June 2026

Ecological Impact Assessment

Proposed Large-Scale Residential Development

at

Old Fort Road, Ballincollig, Cork

On behalf of

O'Flynn Construction Co. Unlimited Company

MALONE O'REGAN ENVIRONMENTAL

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Ecological Impact Assessment

Proposed Large-Scale Residential Development

O'Flynn Construction Co. Unlimited Company

Old Fort Road, Ballincollig, Cork

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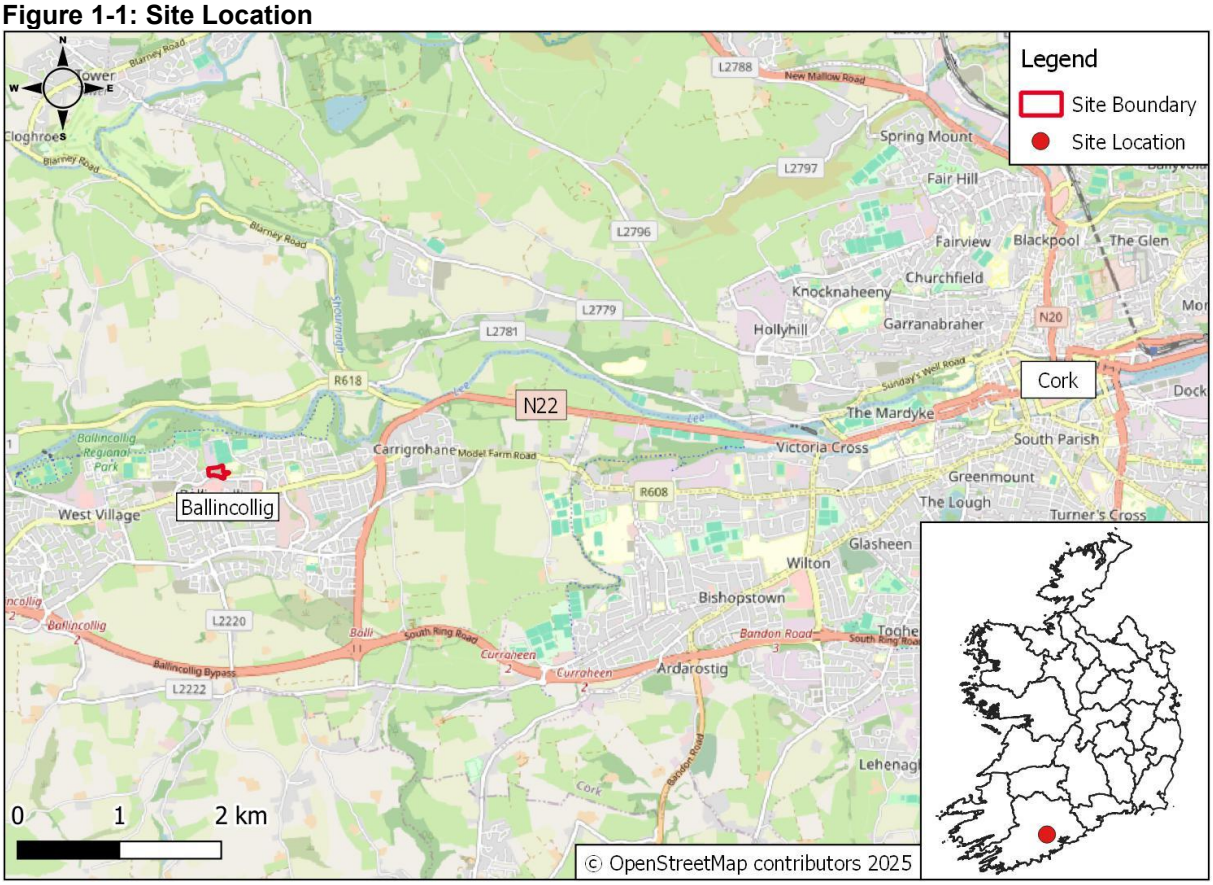
1 INTRODUCTION

1.1 Background and Purpose of Report

Malone O'Regan Environmental ('MOR Environmental') was commissioned by O'Flynn Construction Co. Unlimited Company ('the Applicant') to undertake an Ecological Impact Assessment ('EcIA') for a proposed Large-scale Residential Development ('LRD') and ancillary works ('the Proposed Development') at Old Fort Road, Ballincollig, Co. Cork (ITM OS Reference X 559274 Y 571071).

The Proposed Development will be located on a site that is circa ('ca.') 1.2 hectares ('ha') in size and is located within the townland of Ballincollig, Co. Cork, ca. 7km west of Cork City and is shown in Figure 1-1 (hereafter: 'the Site').

Figure 1-1: Site Location



The objective of this EcIA is as follows:

- Detail the results of ecological surveys undertaken on the Site;
- Identify and assess ecologically important designated sites, habitats or species which could present a constraint to the Proposed Development;
- Detail appropriate and applicable mitigation necessary to facilitate the Proposed Development; and,
- Identify opportunities for enhancement.

This report will be submitted as part of a planning application for the Proposed Development to the Local Planning Authority ('LPA'), in this case, Cork City Council ('CCC'). An Appropriate Assessment ('AA') – Stage 1: Screening Report has also been submitted in support of the planning application.

Following a pre-application consultation under the LRD process in November 2025, CCC issued an opinion under Section 32D, which identified a number of gaps in the baseline ecological data collected at that time. In response, the Client commissioned a programme of additional ecological surveys to be undertaken in 2026 (the '2026 additional ecology surveys'). The 2026 additional ecology surveys are proposed to address the gaps in baseline survey data, as noted by CCC, and to ensure the robustness of the ecological assessment. They consist of the following:

- Five breeding bird surveys – To be undertaken between March and July;
- Three dusk emergence surveys - To be undertaken between May and September;
- Three Nighttime Bat Walkover ('NBW') surveys - To be undertaken between May and September; and,
- Static detector monitoring for bats to be undertaken monthly between April and September.

This EcIA report presents the findings of additional ecological surveys completed to date (June 2026). That is, it includes the results of surveys conducted in 2025 prior to the Section 32B process, as well as partial results of the 2026 surveys requested by CCC under Section 32D. It outlines the survey methodologies used, evaluates the ecological importance of relevant receptors, and assesses the potentially significant effects of the Proposed Development.

Please note, however, that this EcIA is an interim document being submitted prior to the completion of all proposed ecological surveys. In addition, the current document conveys only the results of the April static detector results. There remain the following surveys to be completed on the Site:

- Two further breeding bird surveys (proposed for July 2026)
- Three further SM4 bat detector deployments (July, August, and September); and
- Two further NBW Surveys (one in July and the final in Autumn).

Following the completion of the above-mentioned surveys and the analysis of survey results, this report and its conclusions, together with its relevant appendices / tables / figures, will be updated accordingly.

1.2 Statement of Authority

This report was reviewed by Mr Chris Savage – Principal Environmental Consultant (Biodiversity). Chris has over 13 years of experience working in the ecological consultancy sector. As part of his role, Chris is required to undertake habitat surveys and appraisals as well as specialist protected species surveys in support of Ecological Impact Assessments and Appropriate Assessments. Chris holds a BSc (Hons) in Ecology and an MSc in Ecological Assessment. He is a full member of the Chartered Institute of Ecology and Environmental Management.

