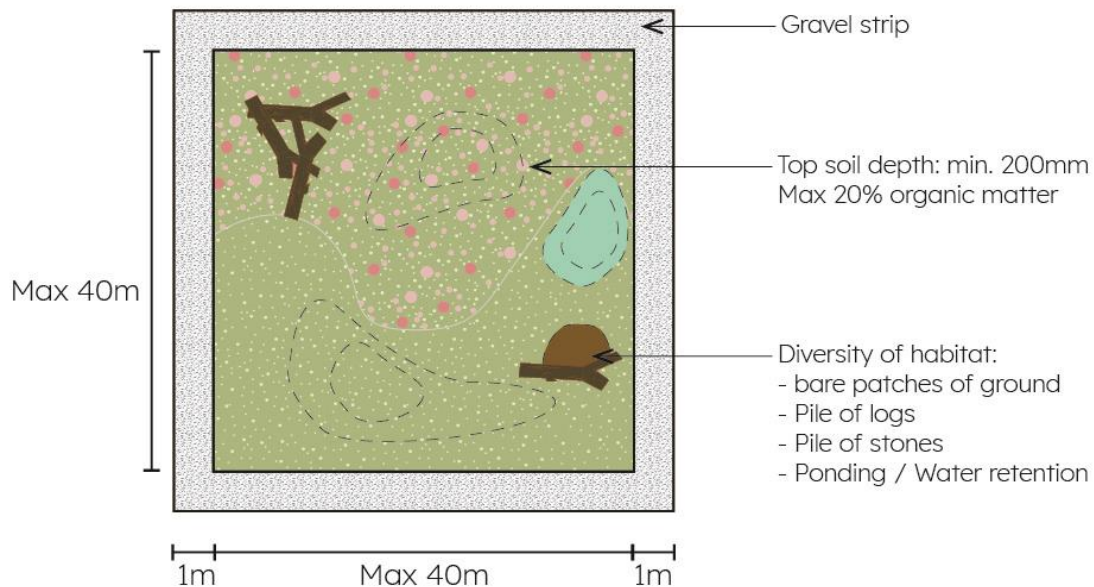


Diagram by Mitchell+Associates based on the DCC Green and Blue roof Guide (2021)

The maintenance of the roof is essential to the development of the planting and the regulation of fire hazard. The maintenance regime must be approved with the stakeholders prior to implementation as it will dictate the appropriate planting on the rooftop. The regime maintenance should allow for:

- Removal/Regulation of invasive species that can self-seed and damage waterproofing, such as buddleia.
- Annual cutting (in autumn) of wildflower mix.
- Removal of dead and dry plants and cutting.
- Other, as appropriate.

Proposed sedum species (installed as plugs or blanket):

- *Sedum album*
- *Sedum ellacombianum*
- *Sedum floriferum*
- *Sedum hybr. Czar's Gold*
- *Sedum montanum*
- *Sedum kamtchaticum*
- *Sedum oreganum*
- *Sedum pulchellum*
- *Sedum reflexum*
- *Sedum rupestre Angelina*
- *Sedum sexangulare*
- *Sedum spurium 'coccineum'* (Purple Carpet)
- *Sedum spurium*
- *Sedum spurium 'Summer Glory'*
- *Sedum stenopetalum*
- *Sedum stoloniferum*
- *Sedum saxifraga granulate*

Proposed Irish native wildflower species (installed as seeds, plugs or blanket):

- *Achillea millefolium*, Yarrow
- *Agrimonia eupatoria*, Agrimony
- *Aquilegia vulgaris*, Columbine
- *Bellis perennis*, Daisy
- *Briza media*, Quaking-grass
- *Campanula rotundifolia*, Harebell
- *Centaurea nigra*, Knapweed (common)
- *Chicorium intybus*, Chicory
- *Daucus carota*, Carrot (Wild)
- *Dipsacus fullonum*, Teasel
- *Echium vulgare*, Viper's-bugloss
- *Foeniculum vulgare*, Fennel
- *Linaria vulgaris*, Toadflax (common)
- *Lotus corniculatus*, Bird's-foot-trefoil (common);
- *Lythrum salicaria*, Purple Loosestrife
- *Malva moscahta*, Mallow Musk
- *Origanum vulgare*, Marjoram (wild)
- *Papaver rhoes*, Poppy (field or common)