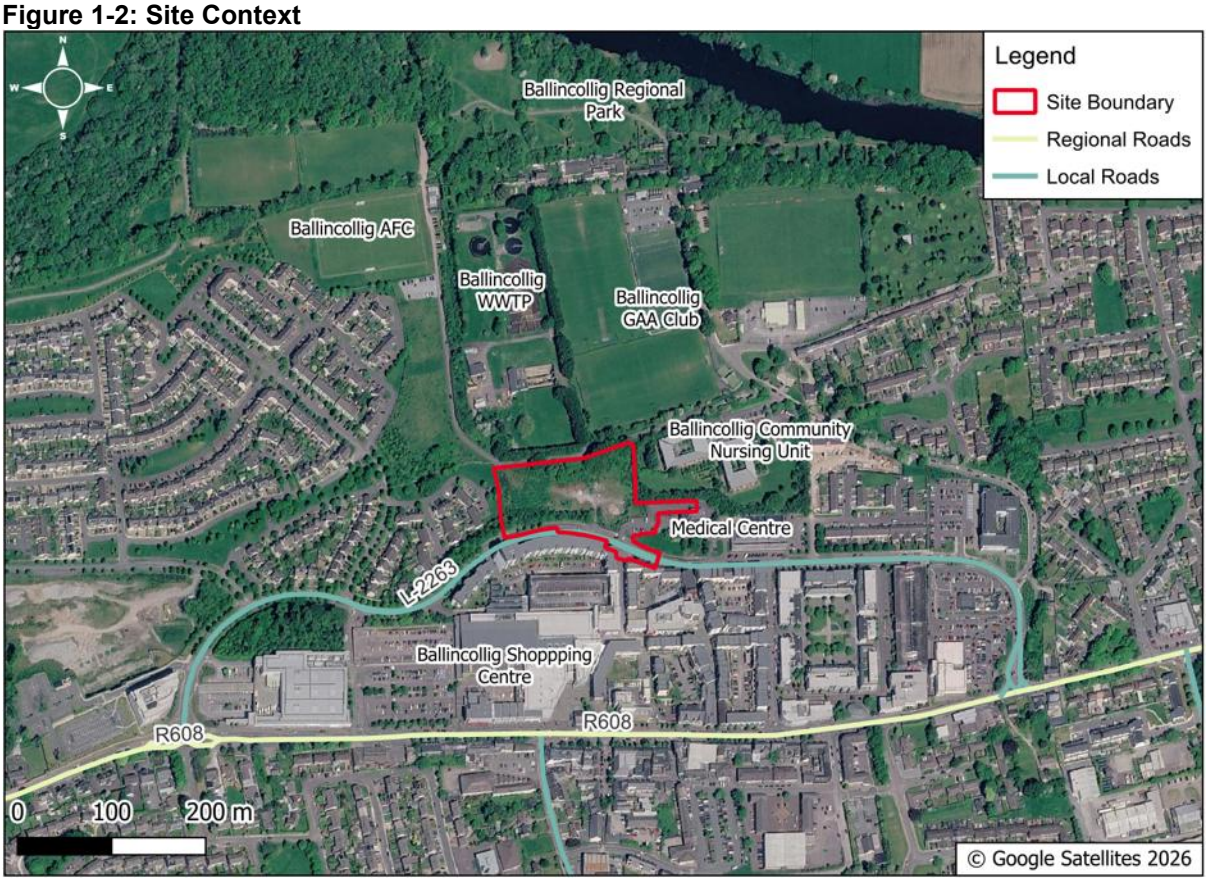
1.3 Site Context

The Site predominantly comprises areas of spoil and bare ground, recolonising bare ground and scrub, with sections of treelines along the southern and northern boundaries of the Site.

The Site is bordered to the west by an existing housing development, to the east by the Ballincollig Community Nursing Unit, to the north by the Ballincollig Wastewater Treatment Plant, and sports playing fields associated with Ballincollig GAA Club and Ballincollig AFC, beyond which lies the Ballincollig Regional Park. The L2263 / Old Fort Road is located along the southern perimeter of the Site, followed by existing residential apartments. The Site is

located ca. 200m to the north of the main street of Ballincollig and is accessed via Old Fort Road / L2263. Refer to Figure 1-2 below for the Site context.

Figure 1-2: Site Context



1.4 Watercourses within the Vicinity of the Site

As per the Environmental Protection Agency maps, there is one hydrological feature of note within close proximity of the Site: the River Lee (Cork).

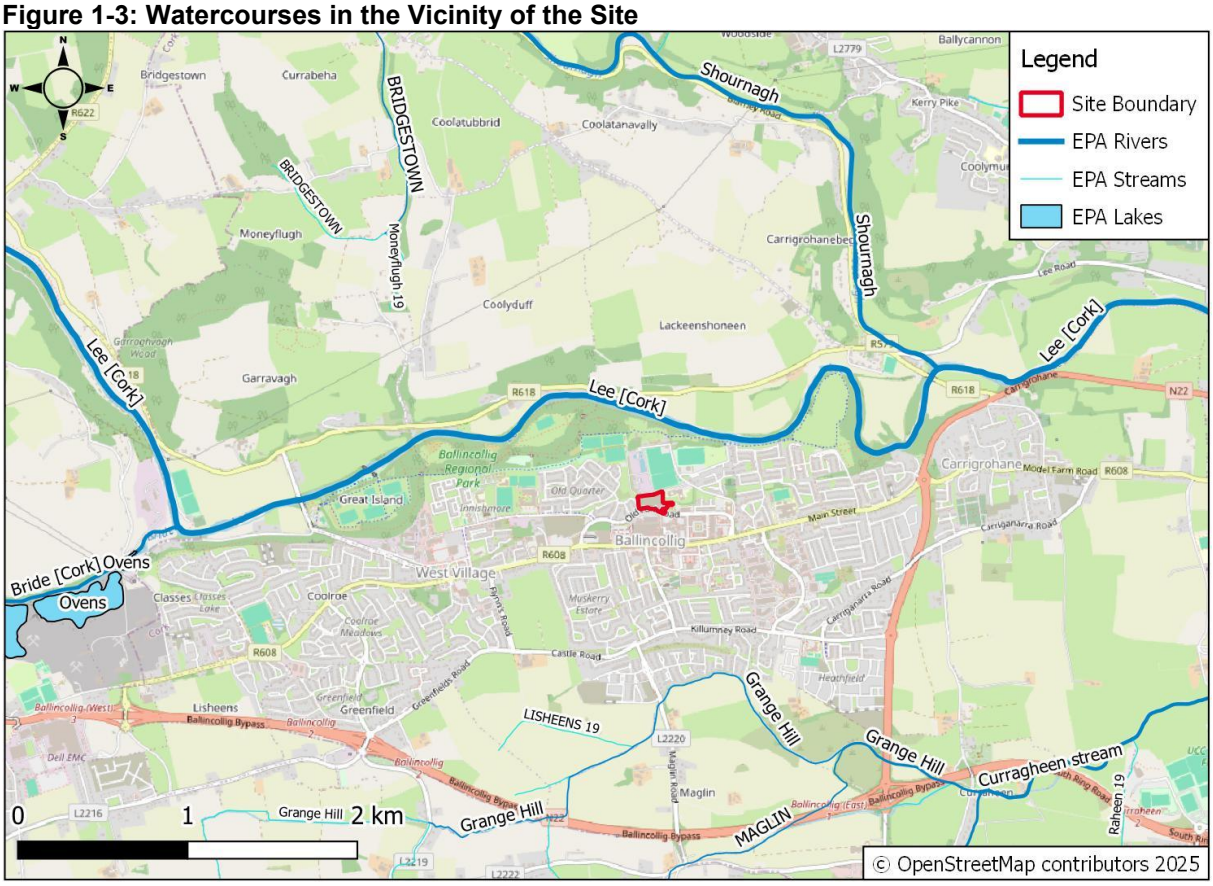
The River Lee (Cork) is located ca. 430m to the north of the Site at its closest point. This river flows in an easterly direction before draining into Cork Harbour. Cork Harbour forms part of the Cork Harbour Special Protection Area ('SPA'), ca. 15km downstream of the Site.

Under the Water Framework Directive ('WFD') 2000/60/EC, as amended, the EPA classifies the status and the risk of not achieving good water quality status of all waterbodies in Ireland [1]. According to the WFD 2019-2024 monitoring events, the most up-to-date data at the time of writing this report, the water quality within the River Lee (Cork) is considered to be '*moderate,'* and the status of this river is considered *'not at risk'* [1].

The Site is situated within the Lee, Cork Harbour and Youghal Bay WFD Catchment [Catchment_ID: 19], which spans two subcatchments: Lee(Cork)_SC_050 subcatchment [Subcatchment_ID: 19_9] and Lee(Cork_SC_060 [Subcatchment_ID: 19_8] [1].

The location of the key surface water features in the vicinity of the Site is illustrated in Figure 1-3 below.

Figure 1-3: Watercourses in the Vicinity of the Site



1.4.1 Drainage Ditch Network

The Office of Public Works ('OPW') Flood Maps identifies Drainage Districts, Arterial Drainage Schemes and Benefited Areas [2]. Arterial Drainage Schemes were works that were carried out under the Arterial Drainage Act, 1945 to improve land for agriculture and to mitigate flooding. The Benefited land identifies land that was drained as part of the Drainage District with the aim to improve land for agriculture and to mitigate flooding.

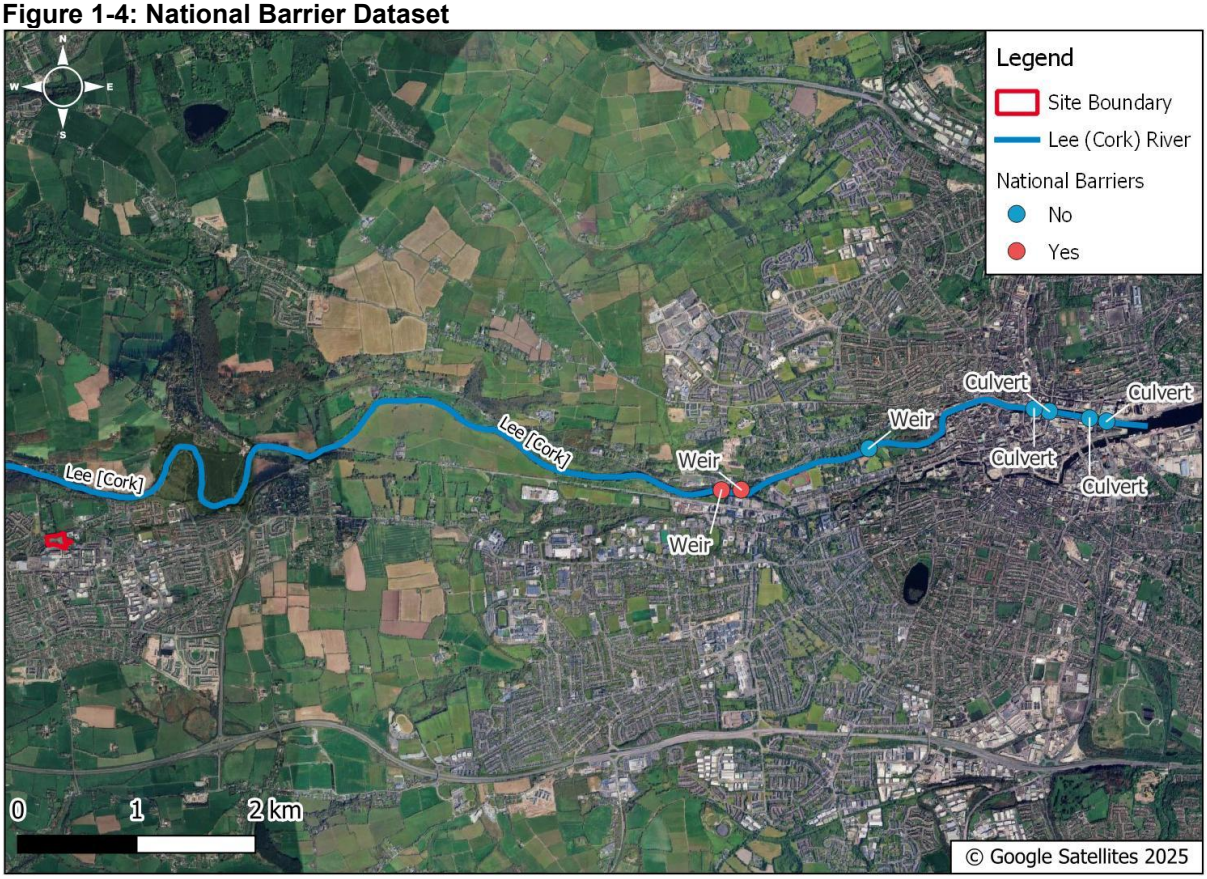
The Site walkover did not identify any drainage ditches within the Site. In addition, the Site does not form part of any of the benefited areas under the Arterial Drainage Schemes [2].