- *Pilosella aurantiaca*, Fox-and-cubs
- *Primula veris*, Cowslip
- *Primula vulgaris*, Primrose
- *Ranunculus acris*, Buttercup (meadow)
- *Rumex acetosa* Sorrel (common)
- *Salvia verbenaca*, Clary (wild)
- *Silene dioica*, Champion red
- *Silene flos-cucculi*, Ragged-Robin
- *Silene uniflora*, Champion; White
- *Tanacetum vulgare*, Tansy
- *Trifolium pratense*, Clover; Red
- *Viola riviniana*, Common dog violet
- *Viola tricolor*, Pansy (wild) or Heartsease

LANDSCAPE MANAGEMENT STRATEGY

Maintenance should maximize the biodiversity potential of the site, providing new opportunities for expansion of (and cross-interaction between) habitats whilst also providing an attractive area of green open space with high amenity value. The open space network can be broken down into the following softworks planting types for maintenance:

Amenity Active Use Grassland

Objective: To produce a firm hard wearing sward with the appropriate cover of acceptable species, and adequate control of weeds, pests and diseases. The lawn is to be maintained to 40mm height to create a close mown turf for active and passive recreational use.

Operations: Grass maintenance strips to be cut at 2-week intervals to a height of 40mm during the growing season of April to October. Grass cuttings to be broken down and spread evenly across the area and remain on site. Lightly roll Amenity Grass areas in spring and autumn annually to consolidate the soil. Carry out when ground conditions are appropriate when soil is moist but not waterlogged. Any settlements or local depressions should be made good.

Maintenance Grass Strip to All Pathways

Objective: To produce a firm hard wearing sward with the appropriate cover of acceptable species, and adequate control of weeds, pests and diseases to a width of 2m to both sides of all pathways. This maintenance strip is required to all tarmac, concrete, compacted gravel and grass footpaths. Mown grass edges to present a maintained appearance to the open space and prevent overhanging of tall grasses or planting encroaching upon the circulation network.

Operations: Grass maintenance strips to be cut at 4-week intervals to a height of 40mm during the growing season of April to October. Grass cuttings to be broken down and spread evenly across the area and remain on site.

Pollinator Friendly Grassland Area

Objective: These are areas for amenity use that are maintained to a higher level of 75mm and cut less frequently than general amenity grass areas. This is to create a different character to the woodland area and to promote biodiversity following the recommendations of the All Ireland Pollinator Plan 2021-2025.

Operations: Grass shall not be mown until the 15th of April. Thereafter grass shall be cut on a six-weekly rotation (5 cut and lifts per year). Second cut at the end of May, third cut in mid-late July to maximise growth of Clovers and other wildflowers, fourth cut at the end of August and the fifth cut after mid-October. Remove cutting arisings to off-site compost facility. Carry out when ground conditions are appropriate when soil is moist but not waterlogged. Any settlements or local depressions should be made good.

Meadow Grassland Areas

Objective: Meadow areas are to produce and promote a species rich meadow providing for increased biodiversity and different character areas to the park network.

Operations: Meadow areas shall be cut once a year in late September to a height of 75mm. Meadow areas that are cut should be left for 3-5 days so that insects can move to refuges as moisture content is lost from the cut areas. Meadow cuttings are then to be removed from site. As a general rule always remove 'cut' materials as most wildflowers will die if grass cuttings are not removed. If winters are mild meadow can be mown or topped between October and April if growth exceeds 250mm.

Grassland Slopes

Objective: Grassland slopes are general areas of grassland and areas where gorse or brambles should not be allowed to colonise on banks of the site.

Operations: Gorse, brambles, herbaceous and scrub growth to be cleared to ground levels of 75mm height. Grass cuttings to be broken down and spread evenly across the cut area to remain on site. Grassland slopes to be cut at the end of July and the end of September annually.

Hedgerows Management

Box Cut Hedgerow

- Treatment 1 will comprise an Urban type "Box-Cut Hedgerow", which may incorporate a swale;

Natural Hedgerows

- Treatment 2 will comprise a "Natural Hedgerow", a minimum of 2m in width. This hedgerow may incorporate an existing swale to the side finished with a grassy meadow verge a minimum of 2m bounding both sides; and
- Treatment 3 will incorporate a swale along the mid-line, a "Natural Hedgerow", a minimum of 2m in width on both sides of the drainage ditch/swale and a grassy meadow verge, with a minimum of 2m bounding both sides.