1.4.2 National Barriers Scheme

Irish rivers are heavily fragmented by weirs, dams, sluices, culverts, bridges and other artificial barriers. Therefore, the National Barriers Programme ('NBP') database was created as a national database of potential barriers to fish passage and includes assessing structures which can impact on both fish passage and hydromorphology [3].

As per the NBP Dataset, seven barriers were identified along the River Lee (Cork) river waterbody. Two of these barriers were identified as weirs, which act as barriers. One was identified as a weir, which does not act as a barrier. Four were identified as culverts which do not act as barriers. Please refer to Figure 1-4 below.

Figure 1-4: National Barrier Dataset



1.5 Legislation and Planning Policy Context

1.5.1 Legislation Policy Context

Within Ireland, a number of sites of international or national importance to nature conservation, as well as many species of animal and plants are afforded a degree of legal protection, as set out in Box 1 below.

A study of biodiversity-related planning policy at both national and local levels has been undertaken for the Site and locality in order to highlight any potential conflicts with the relevant legislation and guidance documents.

Box 1 Designated Wildlife Sites and Protected and Otherwise Notable Habitats and Species

The National Park and Wildlife Service ('NPWS') notifies sites in Ireland that are of international or national importance for nature conservation (although some sites that are of national importance for certain species have not been so designated).

Internationally important sites may also be designated as:

- Special Areas of Conservation ('SACs') and Candidate Special Area of Conservation ('cSACs'): the legal requirements relating to the designation and management of SACs in Ireland are set out in the European Communities (Birds and Natural Habitats) Regulations 2011-2021 (S.I. No. 477/2011);
- Special Protection Areas ('SPAs') and candidate Special Protected Areas ('cSPAs'): strictly protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (2009/147/EC), also known as the Birds Directive; and,
- Ramsar sites: wetlands of international importance designated under the Ramsar Convention, to which Ireland is a signatory.

Other statutory site designations relating to nature conservation are:

- Natural Heritage Areas ('NHA'): these represent examples of some of the most important natural and semi-natural terrestrial and coastal habitats in the country and are afforded protection under the Wildlife (Amendment) Act 2000. NHAs are legally protected from damage and receive protection from the date they are formally proposed for designation; and,
- Proposed Natural Heritage Areas ('pNHAs'): these sites are not afforded the same protection as NHAs. These sites are proposed by the NPWS but are not statutorily proposed or designated. Prior to statutory designation these are subject to a very limited legal protection. They are, however, sites of significance for wildlife and habitats and are important for the purposes of this EcIA.

Legally protected species

Many species of animal and plant receive some degree of legal protection. For the purposes of this study, legal protection refers to:

- Species included in the Wildlife (Amendment) Act 2000, excluding species that are only protected in relation to their sale, reflecting the fact that the site disposal will not include any proposals relating to the sale of species; and,
- Species afforded protection under the Flora (Protection) Order 2022 (S.I.No.235/2022).

Other notable habitat/species categories

- Biodiversity Action Plan ('BAP') species: those targeted in local or national BAPs as being of particular conservation concern (priority species).
- Red and Amber List birds: those listed as being of high or medium conservation concern as listed by Birdwatch Ireland on the Birds of Conservation Concern in Ireland 2020-2026 [4].
- Other Irish Red Data Book species [5] and Nationally/Regionally/Locally Notable species where appropriate.

1.5.2 National Planning Context

A study of biodiversity-related planning policy at the national and local level has been undertaken for the Site and locality to highlight any potential conflicts with the relevant legislation and guidance documents as outlined in Box 1.

1.5.2.1 Planning Policy Statement

Project Ireland 2040 was launched by the Government in February 2018 [6] and incorporates two policy documents - the National Planning Framework ('NPF') and the National Development Plan ('NDP').

Following a decision of the Government in June 2023, the preparation of a revised NPF [7] commenced to take account of changes that have occurred since it was originally published in 2018. Public consultation took place from 10th July 2024 to 12th September 2024, following which the Government agreed to progress and publish a draft schedule of amendments to the 'First Revision' to the NPF in November 2024. On 8th April 2025, the Government approved the revised NPF following the conclusion of environmental assessments, including a Strategic Environmental Assessment ('SEA'), a Natura Impact Statement ('NIS'), an Appropriate Assessment ('AA') Determination and a Strategic Flood Risk Assessment ('SFRA'). Both

houses of the Oireachtas, the Seanad and the Dáil, approved this document as of 30th April 2025. The revised NPF is a direct replacement of the NPF is detailed further below.

Revised National Planning Framework (April 2025)

Objectives under the 'Strategic Planning for Biodiversity' section of this draft framework include the following:

National Policy Objective 84:

'In line with the National Biodiversity Action Plan and European Union Nature Restoration Law, and best available scientific information, regional and local planning authorities shall support the preparation and implementation of the National Restoration Plan.'

National Policy Objective 85:

'In line with the National Biodiversity Action Plan; the conservation, enhancement, mitigation and restoration of biodiversity is to be supported by:

- *Integrating policies and objectives for the protection and restoration of biodiversity, including the principles of the mitigation hierarchy of - avoid, minimise, restore and offset - of potential biodiversity impacts, in statutory land-use plan.*
- *Retention of existing habitats which are currently important for maintaining biodiversity (at local/regional/national/international levels), in the first instance, is preferable to replacement/restoration of habitats, in the interests of ensuring continuity of habitat provision and reduction of associated risks and costs.'*

National Policy Objective 86:

'In line with the objectives of the National Biodiversity Action Plan, planning authorities should seek to address no net loss of biodiversity within their plan making functions.'

National Policy Objective 87:

'Enhance the conservation status and improve the management of protected areas and protected species by:

- *Implementing relevant EU Directives to protect Ireland's environment and wildlife and support the objectives of the National Biodiversity Action Plan;*
- *Developing and utilising licensing and consent systems to facilitate sustainable activities within Natura 2000 sites;*
- *Continued research, survey programmes and monitoring of habitats and species.'*

National Policy Objective 88:

Facilitate the protection and restoration of biodiversity [including in European sites and the habitats and species for which they are selected] through the preparation of national guidance in relation to Planning and Biodiversity to:

- *Plan and manage for integration of biodiversity protection and restoration in future planning and development;*
- *Ensure a consistent and strategic approach to biodiversity protection and restoration across planning authorities and administrative boundaries, and*
- *Support the implementation of the National Biodiversity Action Plan (2023-2030) and the forthcoming National Restoration Plan.*

The National Development Plan (2021-2030)

The National Planning Framework and the National Development Plan will continue to align and form a single vision for Ireland under Project Ireland 2040.

The National Development Plan also lists the following items as strategic investment priorities in relation to National Heritage and biodiversity:

- *'Implementation of the current and future National Biodiversity Action Plan, delivery of National Parks and Wildlife Service Farm Plans and LIFE projects, enhanced wildlife crime investigation capacity and identification and delivery conservation measures at designated sites as identified in the Prioritised Action Framework for Ireland (2021-2027).'*
- *'Investment in nature and biodiversity, to improve the quality of natural habitats and support native plants and animals, including those under threat, and to bolster broader societal wellness and sustainability goals.'*
- *'Future-proofing obligations under the Biodiversity Strategy 2030, including potential national designations and the preparation and delivery of a National Restoration Plan.'*

1.5.2.2 Ireland's 4th National Biodiversity Action Plan 2023 - 2030

The 4th National Biodiversity Action Plan ('NBAP') 2023-2030 [8] sets out a number of strategic objectives, and it lays out a clear framework for Ireland's approach to biodiversity and demonstrates Ireland's commitment to protect our biodiversity and also halt decline [8].

'This National Biodiversity Action Plan 2023-2030 builds upon the achievements of the previous Plan. It will continue to implement actions within the framework of five strategic objectives, while addressing new and emerging issues.' The five objectives are as follows:

- **Objective 1**: Adopt a Whole of Government, Whole of Society Approach to Biodiversity;
- **Objective 2**: Meet Urgent Conservation and Restoration Needs;
- **Objective 3**: Secure Nature's Contribution to People;
- **Objective 4**: Enhance the Evidence Base for Action on Biodiversity; and,
- **Objective 5**: Strengthen Ireland's Contribution to International Biodiversity Initiatives.

The following Objective Outcomes were considered relevant to the Proposed Development and this report:

Outcome 2A:

'The protection of existing designated areas and protected species is strengthened and conservation and restoration within the existing protected area network are enhanced.'

Outcome 2D:

'Biodiversity and ecosystem services in the marine and freshwater environment are conserved and restored.'

Outcome 2H:

'Invasive alien species ('IAS') are controlled and managed on an all-island basis to reduce the harmful impact they have on biodiversity and measures are undertaken to tackle the introduction and spread of new IAS to the environment.'

Outcome 3B:

'The role of biodiversity in supporting wellbeing, livelihoods, enterprise and employment is recognised and enhanced.'

Outcome 3C*:*

'Planning and development will facilitate and secure biodiversity's contributions to people.'

1.5.3 Regional Planning Context

The Regional Spatial and Economic Strategy for the Southern Region ('RSES') 2020-2032 [9] recognises the need to conserve and enhance biodiversity through coordinated spatial planning between the counties within the southern region of Ireland. This strategy came into effect on 31st January 2020.

Under the biodiversity section, Regional Policy Objective 126 states that the Southern Regional Assembly will:

a) *'Promote biodiversity protection and habitat connectivity both within protected areas and in the landscape through promoting the integration of green infrastructure and ecosystem services, including landscape, heritage, biodiversity and management of invasive and alien species in the preparation of statutory and non-statutory land-use plans. The RSES recognises the role of the National Biodiversity Data Centre through its Citizen Science initiatives;*

b) *Support local authorities acting together with relevant stakeholders in implementing measures designed to identify, conserve and enhance the biodiversity of the Region; seek and support the implementation of the All-Ireland Pollinator Plan, National Biodiversity Action Plan and National Raised Bog SAC Management Plan;*

c) *Local Authorities are required to carry out required screening of proposed projects and any draft land-use plan or amendment/ variation to any such plan for any potential ecological impact on areas designated or proposed for inclusion as Natura 2000/ European Sites and shall decide if an Appropriate Assessment is necessary, of the potential impacts of the project or plan on the conservation objectives of any Natura 2000/European Site;*

d) *Support local authorities to carry out, monitor and review biodiversity plans throughout the Region. Planning authorities should set objectives in their land use plans to implement and monitor the actions as set out in the National and County Biodiversity Plans, as the conservation of biodiversity is an essential component of sustainable development. Local authorities should address the issue of fisheries protection and invasive introduced species and encourage the use of native species for landscape planting in rural areas, in the review of their biodiversity plans; and,*

e) *Support local authorities to work with all stakeholders to conserve, manage and where possible enhance the Regions natural heritage including all habitats, species, landscapes and geological heritage of conservation interest and to promote increased understanding and awareness of the natural heritage of the Region.'*

The RSES also contains policies relating to invasive species. Regional Policy Objective 127 states that it is an objective to:

a) *'Support coordination between the Region's local authorities in terms of their measures to survey invasive species in their counties and coordinate regional responses;*

b) *Encourage greater awareness of potential threats caused by invasive species and how they are spread; and,*

c) *Carefully consider and implement the management of invasive species where there is a corridor, such as hydrological connections to European Sites in order to prevent the spread* of invasive to sensitive sites.'

1.5.4 Local Planning Context

1.5.4.1 Cork City Development Plan 2022-2028

The Cork City Development Plan 2022-2028 ('CCDP') contains a number of policies and objectives that relate directly to the protection of biodiversity and natural heritage in the context of proposed developments [10]. These include objectives that involve compliance with the EU Habitats Directives and the Irish Wildlife Acts and that ensure the protection of ecological corridors and habitats.

Strategic Objective 5 – Green and Blue Infrastructure, Open Space and Biodiversity

'Manage and enhance green and blue infrastructure, to protect and promote biodiversity, ecology and habitat connectivity, protect natural areas, enhance landscape character and maritime heritage, and manage access to green and blue spaces that provide recreation, amenity and natural areas.'

Cork City's Green and Blue Infrastructure Objectives – Biodiversity

'The biodiversity of Cork City encompasses all the natural elements in the city and their interaction with each other. New development can create biodiversity-rich green and blue infrastructure by retaining and enhancing existing trees, plants and providing new wildlife corridors, buffer zones, 'stepping stones' or green bridges. This creates connectivity for flora and fauna species and natural movement and migration through the green and blue infrastructure network. The 'Biodiversity and the Natural Environment' section below sets out in more detail how this important consideration will be addressed in Cork City.'

Strategic Biodiversity Goals

1. '*To protect and enhance designated areas of natural heritage and protected species and to adhere to all relevant biodiversity legislation;*
2. *To ensure that sites and species of natural heritage and biodiversity importance in non-designated areas are identified, protected and managed appropriately;*
3. *To create green and blue infrastructure network thereby creating ecological corridors linking areas of biodiversity importance;*
4. *To implement the recommendations of the GBI study and integrate green and blue infrastructure solutions into new developments;*
5. *To ensure all citizens are within 5km of a green and ideally wild space;*
6. *To protect and maintain the integrity and maximise rivers and watercourses within the city;*
7. *To protect and enhance the city's trees and urban woodlands; and,*
8. *To promote best practice guidelines for management, control and eradication of invasive alien species.'*

Objective 6.1 – Cork City Green & Blue Infrastructure Study and Strategy

'To manage, protect and enhance the Green and Blue Infrastructure assets of Cork City in line with the Cork City Green and Blue Infrastructure Strategy set out in the Development Plan, and to support the actions, opportunities and projects identified in the Cork City Green and Blue Infrastructure Study 2021.'

Objective 6.5 – Trees & Urban Woodland

d) 'To support retaining existing trees and the planting of new trees as part of new developments subject to care on the species of tree and the siting and management of the trees to avoid conflict with transport safety and residential amenity in particular;

e) To promote the planting of pollinator friendly native deciduous trees and mixed forestry to benefit biodiversity.'

Objective 6.9 – Landscape

c) 'Landscape will be an important factor in all development proposals, ensuring that a proactive view of development is undertaken while maintaining respect for the environment and heritage generally in line with the principle of sustainability;

d) To ensure that new development meets the highest standards of placemaking, siting and design;

e) To discourage proposals necessitating the removal of extensive amounts of trees, hedgerows and historic walls or other distinctive boundary treatments.'

Objective 6.22 – Natural Heritage and Biodiversity

a) 'To protect, promote and enhance Cork City's natural heritage and biodiversity;

b) To support the implementation of the National Biodiversity Plan and the All-Ireland Pollinator Plan and successor publications in Cork City;

c) To support and implement the biodiversity actions from the Cork City Heritage and Biodiversity Plan (2021-2026) in partnership with all relevant stakeholders;

e) Cork City Council will work with communities to enhance existing, and the delivery of new, biodiversity-rich areas throughout the City including individual buildings, streets, public and private spaces by supporting the provision of green roofs and walls, rain gardens, biodiversity-rich parklets, rainwater harvesting, natural banks and naturalised SUDS;

f) Cork City Council will seek, where appropriate, to enhance the linear habitat connectivity, including the interconnection and enhancement of:

- *Woodlands, gardens, open spaces, fields and hedgerows.*
- *Coastal habitats, river catchments, lakes, streams, ponds.*
- *Aquatic, marginal and bank side habitats.*
- *Upstream of mapped flood zones.*
- *City transport routes.'*

Objective 6.23 – Designated Sites and Protected Species

'To protect and enhance designated sites and areas of natural heritage and biodiversity and the habitats, flora and fauna for which it is designated, and to protect, enhance and conserve designated species.'

Objective 6.25 – Non-designated Areas of Biodiversity Importance

'Cork City Council will seek to map the City's ecological networks and corridors of local biodiversity value outside of designated areas, and to work with local stakeholders in supporting the effective management of features which are important for wild flora and fauna and habitats.'

Objective 6.26 – Alien Invasive Species

'To support the implementation of measures to control and prevent the introduction, establishment or spread of ecologically damaging alien invasive species (e.g. Japanese Knotweed and Himalayan Balsam).'

1.5.4.2 Cork City Heritage and Biodiversity Plan 2021-2026

The Cork City Heritage and Biodiversity Plan 2021-2026 [11] contains a number of objectives and actions that relate to the protection of biodiversity and natural heritage in the context of proposed developments. The policies and objectives of the Cork City Heritage and Biodiversity Plan with regard to the natural environment that are relevant to the Proposed Development are as follows [11]:

Theme 1:

'Promote best practice and encourage heritage and biodiversity conservation and management.'

Objective 1.1

'Implement Cork City Council's commitments to the All-Ireland Pollinator Plan'.

Action 1.3

'Incorporate planning conditions to encourage pollinator friendly and native species plating in new developments.'

Objective 1.6

'Manage and Control Alien Invasive Species in Cork City'.

Action 1.7

'Incorporate planning conditions to manage and control alien invasive species in developments as appropriate.'

Action 1.10

'Protect and promote Designated Habitats & Species'.

Action 1.10

'Identify buffer areas around the designated European sites within Cork City Council area and work with NPWS to protect and enhance these areas.'

Objective 1.15

'Implement relevant actions from the Climate Adaptation Plan (2019-2024)'.