The Natural Hedgerows will be maintained so that a diversity of hedgerow structure is provided. Tall and short ($\leq 3\text{m}$) sections will be provided. Thick and dense cover at the base of the hedgerow will be maintained and gaps along hedgerows will be minimised. The outer edges of the Natural Hedgerows will be maintained so that they undulate, or have a wavy plan profile.

Natural Hedgerows will be managed as follows:

- Hedgerow trimming will be undertaken on two to five year rotations to create diversity in hedge structure and allow some species to produce fruit (an important food source for birds) in different years.
- Hedgerow trimming will be alternated between sections of hedgerows so that at least one-third of the hedgerow length remains uncut.
- Hedgerow trimming will be undertaken between the months of January and February.

Box-Cut Hedgerows will be a minimum width of 1m and a minimum height of 1.5m. They will be comprised of typical native hedgerow species.

Box-Cut Hedgerows will be cut on an annual basis during the months of January and February. Hedges should not be cut between March and August as this is the main breeding season for nesting birds. Encourage a bushier and denser hedge by cutting at least 2cm above the previous year's growth. This keeps the hedge full of vigor and growth. It is easy to prune a hedge too heavily and lose the fruit. Remove all hedge cuttings from the site.

Woodland Planting Areas

Objective: Areas planted with trees and shrubs to promote and develop native deciduous and mixed woodland in the development. The woodland area protects and retains existing trees, provides habitat and seasonal interest in the park and provides an amenity space for community use.

Operations: Woodland planting areas to remain clear of weeds to a diameter of 1m circle around each plant planted. Achieved by a circle of mulch 75mm deep being maintained to the base of each tree planted. At all times, weed cover to be less than 5% and no weed to exceed 100 mm high. Check condition of stakes, ties, guys and guards. Replace broken or missing items. Adjust if necessary to allow for growth and prevent rubbing of bark. Review presence of rabbits within the woodland area and if risk of damage to juvenile planting is low remove spiral rabbit guards after three years all other guards to be removed after five years. Gently firm loosened soil around trees. Straighten leaning trees/shrubs.

Frequency of checks: Every month or after periods of strong winds. Ensure that trees and shrubs are not damaged by use of mowers, nylon filament rotary cutters and similar powered tools. A two-meter strip of unmown grass will surround all areas of woodland planting to form a buffer zone and to increase species biodiversity.

Hard Surfaces including: Insitu Concrete and Tarmac Pathways, Resin bound Gravel and Paved Areas

Note: Paved areas that drain into grass areas/rain gardens, tree pits and planted areas avoid use of high concentrations of salt, detergent or soil-acting herbicides. Materials used in repairs should match the existing surface material specification, and be laid to the same depth as originally specified and, where applicable, to a similar degree of compaction.

Objective: Tarmac pathways and steps throughout the area are to provide a solid surface for users of the open space to circulate. Maintain clean, even, consistent surfaces, safe for use by normal traffic in all weather conditions.

Hard surfaces to be kept free from the following:

- litter including autumn leaf fall,
- dust and accumulated grit,
- stains, e.g. oil or paint spillage,

- graffiti,
- weeds, moss and algae
- standing water

Operations: Arisings or cuttings to be removed from pathways after maintenance of planting. Surface of tarmac pathways to be clean, not slippery, build up of algae etc to be removed.

In situ concrete –

Refer to Engineers documentation for repairs compliance

If litter accumulates, increase the frequency of sweeping.

Where weeds colonise cracks and joints, remove and repair.

If moss and algae grow, treat by scraping or sweep.

Tarmac –

If litter accumulates, increase the frequency of sweeping.

Where weeds colonise cracks and joints, remove and repair.

If moss and algae grow, treat by scraping or sweep.

Where the surface becomes uneven or there is a drainage problem, patch or replace to falls. Repair cracking and frost damage by raking out and repairing or replacing the surface. Potholes to be reinstated should be cut back to sound material, the sides cut vertically to a square/rectangular shape, painted with bitumen emulsion, and filled with new bitumen.

Compacted Gravel – Ballylusk aggregate dust, well compacted on hardcore subbase.

If litter accumulates, remove by picking or sweeping.

If the surface is stained, replace it.