Action 1.15

'Work with various Cork City Council Dept to implement relevant actions from the Climate Adaptation Strategy 2019-2024 especially with respect to Action 9.3 (b): In the development of policy and the planning and provision of green infrastructure, ensure appropriate. Buffer zones are maintained and protected to avoid potential impacts on designated habitats or protected species and habitats and to protect and enhance wider biodiversity. Objective 13 To protect, enhance and restore the natural environment and promote biodiversity.'

Objective 1.26

'Ensure Heritage and Biodiversity is placed at the heart of the activities of Cork City Council'.

Action 1.26

'Liaise with all departments within Cork City Council to ensure that the care and management of heritage is incorporated into the work of all Dept of the City Council and new procedures are put in place to ensure communication between Dept'.

Action 1.27

'Liaise with all departments within Cork City Council to ensure that the care and management of heritage is incorporated into planning applications, Development and Local Area plans & policies, and projects such as Housing, Roads and Parks as appropriate'.

2 METHODOLOGY

2.1 Assessment Methodology for Prediction of Effects

Desk study data collection and field survey work were carried out as part of the EcIA process, with the objective of ensuring that sufficient data was collected to identify the designated sites, habitats and species that could be significantly affected by the Proposed Development. This information then informed the assessment of effects on the potential biodiversity receptors.

The area for which biological data was collected was based on an assessment of the ecological Zone of Influence ('ZoI') of the Proposed Development. The ecological ZoI is the area that could be realistically affected by the Proposed Development, and within which there is the potential for 'significant' ecological effects. All SPAs and SACs within 15km have been considered to assess their ecological pathways and functional links. As acknowledged in the OPR guidelines [12], in reality, few projects have a ZoI this large. However, the identification of European sites within 15km and NHAs and pNHAs within 5km has become widely accepted as the starting points for assessments. For this reason, all SPAs and SACs within 15km and NHAs and pNHAs within 5km have been identified for consideration.

Desk study data were collected for these buffers (See Section 4.1), whilst field surveys focused on the lands within and adjacent to the Site (See Section 4.2). These distances are used as the starting point for the assessment and are based on accepted best practice and professional expertise.

It should be noted that there was the potential for the ZoI to be redefined during the assessment process in response to new design or environmental information, and / or for the geographical extent of field surveys to be extended to cover a greater extent of the desk study area (e.g., if the desk study identified species occurring off-site that could be significantly affected by the Proposed Development). In the end, such an increase in the study area was not required for this assessment.

The next stage of the assessment was to determine which, if any, of the sites, habitats and species within the ZoI (referred to in this report as 'potential biodiversity receptors') had the potential to be 'significantly' affected by the Proposed Development (see Section 5). A high-level 'scoping' assessment was then undertaken (see Section 5.1) to differentiate the following:

- Effects that were sufficiently likely to be 'significant' as to merit more detailed assessment (referred to as 'screened in' effects); and,
- Effects could be assessed at a less detailed level as they were classified as likely to be 'not significant'.

The assessment of how the potential biodiversity receptors would likely be affected by the environmental changes associated with the Proposed Development was based not only on the results of the desk study and field surveys, but also on published information on the potential biodiversity receptors' status, distribution, sensitivity to these changes, biology and knowledge of ecological processes and functions, as appropriate.

2.2 Desk Study

A desk-based review of information sources was completed, which included the following sources of information:

- Review of aerial maps of the Site and surrounding area;
- The National Parks and Wildlife Service ('NPWS') website was consulted with regard to the most up-to-date details on conservation objectives for the European Designated sites relevant to this assessment [13];

- The CCC Planning Portal to obtain details about existing / proposed developments in the vicinity of the Site [14];
- The Department of Housing, Local Government and Heritage's ('DHLGH') planning portal – the National Planning Application Database to obtain details about existing / proposed developments in the vicinity of the Site [15];
- The National Biodiversity Data Centre ('NBDC') website was consulted on 16th April 2026 with regard to species distributions [16]; and,
- The EPA Maps website was consulted to obtain details about watercourses in the vicinity of the Site [1].

2.3 Field Survey

2.3.1 Habitat Survey

An initial Site walkover was undertaken as part of the previous application on 27th August 2021.

An updated habitat walkover was undertaken on 25th September 2025 and on 9th October 2025 using the Heritage Council's '*Guide to Habitats in Ireland'* [17] and conducted in line with the Heritage Council's '*Best Practice Guidance for Habitat Survey & Mapping'* [18]. This is the standard habitat classification system used in Ireland and includes both a desk-based and field-based assessment.

The assessments were extended to also identify the potential for these habitats to support other features of nature conservation importance, such as species afforded legal protection under either Irish or European legislation.

2.3.2 Protected / Notable Species

The methodologies used to establish the presence / potential presence of faunal species are summarised below. These relate to those species / biological taxa that the desk study and habitat types present indicated could occur on-site.

2.3.2.1 Flora

The Site was assessed for the presence of notable / protected flora species in accordance with the following:

- Flora (Protection) Order 2022 (S.I. No. 235/2022); and,
- Ireland Red List No. 10: Vascular Plants [19].

2.3.2.2 Amphibians

The Site was assessed for its potential to provide sheltering, foraging and breeding habitat for amphibians in line with the National Roads Authority ('NRA'), now Transport Infrastructure Ireland ('TII'), '*Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes,*' [20]. These included waterbodies suitable for egg-laying and terrestrial habitats comprising open areas with mixed-height vegetation, such as heathland, rough grassland, open scrub or waterbody margins. Suitable, well-drained and frost-free areas are needed to enable amphibians to survive the winter.

2.3.2.3 Badgers

The survey aimed to identify and examine areas where badgers might occur by noting any evidence of badger activity. This included:

- Mammal paths;

- Badger hairs caught in sett entrances / fences / vegetation;
- Paw prints;
- Evidence of foraging (usually in the form of 'snuffle holes');
- Badger Scat (isolated badger droppings);
- Latrines (shallow pits/holes occurring together comprised of exposed badger droppings); and,
- Badger setts.

A mammal path was assumed to be used by badgers if the character of the path (in terms of size) was appropriate and / or if any other signs were in close vicinity (e.g., a badger sett).

The field survey of the Site was conducted in line with the following relevant guidance for badger:

- Scottish Badgers, '*Surveying for Badgers: Good Practice Guidelines,*' [21];
- The Mammal Society, 'Surveying Badgers,' [22]; and,
- NRA, now TII, '*Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes*,' [20].

2.3.2.4 Bats

Full details of the bat survey methodology and results are provided in Appendix A – Bat Report. Note, the bat report contains only the results of the surveys undertaken in 2025. The results of the bat surveys undertaken in 2026, as well as the methodology associated with the SM4 deployment (undertaken in 2026 only), are included in the current document.

Daytime Bat Walkover

A Daytime Bat Walkover ('DBW') was carried out on 25th September 2025 during the habitat survey to assess the suitability of the habitats on-site to support roosting, foraging, and commuting bats. The assessment was undertaken in line with Table 2-1.

Table 2-1: Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement [24].

Potential Suitability	Description of Roosting habitats in structures	Description of Potential flightpaths and foraging habitats
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevice/suitable shelter at all ground/underground levels).	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines, or generate/shelter insect populations available to foraging bats).
Negligible[1]	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on site likely to be used as flightpaths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	A structure with one or more potential roost sites that could be used by individual bats	Habitat that could be used by small numbers of bats as flightpaths such as a gappy hedgerow or

[1] Negligible is defined as 'so small or unimportant as to be not worth considering, insignificant'. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute).

Potential Suitability	Description of Roosting habitats in structures	Description of Potential flightpaths and foraging habitats
	opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[2] and/or suitable surrounding habitat to be used regularly or by larger numbers of bats (i.e., unlikely to be suitable for maternity and not a classic cool/stable hibernation site but could be used by individual hibernating bats[3]).	unvegetated stream, but isolated, i.e., not very well connected to the surrounding landscape by another habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats, such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flightpaths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats, such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. These structures have the potential to support high conservation status roost, e.g. maternity or classic cool/stable hibernation site.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats, such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats, such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

Ground-Level Tree Assessment

A ground-level tree assessment ('GLTA') was carried out on the trees on-site during the habitat survey on 25th September 2025. The purpose of the GLTA was to assess the trees for the presence of Potential Roost Features ('PRFs') which could be utilised by roosting bats. Examples of PRF include the following:

- Presence of natural cavities, splits, cracks, loose bark and rot holes in the trunk or boughs of the tree;
- Presence of dense and woody ivy (*Hedera helix*) growth that could be used by bats for roosting;
- Evidence of bat droppings, which may also be seen as a black streak beneath holes, cracks, branches, etc;
- Presence of smooth edges with dark marks and urine stains at potential entrances to roosts;

[2] For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

[3] Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments [43] (and [42]).Common pipistrelle swarming has been observed in the UK [44] (and [45]) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland [46]. This phenomenon requires some research in the UK, but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.

- Adjoining habitat which are likely to be important to bats, including the river corridor, and hedge / treelines within the survey area that offer a variety of potential foraging, roosting and commuting opportunities for bats; and,
- Adjoining potential roosts / known roosts identified. This raises the likelihood of a tree being of benefit, as bats may move roosts if the roost becomes too hot or cold during roosting, and a nearby alternative roost is highly desirable.

Proximity to the road was also taken into account when determining the suitability of PRFs, as traffic noise can negatively affect bat activity at over 20m away from noise sources [23].