Where weeds colonise, remove.

Surfaces should be raked/rolled at least once a year in winter when wet.

Where the surface becomes uneven or there is a drainage problem, rake and roll when wet, and make up levels to falls.

Surfaces should be repaired by loosening, raking and making up with matching material to maintain profiles, levels and gradients, followed by rolling.

Furniture

Play Equipment

Objective: To provide opportunities to play and exercise within the open space network for individuals of all ages and abilities. Including opportunities for social interaction, physical activity, imaginative or intellectual stimulation, creative achievement, emotional and educational development.

Operations: A visual inspection is to be carried out when on site carrying out other maintenance works or at 2 week intervals whichever is more frequent, or immediately in response to reports or complaints from the public. This inspection must bring any defects to the immediate attention of the management company. As a general policy, equipment is repaired as soon as possible. Every twelve months a full ROSPA inspection shall take place using independent inspectors. This results in a full

written report with a safety assessment and recommendations for action. The recommendations are acted upon immediately, or should they require large capital investment, they will be used as justification to support the application for funding.

Play equipment is repaired by the manufacturer/supplier other than routine replacements.

Stone mulch banding, dry stone walls

Objective: Provide an area on site for the collection of stones cleared from the site as part of soil preparation/excavations. Stone mulch bands provide refuge locations for eco-system invertebrates.

Operations: Any stones unveiled during maintenance practices to be positioned in these areas. Keep free of weeds, do not allow soil to enter areas. In advance of grass or meadow cutting replace dislodged stones back onto the areas.

Planting Seasons

- Bare Root Deciduous Stock: November to Mid March
- Rootballed Deciduous Stock: November to Mid March
- Rootballed Evergreens and Conifers: late September or October or between March and early May
- Container Grown Stock: Any time of the year
- Grass Seeding: Spring or Autumn – when the soil is still warm and there is the promise of rain.

No planting should take place during periods of frost, drought, cold drying winds or when soil in water logged, or when the moisture of the soil exceeds field capacity (the maximum amount of water that soil can hold).

Grass Seeding

Grass seeding should only be carried out at the correct season from late summer to mid autumn and in suitably calm but moist weather conditions. If the opportunity to sow grass in autumn is not possible sow seed in mid Spring, but only if there is the promise of rain as it is critical to provide the seed with sufficient water to prevent it from shriveling up and dying. Ideal growing conditions for grass seed to germinate is warm soil damp from rain. Seed should be cross sown in two directions at right angles to each other (half the seed to be used in each direction) to prevent striping.

Replacements

In September or each year, the Landscape Maintenance Team shall provide a list of all trees and plants that are dead, dying, vandalised or not growing in a vigorous condition. These are to be replaced during the November – December of the same year or for evergreens April/May of the following year. All plants shall be planted at the size as shown in the Planting Schedule.

All replacement planting shall be in accordance with the Specification/Planting Schedule.

Dead Plant Removal

Remove dead plants and dead parts of plants as soon as possible and replace plants within the appropriate planting seasons.

Topsoil

Topsoil should be clean, free from stones, perennial weeds, roots and other plant matter, sticks, sub soil or any waste, toxic, rotting or foreign matter. The soil should be fertile with a humus and fibre content and be of a medium texture having a pH value of between 6.0 and 7.5 (unless imported for specific wildflower meadow seeding areas. Imported topsoil should not contain stones greater than 40mm in size, nor have a total stone content exceeding 10 per cent by mass.

Topsoil should be spread evenly on formation levels. Grass areas and shrub/groundcover areas should have a minimum of 150mm and 450mm respectively, after firming. Stones should be removed up to 40mm in diameter.

Plant Material

All plants should be well grown, sturdy and bushy, according to type, and free from all disease and defects. All plants should be adequately hardened off prior to planting, where frost or cold winds may be a problem. This is particularly relevant to planting at the Dublin foothills.

- Shrubs should be bushy, well established nursery stock with a good fibrous root system.
- All trees should be full and well shaped, bark unmarked and have healthy root systems. Rootballed trees should be rootballed immediately when lifted at the nursery.
- The rootball should be suitable for the size of crown and the rootball should be flat bottomed.
- The rootball should be formed through regular transplanting; every 2-3 years minimum. The rootball should be wrapped in hessian and steel wire netting or other suitable and approved decomposable material. Trees should have a well defined, straight and upright central leader, with branches growing out of the stem with reasonable symmetry. The crown should be well shaped, balanced, of a form and habit natural for the species.
- All coniferous trees should be supplied rootballed or container grown, with a good fibrous root system. Trees should conform to specified height with well developed, uniform branching systems.

Planting Preparation

The proper preparation of the ground, the quality of plants and materials, and good planting techniques are essential for proper plant growth and establishment, ensuring minimal loss of plants and ease of maintenance. Where the project requires earthworks such as the formation of subsoil levels and topsoiling works it is important that it is done in the right way to avoid compaction, so that the best conditions are available for planting.

If topsoil is stockpiled on site it should be stored in mounds of maximum height 1.5m constructed so that they shall shed water and not puddle. Care should be taken that no trafficking of placed topsoil and no mixing of topsoil and subsoil take place. Any Topsoil stockpiles should be kept weed free.

The areas for planting should be prepared prior to planting by ensuring that the subsoil is free draining and well cultivated and suitable for topsoiling. The aim of cultivation is to produce a well-drained and textured soil suitable for plant growth.

All areas to be planted or seeded should be cultivated to a minimum depth of 450mm or deeper if needed. Areas where obvious compaction has occurred should be ripped to allow adequate drainage. Subsoil should be placed in layers not exceeding 150mm in depth.

To create the best growing environment for the planting in subsoil a combination of actions were applied to each planting pit. Any future planting works into subsoil should follow the following these principles:

- The pits should be dug prior to delivery of plants so that the trees are out of the ground for as short a time as possible.
- Planting to be into pits which are excavated 200mm deeper and 300mm greater in diameter or 1/3 greater depth and diameter than the root size (whichever is greater)
- The plant must be planted to the same level relative to top of soil as that grown in the nursery.
- The sides and bottom of the planting pits are to be thoroughly broken up by forking to alleviate compaction and to facilitate drainage.
- When planting on slopes ensure that an area made by a 0.3m diameter circle from the centre of each plant is level (horizontal) at the ground surface upon completion of backfilling.
- The backfill or soil placed back in around the plant roots will comprise of broken up (to a loose friable state) soil removed to form the planting pit. Large solid soil / clay clods larger than 50mm will be rejected and deficiencies made up with topsoil.
- Bare root stock to be dipped in root dip gel containing sufficient species of mycorrhizae for the tree or shrub being planted, water holding gel and bio-stimulant.
- 100mm bark mulch to be applied to surface for weed suppression and water retention

Planting Seasons

- Bare Root Deciduous Stock: November to Mid March
- Rootballed Deciduous Stock: November to Mid March
- Rootballed Evergreens and Conifers: late September or October or between March and early May
- Container Grown Stock: Any time of the year
- Grass Seeding: Spring or Autumn – when the soil is still warm and there is the promise of rain.

No planting should take place during periods of frost, drought, cold drying winds or when soil is water logged, or when the moisture of the soil exceeds field capacity (the maximum amount of water that soil can hold). Grass Seeding Grass seeding should only be carried out at the correct season from late summer to mid autumn and in suitably calm but moist weather conditions. If the opportunity to sow grass in autumn is not possible sow seed in mid Spring, but only if there is the promise of rain as it is critical to provide the seed with sufficient water to prevent it from shrivelling up and dying. Ideal growing conditions for grass seed to germinate is warm soil damp from rain. Seed should be cross sown in two directions at right angles to each other (half the seed to be used in each direction) to prevent striping. Replacements In September or each year, the Landscape Maintenance Team shall provide a list of all trees and plants that are dead, dying, vandalised or not growing in a vigorous condition. These are to be replaced during the November – December of the same year or for evergreens April/May of the following year. All plants shall be planted at the size as shown in the Planting Schedule. All replacement planting shall be in accordance with the Specification/Planting Schedule.

Works near Existing Trees and Softworks

When developing near existing trees, ground levels, especially under their canopies should remain unchanged. Most roots are found in the top 600mm of soil. They often grow out further than the trees height. The majority of these roots can be thin in diameter. Some species of trees can tolerate a small increase in level – generally up to 75mm but since most of the roots occur in the top 600mm of soil, raising the ground level can reduce the air available to the root zone and change the feeding of the tree by these roots and lead to the demise of the tree.