All trees on the Site were assessed in line with Table 2-2 below (Table 4.2 in BCT Guidance [24]):

Table 2-2: Guidelines for assessing the suitability of trees on proposed development sites for bats, to be applied using professional judgement

Suitability	Description
NONE	Either no PRFs in the tree or highly unlikely to be any
FAR	Further assessment required to establish if PRFs are present in the tree
PRF	A tree with at least one PRF present

The potential suitability of any PRFs identified were then categorised as per Table 2-3 below (Table 6.2 in BCT guidance [24]).

Table 2-3: Guidelines for Categorising the Potential Suitability of PRFs

PRF Suitability	Description
PRF-I	PRF is only suitable for individual bats or very small numbers of bats, either due to size or lack of suitable surrounding habitats.
PRF-M	PRF is suitable for multiple bats and may, therefore, be used by a maternity colony.

Assessment criteria for evaluating the on-site habitats for foraging and commuting bats and the on-site structure for roosting bats were carried out in line with *'Bat Surveys for professional Ecologists: Good Practice Guidelines – 4th edn.'* [24].

Dusk Emergence Surveys

Given the presence of mature trees which may support roosting bats, dusk emergence surveys were conducted on 15th and 23rd September 2025, and on 14th May 2026, respectively. Surveyors were sited at two vantage points ('VP') locations: VP1 and VP2 (see Appendix A), chosen to allow visual coverage of suitable trees. The dusk emergence surveys began 15 minutes before sunset and ended 90 minutes after sunset.

Nighttime Bat Walkover ('NBW')

NBW surveys were conducted on 15th and 23rd September 2025 and on 14th May 2026, respectively. NBW surveys involved a pair of surveyors walking a predetermined transect route around the Site while noting bat activity and recording bat calls via bat detection equipment for later analysis. The NBW started at sunset and lasted for two hours. See Appendix A for NBW routes.

Table 2-4: Metadata associated with 2026 Dusk Emergence and NBW surveys

Date	Survey	Sunset time	Survey times	Weather	Temp end and start (oc)
14 May	Dusk Emergence Survey and NBW Survey	21:24	Dusk Emergence: 21:09 – 22:54 NBW: 21:24 – 23:24	Partly sunny, dry	10 & 9

Static Bat Detector Deployment

Two SM4 static bat detectors were deployed at suitable locations at the eastern (Location 1) and northern (Location 2) boundaries of the Site, respectively, on the following dates:

- Deployment 1: 21 April 2026;
- Deployment 2: 22 May 2026; and,
- Deployment 3: 18 June 2026.

Following deployment, the detectors were left in situ for at least five suitable nights to record bat activity. The purpose of static detector deployment is to provide a snapshot sampling of bat activity across the Site over several consecutive nights by recording bat call "passes". The bat passes can be analysed using specialist software (Kaleidoscope) in order to generate an estimate of overall bat activity in terms of species presence and foraging/commuting activity.

Please see Table 2-5 for details on weather conditions during the static detector deployment during Visit 1 (20th April 2026). Sound files from Deployments 2 and 3 have not yet been analysed.

Table 2-5: Metadata associated with 2026 SM4 Detector Deployment Visit 1 (20 April 2026)

Survey Period	Night Number	Date	Average Overnight Rain* (mm/hr)	Average Overnight Wind‡ (Kilometres per hour)	Average overnight Temp (^{0}C)ᴬ	Condition suitability
April	1	21	0	33	8.5	Unsuitable (strong wind all night)
	2	22	0	24	9.7	Unsuitable (strong wind all night)
	3	23	0	24	10.5	Unsuitable due to heavy wind all night
	4	24	0.12	14	9.8	Suitable
	5	25	0	9	10.6	Suitable
	6	26	0	18	9.9	Suitable
	7	27	0	10	10.2	Suitable
May	1	22	0	12	11	Suitable
	2	23	0.1	7	10	Suitable

Survey Period	Night Number	Date	Average Overnight Rain* (mm/hr)	Average Overnight Wind‡ (Kilometres per hour)	Average overnight Temp (^{0}C)⍋	Condition suitability
	3	24	0.1	6	12	Suitable
	4	25	0	7	15	Suitable
	5	26	0	15	16	Suitable
June	1	18	1.5	20	15	Unsuitable (consistent rain)
	2	19	0	11	11	Suitable
	3	20	0	5	12	Suitable
	4	21	0	7	14	Suitable
	5	22	0	9	18	Suitable
	6	23	0	11	16	Suitable
Notes	**All weather data is from Met Éireann and averaged over an eight-hour night.** *** Averaged over an eight-hour night. Bats will forage during dry spells between rain showers.** **‡ Strong winds can interrupt bat activity. Consistent winds above 20km/h can disrupt bat foraging and commuting activity.** **⍋ Typically, temperatures above 10 °C are considered suitable for bat activity.**					

2.3.2.5 Birds

The Site was assessed for its suitability to support important assemblages of rare or notable birds, whether breeding birds or wintering birds. This assessment aimed to identify and examine areas where wintering and breeding birds might occur, and note any activity and potential nesting habitats while on the Site.

A breeding bird transect survey was undertaken on 17th April, 20th May and 5th June 2026 by a suitably qualified MOR Environmental ecologist (with a further two surveys proposed for July 2026). The breeding bird survey was conducted in line with the methodology described in:

- British Trust of Ornithology ('BTO') – *A Field Guide to Monitoring Nests* [25]; and,
- Common Bird Census in Bird Monitoring Methods [26].

In order to establish whether any breeding bird species were utilising the habitats on-site or the airspace above the Site, the Common Bird Census ('CBC') methodology was implemented. The transect survey was designed to cover all accessible habitat within and adjacent to the Site and was undertaken by a suitably qualified and experienced MOR Environmental ecologist.

All birds were recorded through sight and sound. Optical equipment, including binoculars, was used to minimise disturbance to potentially breeding birds. Suitable vegetation on-site was examined for the presence of nests. During the survey, the behavioural activity of the recorded birds was noted using the BTO breeding status codes [2]. Birds that displayed non-territorial behaviours were recorded as well (i.e. birds that were flying over the Site, birds that were foraging and not calling, birds that were loafing).

Therefore, birds were classified as non-breeding, possibly breeding and confirmed breeding based on the behaviours exhibited. The criteria for each classification are described below:

- Non-breeding – Birds that were flying over the Site, birds that were foraging and not calling, birds that were loafing;
- Possible Breeding – Birds observed in suitable nesting habitat and displaying either territorial and / or courtship behaviours, nest building behaviours or observed visiting a possible nest; and,
- Confirmed Breeding – Birds observed either on nest or carrying faecal sac or food, sighting of a nest with eggs / chicks, used nests, eggshells or recently fledged young.

The metadata for the breeding bird survey are described in Table 2-6.

Table 2-6: Bird Survey Metadata

Date	Temperature (°C) (Start – End)	Wind (Beaufort Wind Scale)	Rain	Cloud Cover
17/04/2026	9-12°C	3-4	No rain	0-33%
20/05/2026	10-11°C	3-4	No rain	0-33%
05/06/2026	10-12°C	2-3	No rain	22%-66%

2.3.2.6 Hedgehogs and Pygmy Shrews

The habitats within and adjacent to the Site were assessed for their suitability to support hedgehogs (*Erinaceus europaeus)* and pygmy shrews (*Sorex minutus)* in line with the NRA, now TII, '*Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes*,' [20].

2.3.2.7 Invasive species

The Site was visually assessed for the presence of any noxious / invasive species that are regulated under the European Union (Invasive Alien Species) Regulations 2024 (S.I. No. 374/2024) [27], such as Japanese knotweed (*Reynoutria japonica*) and Himalayan balsam (*Impatiens glandulifera*).

The Site was also assessed for the presence of non-regulated invasive species that have the potential to impact local biodiversity.

2.3.2.8 Other Species

In addition, an assessment was carried out of the potential for the Site to support any other species considered to be of value for biodiversity, including those that were identified as occurring locally based on the findings of the desktop study and professional judgment.

2.3.3 Survey Limitations

There was limited access to the scrub area in the northeast section of the Site. Access to part of the tree line on the northern boundary was also impeded by a steep dip in front of which there was inaccessible scrub habitat. However, given the nature and size of the habitats on-site and its location within an urban setting, it is not considered that this survey limitation will alter the findings of this assessment, and therefore, no further surveys are considered necessary as part of this EcIA.

2.4 Assessment Methodology

The current Guidelines for Ecological Impact Assessment in the UK and Ireland [28] recognise that an ecological assessment cannot consider in detail every individual species or habitat that may potentially be affected by a Proposed Development.

The EcIA process aims to identify those ecological receptors that could be significantly affected by the Proposed Development, i.e., where the effects on the receptor are of sufficient concern that they could influence the planning decision, or for which the development could result in the breach of relevant legislation.

The effects of the Proposed Development on these receptors are then assessed, taking into account the sensitive design measures (avoidance measures) and, where necessary, the mitigation measures incorporated as part of the Proposed Development. The scope of the EcIA is determined iteratively.

2.4.1 Significance Evaluation Methodology

As part of the high-level assessment reported in Section 4.1, the conclusion about whether effects are sufficiently likely to be 'significant' as to merit more detailed assessment is informed by a judgement about whether:

- The Site, habitat or species population is of sufficient quality or size that an effect upon it could be significant; and,
- The environmental changes associated with the development are such that there is the potential for a 'significant' effect to occur (i.e., for the integrity of a site or for the conservation status of a habitat area or species population to be affected).

If the answer to both of these questions is 'Yes', the relevant receptor would be subject to more detailed assessment, and the significance of effects would be evaluated based on the methodology that is outlined below.