Paths of underground service runs should avoid the tree root spread of existing trees and if this is unavoidable then any excavations should be carefully done by hand and services ducting placed through the roots by hand.

Ideally no roots should be severed, so where construction is of necessity within the root spread, damage must be minimized by careful routing of services, with any excavation carried out by hand to allow larger roots to remain undamaged. No root over 25mm in diameter should be cut; they can be left bridging a trench while pipes or cables are laid. Smaller roots should be cut cleanly by hand. Pipes and cables can be passed through or under root systems that have been given minimum disturbance by hand digging. If services cannot be routed clear of trees, they can be laid below the root run level, at about 1.2m or greater depth.

When back-filling trenches, the correct sequence of topsoil above subsoil should be observed.

Services

No digging below 300mm depth using powered machinery will be permitted near to known sub-surface pipe and infrastructure locations. In all other areas the depth restriction will be 600mm deep.

Tree Surgery and Emergency Tree Works

A tree survey condition report on the condition of the existing trees on site has been undertaken. Any recommendations should be implemented by qualified personnel in compliance with British Standard B.S. 3998: 1989 'Recommendations for tree work.'

Following this initial tree condition survey, trees seen to be in good condition should undergo regular visual safety inspections. A visual inspection should be carried out as part of the routine maintenance works on site coupled with specific visits following storm events or periods of very heavy rain.

Trees should be reviewed for dead wood in the canopy, storm damage, decline in vigor in the crown or damage caused following other maintenance practices.

In addition to regular visual surveys of the existing trees a professional tree condition survey should be undertaken by a suitably qualified arboricultural consultant every 3 years producing a report on condition of trees.

Any recommendations should be implemented by qualified personnel in compliance with British Standard B.S. 3998: 1989 'Recommendations for tree work.' Any wind damaged trees or trees requiring emergency works should be made as safe as possible and contact made with the management company.

An annual inspection of the trees will establish and programme restorative/remedial pruning, and in order to prevent an aging tree stock, some new trees will be planted to reinforce the existing tree planted structure.

Scheduling of works

Pre-construction tree works will follow that outlined below

- Remedial works to trees being retained throughout the site as per the Tree Survey document.
- The erection of tree protection fencing

Protected Tree Zone.

The 'Protected Tree Zone' should under no circumstances be used for storage of materials, equipment, or site debris. No fires should be lit within the Protected Tree Zone, or equipment washed or cleaned. Code of Practice for the preservation of trees.

The Code of Practice will be brought to the attention of all site personnel including Contractors, Sub-Contractors and Engineering Specialists associated with works on site. All operations to be in accordance with BS 5837 Trees in Relation to Construction (2005). The management company should purchase and make available on site a copy of the above.

The Arboricultural Contractor will:

- Submit a full method statement containing machinery to be used, removal of wood etc to the CA.
- Carry out works to the most up to date arboricultural practices available e.g. BS 3998.

Recommendations for tree work (as amended).

- Undertake work only with suitably qualified operatives in constant consultation with the Site Arborist.
- Trees identified for removal will be section felled in wooded areas so as not to damage remaining trees.

Control of dogs

It is recommended that dogs should be kept on a lead when walking the path network within the open spaces, except for in the designated dog park to prevent disturbance to wildlife. Signage should be erected to encourage public cooperation. This may help to reduce disturbance impacts to bird species.

BIODIVERSITY

Introduction

The aim of this chapter is to describe aspects of the landscaping scheme that are intended specifically for biodiversity. It includes the retention of existing features, (e.g. the group of trees and hedgerows at the north-west, south-east and south-west of the development) biodiversity enhancements included in the landscaping scheme (e.g. the detention basins and swale features), and biodiversity enhancements for fauna.

Some features have been discussed in detail elsewhere in this report, in which case we will refer readers to relevant locations rather than repeating information.

This document should be read in combination with the Ecological Impact Assessment for the development (NM Ecology Ltd, 2024), which provides information on the baseline condition of the site.

Green and Blue Infrastructure

The proposed landscape design aims to strengthen the value of the site as a place for delivering green/blue infrastructure whilst protecting and enhancing the natural/built and cultural assets of the site.