2.4.1.1 Negative Effects

For biodiversity receptors, an effect is assessed as being 'significant' if the favourable conservation status of the specified biodiversity receptor is compromised by the Proposed Development. Conservation status is defined by the Chartered Institute of Ecology and Environmental Management ('CIEEM') (2016) as follows:

- "*Habitats – conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and its typical species within a given geographical area*;" and,
- "*Species – conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area*."

The decision on whether the conservation status of the specified biodiversity receptor has been compromised was made using professional judgement, drawing on the results of the assessment of how each receptor will be affected by the Proposed Development.

A similar procedure has been used for designated sites that could be affected by the Proposed Development, except that the focus is on the effects on the integrity of each site, defined as "*the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and / or the levels of populations of the species for which it was designated*."

2.4.1.2 Positive Effects

A positive effect is assessed as being 'significant' if development activities are predicted to cause:

- An improvement in the condition of a habitat / species population from unfavourable to favourable – condition data are only available for some European sites, but professional judgement and a review of available literature have been used to apply the same principle to habitats / species elsewhere; or,
- Partial or total restoration of a site's favourable condition.

If a species population, habitat or site is already in favourable condition, it is still possible for there to be a 'significant' positive effect. There is, however, no simple formula for determining when such effects are 'significant', given the complexities of assessing these types of effects. In such cases, decisions about significance have therefore been made on a case-by-case basis.

2.5 Identification of Potential Biodiversity Receptors

The assessment of the ecological ZoI of the Proposed Development concluded that the development would be likely to result in changes in the extent and / or condition of the existing land cover on the Site, with potential effects on habitats and species on the Site. There is also the potential for effects on any areas that adjoin the Site, where fauna might make use of the on-site land cover .

In summary, therefore, the ecological ZoI of the Proposed Development is defined as:

- The Site of the Proposed Development (fauna and flora); and,
- Habitats adjoining the Site (fauna).

In the case of designated sites, a precautionary approach has been taken and the search area extended to identify sites outside of the zone of ecological influence. This information was used to further inform the assessment process and to ensure that the on-site habitats are not of importance for either habitats or species for which these sites have been designated.

As a basis for determining which biodiversity receptors need to be assessed within the Zone of Influence of the development, CIEEM's guidelines on EcIA recommend that consideration be given to the biodiversity conservation value of the sites, habitats and species that occur within the zone (as appropriate). The guidelines also refer to the need to consider the legal status that is afforded to some species and habitats (refer to Box 1).

Legal status needs to be considered because all developments must comply with the requirements of the law. By implication, therefore, there cannot be significant effects as a result of non-compliance with the law. However, it should be noted that, notwithstanding legal requirements, there is the potential for some legally protected species to be significantly affected in relation to their biodiversity conservation value.

In relation to biodiversity conservation value, only those designated sites, habitat types and species that fall within one or more of the categories defined in Box 1 are of sufficient importance that they could be significantly affected by the Proposed Development.

Drawing upon the biological data assembled for the purposes of this EcIA (Section 4), the potential receptors in relation to the Proposed Development are discussed in Section 5.1.

3 DESCRIPTION OF THE PROPOSED DEVELOPMENT

3.1 Description of the Proposed Development

The Applicant intends to apply for permission for development at Old Fort Road in Ballincollig town centre. The development will consist of the following components:

- A Large Scale Residential Development ('LRD') located at Old Fort Road, Ballincollig, Cork, comprising the construction of 157 residential apartments (consisting of a mix of one and two bed units), in a development of three blocks ranging in height from two to six storeys;
- One childcare facility; and,
- All associated site development works, including footpaths, cycle lanes, car and cycle parking, drainage, bin stores, lighting, boundary treatment, landscaping / amenity areas, plant rooms and an ESB Substation. The provision of a new tabletop junction and access to the site will be provided along Old Fort Road.

Further details can be found in the Planning and Engineering reports prepared as part of the overall planning application. The drawing 25030-PL-100 Site Plan Ground Floor Plan is presented in Appendix B.

3.1.1 Drainage

The foul and storm drainage network for the Proposed Development will connect to existing services already on the Site.

Surface Water Drainage

There is an existing surface water drainage system on-site, which forms a part of the Ballincollig Town Centre development. The Site will therefore drain to the Ballincollig Town Centre main drainage. There is an existing 900DIA storm pipe which enters the site from the east and flows northwest and ultimately to its discharge point at the River Lee. This existing pipe will be diverted as it runs through apartment blocks B & C. The existing capacity of the storm pipe as it travels through the Site is 3556l/s, but immediately upstream of the Site, the gradient is ~1:350 with a capacity of 1061l/s. The diverted pipe has a decreased capacity from 3556l/s due to a longer run being required to avoid the apartment blocks and existing foul pipe. The main run of the diverted pipe slopes at 1:63 and has a capacity of 2513l/s, which is larger than the upstream pipe and will not have a reduction to the capacity of the overall scheme. An existing way leave is present for the 900DIA pipe, and a 10m way leave is present for the diverted run of pipe.

Refer to JODA Engineering Consultants Drawing 3866-JODA-02-ZZ-DR-C-2001 (Storm Layout) for further details.

Foul Water Drainage

There is an existing foul drainage system at the Site. The existing foul drainage system runs along the eastern boundary (225mm) and along a portion of the northern boundary (300mm) from east to west. It is proposed to add a series of foul manholes on the Site, adjacent to each housing block. This proposed drainage system will run south to north and drain into the existing foul drainage network along the northern boundary.

There is an existing 225mm wastewater gravity sewer located at the southeast corner of the Site, which flows north to an existing manhole within the northern site boundary. The flow direction is west from the existing manhole towards the Ballincollig Wastewater Treatment Plant ('WWTP'), where the discharge point is. There is an existing way to leave on the west-flowing pipe, which will be retained by Uisce Éireann.

Uisce Éireann has issued a Confirmation of Feasibility (CDS25007197) regarding the capacity of the existing infrastructure, a copy of which is included in Appendix 1 of the JODA Engineers Report.

Details on the Drainage Layout can be found in the JODA Engineering Services Report.

3.1.2 Proposed Watermain

The water supply to this development will be taken from an existing 250mm internal diameter HDPE pipe running along the road to the south of the Site, supplied from the Inniscarra water supply reservoir. A 150mm watermain is to connect to the existing 250mm watermain in accordance with the Irish Water Code of Practice for Water Infrastructure and the Irish Water 5Infrastructure Standards.

Uisce Éireann has issued a Confirmation of Feasibility (CDS25007197) statement for the Proposed Development. Refer to Appendix 2 of the JODA Engineers Report

3.2 Site Access

The Site will be accessed via an existing entrance on the L2263 / Old Fort Road.

3.3 Landscaping

A comprehensive Landscape Design Pack has been prepared by Brady Shipman Martin detailing the landscape design strategy and design principles for the Proposed Development. This pack includes the following documents and drawings:

- Tree Survey;
- Tree Survey and Tree Protection Measures;
- Landscape Plan;
- Landscape Sections;
- Boundary Treatment;
- Planting Schedule, Sustainable Drainage Systems ('SuDS'); and,
- Playground details.

Further details on the proposed landscaping can be found in Section 5.4 and within the above-listed documents and drawings prepared by Brady Shipman Martin and submitted as part of the planning application.

3.4 Construction Procedure

During the Construction Phase, the methods of working will comply with all relevant legislation and best practice guidelines to reduce the potential for adverse environmental effects of the works. Although Construction Phase adverse effects are generally of a short-term duration and are localised in nature, the adverse effects will be reduced as far as practicable through compliance with current construction industry guidelines.

A Construction Environmental Management Plan ('CEMP') has been prepared by JODA Engineering Consultants. The following guidance is referenced in the CEMP and will be referred to and will be followed during the Construction Phase of the Proposed Development to prevent water pollution that may occur within the area:

- C532 – Control of Water Pollution from Construction Sites. Guidance for Consultants and Contractors [29];
- C741- Environmental Good Practice on Site (4th edition) [30];

A construction compound and site offices will be set up at the entrance of the Site.

Working hours will generally be restricted to between 08:00 – 18:00 hours Monday to Friday inclusive and between 08:00 – 14:00 hours on Saturdays. Construction work will not be permitted on Sundays, public holidays or at night-time except where safety concerns necessitate it or if agreed in advance with the Planning Authority.

3.5 Monitoring Works

An Ecological Clerk of Works ('ECoW') will inspect the Site in advance of works commencing and will undertake inspections as required to ensure that the Construction Phase is completed in line with the mitigation measures detailed within this EcIA and the plans submitted in support of this planning application.

4 STUDY RESULTS

4.1 Desk Study

Prior to conducting any field surveys, a desk-based review of information sources was completed. This baseline information provided a valuable insight into the types of flora and fauna that may occur on-site and allowed for the identification of features / habitats located off-site that may require further assessment.

4.1.1 European Sites

In accordance with the European Commission Methodological Guidance [31] and Objective 6.23 of the CCDP [10], a list of European sites that can be potentially affected by the Proposed Development has been compiled. Guidance for Planning Authorities prepared by the Department of Environment, Heritage and Local Government [32] states that defining the likely zone of impact for the screening and the approach used will depend on the nature, size, location and the likely significant effects of the project. The key variables determining whether or not a particular European Designated site is likely to be negatively affected by a project are:

- The physical distance from the project to the European Designated site;
- The presence of impact pathways;
- The sensitivities of the ecological receptors; and,
- The potential for in-combination effects.

There is one European Designated site located within 15km of the Site – this is identified in Figure 4-1 and Table 4-1.

Figure 4-1: European Sites within 15km of the Site

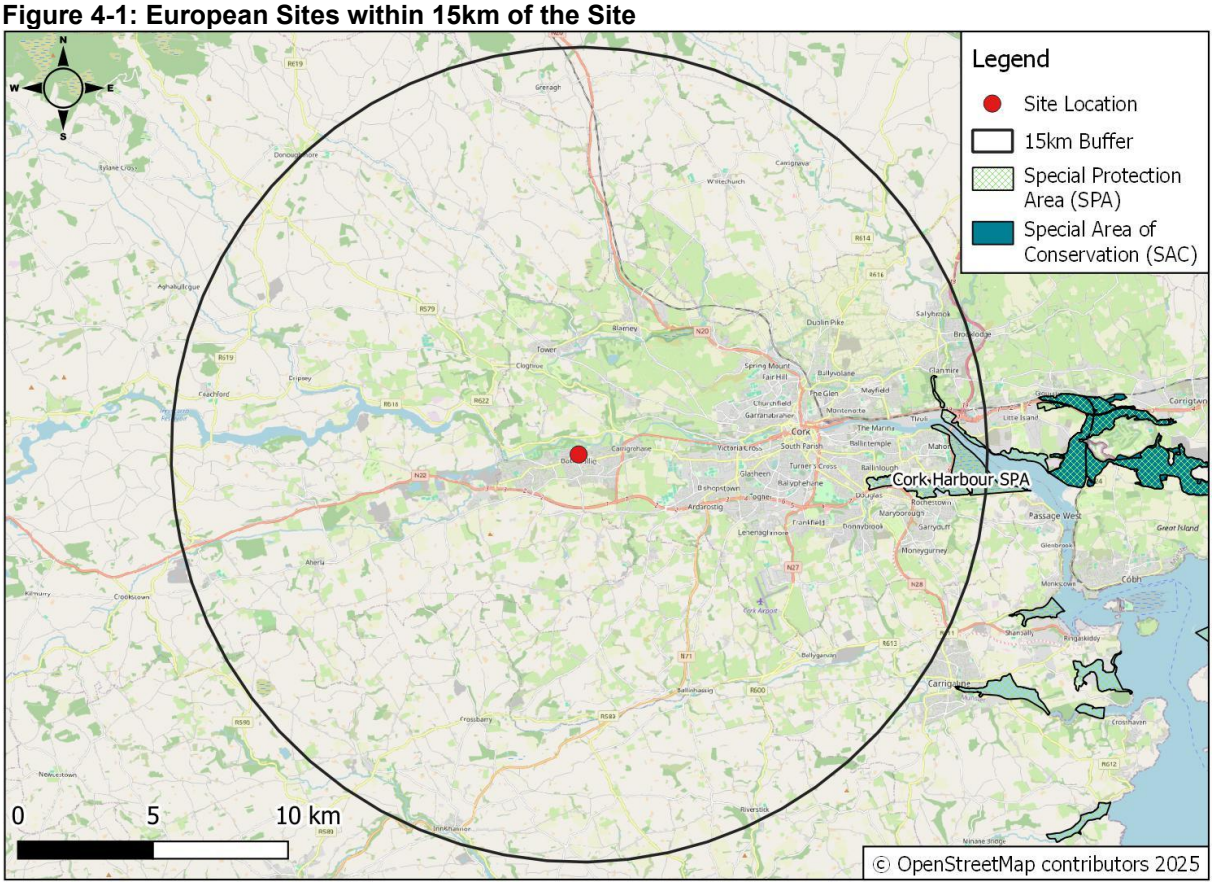


Table 4-1: European Sites within 15km of the Site.

Site Name	Code	Distance (km)	Direction from the Site
Special Protection Area ('SPA')			
Cork Harbour SPA	004030	Ca. 10.6km	East

4.1.2 Nationally Designated Sites

Nationally designated sites within 5km of the Site were investigated as per Objective 6.25 of the CCDP [10].

No Natural Heritage Areas ('NHA') are located within 5km of the Site. Six Proposed Natural Heritage Areas ('pNHA') are located within 5km of the site. Refer to Table 4-2 for details and Figure 4-2 for context.

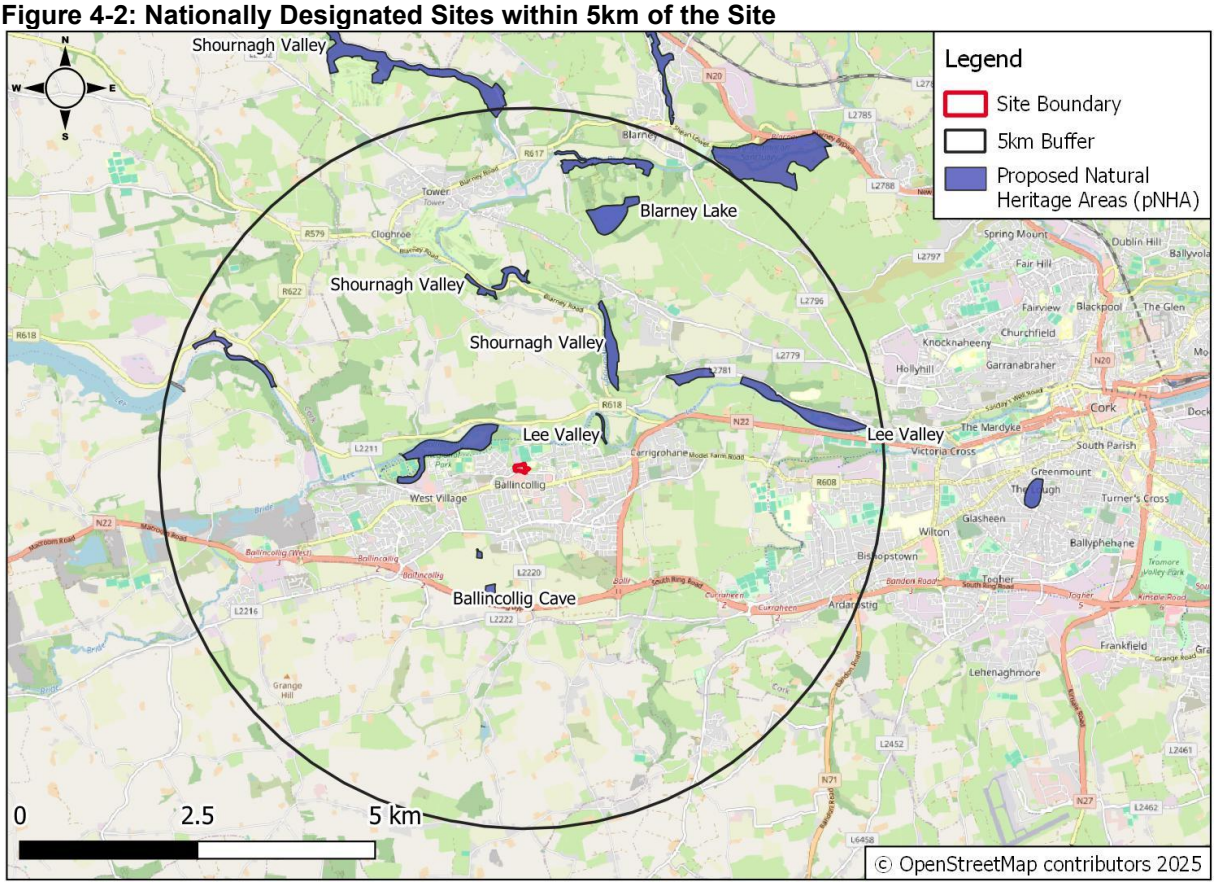
Table 4-2: Proposed Natural Heritage Areas within 5km of the Site

Site Name	Code	Distance (km) & Direction	Qualifying Interest
Proposed Natural Heritage Areas ('pNHA')			
Lee Valley	000094	Ca. 470m	The Lee Valley site represents five separate sections of the river valley. It contains a diverse range of semi-natural habitats, including wet broadleaved woodland, dry broadleaved woodland, wet grassland, unimproved grassland and freshwater marsh habitats. The site provides breeding habitat for wetland bird species such as mallard (*Anas plytyrhynchos*) and heron (*Ardea cinerea*). Lands use at the site consists of cattle-grazing, hay making and recreational use by local communities, particularly within the Ballincollig Regional Park section of the site.
Ballincollig Cave	001249	Ca. 1.2km	This site lies approximately 5 km west of the city of Cork and is located within a limestone-based landscape. The area includes a castle with a cave, and a lower, partially quarried section to the south. The topography, which consists of shallow soils with exposed limestone outcrops, supports a range of semi-natural habitats. The site contains three main habitat types: Dry calcareous grassland is found on slopes, which supports diverse grass and herb species typical of well-drained limestone soils. The lower slopes support occasional areas of scrub of blackthorn *Prunus spinosa*, elder (*Sambucus nigra*), and ash (*Fraxinus excelsior*). The northern slopes support denser woodland and shaded areas, the latter of which support ferns and shade-tolerant herbs, including several species indicative of calcareous woodland. The discussed quarry area supports open limestone vegetation, including early successional and pioneer plant communities, which are adapted to rocky substrates. Ecologically, this site is considered of 'local' ecological importance as it supports a relatively species-rich flora for a limestone area within an urbanised and agriculturally intensified area, providing botanical

Site