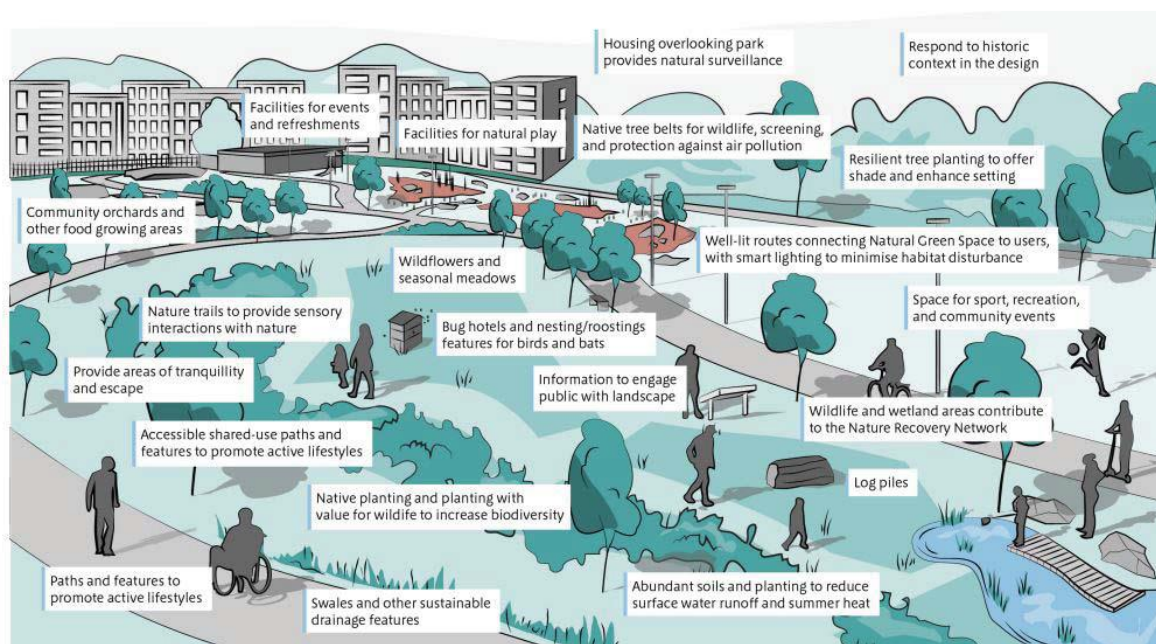


Figure 21: Parks and Green Space

Figure Extract from “Green Infrastructure Planning and Design Guide” published by Natural England

Green Infrastructure is designed and managed to provide and facilitate the following:

- High quality open spaces which provide health and social benefits for people through the provision of formal and informal nature-based play areas, safe and attractive areas and routes for meeting with a variety of seating areas for socialising and relaxing, accessible walking and cycling routes facilitated.
- Opportunities and space for contact with nature, which is considered essential for good health and wellbeing and to promote community cohesion.
- Adaptation to the impacts of climate change and flooding.

- Space for biodiversity (nature and wildlife) to flourish
- A sense of place and local distinctiveness.
- Features are multifunctional, they are designed to benefit people and wildlife.

Biodiversity National Guidance

National Biodiversity Action Plan 2017-2021

Ireland's Vision for Biodiversity: "That biodiversity and ecosystems in Ireland are conserved and restored, delivering benefits essential for all sectors of society and that Ireland contributes to efforts to halt the loss of biodiversity and the degradation of ecosystems in the EU and globally."

The Biodiversity Climate Change Sectoral Adaptation Plan. 2019. Department of Culture, Heritage and the Gaeltacht

"The Goal of this Plan is to protect biodiversity from the impacts of climate change and to conserve and manage ecosystems so that they deliver services that increase the adaptive capacity of people and biodiversity while also contributing to climate change mitigation".

Action 4.4 "Co-design green spaces and wildlife refuges in cities and peri-urban areas with local communities to provide habitats for species under threat from climate change and to connect people to biodiversity".

All Ireland Pollinator Plan 2015-2020 (Councils: Actions to Help Pollinators) NBDC

There are 7 key actions in the guidance document – all of which inform the planting design within the site:

- A: Identify and protect existing areas that are good for pollinators
- B: Alter frequency of mowing of grassy areas to allow more native plants to flower
- C: Pollinator friendly planting
- D: Provide wild pollinator nesting habitat: hedgerows, earth banks and hotels
- E: Reduce the use of pesticides
- F: Raise public awareness of pollinators
- G: Tracking progress and recognition for efforts

Protecting pollinators by planting and appropriately maintaining:

1. Flowering Native Hedgerows
2. Flowering margin of 0.5 to 2 metres around field edges
3. Low to zero pesticide inputs
4. Pollinator friendly trees
5. Wildflower meadow, flower rich pasture, cover crop, herbal ley

Planting and management of the planted areas shall be undertaken in accordance with pollinator friendly management objectives as outlined in the "All Ireland Pollinator Plan 2021-2025 (Councils: Actions to Help Pollinators)" National Biodiversity Data Centre and will include interpretative signage highlighting the areas Managed for Wildlife.

Ecology Design Elements

1. Retention of existing ecological features.

An Arboriculture assessment has been carried out by CMK Arborists for this site and submitted as part of this application. It outlines General tree descriptions, Arboriculture impact, impact of the development, tree protection. And has informed the landscape and biodiversity design of this project.

Birds

Breeding Bird Season Restrictions

Any removal of vegetation, including trees and hedges within the site will take place outside the breeding bird season (i.e. the start of September to the end of February, inclusive) to avoid any potential impact on breeding birds. Where this seasonal restriction cannot be observed, a check for active nests will be carried out immediately prior to any site clearance and repeated as required to ensure compliance with Irish wildlife law. This will be carried out under the supervision of a qualified Ecologist.



2. Biodiversity enhancement in the landscaping scheme.

Outlined above in the landscape proposals and the landscape masterplan submitted with this application.

These measures will partially compensate for some of the habitats removed due to construction of the new development (hedgerow and low-quality trees) and create some features that are not currently present at the site (SUDS features).

Native hedgerows and trees and pollinator friendly grasslands

Additional planting is recommended to strengthen areas within the site for wildlife and biodiversity and to reinstate green infrastructure across the site where feasible. In keeping with the recommendations of the All-Ireland Pollinator plan it is proposed to plant hedgerows with native Irish hedgerow species with 75% "Hawthorn" and 25% of four other native species, we are proposing 10% "Hazel", 10% "Field Maple", 2.5% "Blackthorn" and 2.5% "Dogrose". These hedgerows and trees will provide connectivity between habitats, shelter and a food resource for small invertebrates. These also provide connectivity between habitats for many species including bats.

3. Biodiversity enhancement for fauna.

This would include swift / swallow nest boxes on the buildings (they need to be at least 5 m above ground level), other bird nesting boxes for finches, tits, etc, bat boxes in the retained hedgerow on the western boundary, the hedgehog box (also on the western boundary), and the 'hedgehog highway' between gardens.

- Existing trees and hedgerow retained to support invertebrate's habitat as a food source for birds
- Bird nest boxes of a variety of sizes/typologies will be installed as per Ecologist recommendations
- Swallow and Swift bricks to Apartment structure
- House Martin nest structures to Apartment structure
- Ground nesting bird habitat to Living Roof to Apartment structure



Bats

Native hedgerows and trees and pollinator friendly grasslands

Additional planting is recommended to strengthen areas within the site for wildlife and biodiversity and to reinstate green infrastructure across the site where feasible. In keeping with the recommendations of the All-Ireland Pollinator plan it is proposed to plant boundary hedgerows with native Irish hedgerow species with 75% "Hawthorn" and 25% of four other native species, we are proposing 10% "Hazel", 10% "Field Maple", 2.5% "Blackthorn" and 2.5% "Dogrose". These hedgerows will provide connectivity between habitats for bat species and trees with bat boxes will provide for roosting.

- Grasslands managed for invertebrates as a food source for the bats
- Night scented climbers and plants to attract food source for the bats
- Bat friendly lighting

- Bat boxes are proposed to be installed in locations and guidelines to Ecologist recommendations



Mammals

Additional planting is recommended to strengthen areas within the site for wildlife and biodiversity and to reinstate green infrastructure across the site where feasible.

In keeping with the recommendations of the All-Ireland Pollinator plan it is proposed to plant hedgerows with native Irish hedgerow species with 75% "Hawthorn" and 25% of four other native species, we are proposing 10% "Hazel", 10% "Field Maple", 2.5% "Blackthorn" and 2.5% "Dogrose".

These hedgerows and trees will provide connectivity between habitats, shelter, and a food resource for small mammals.

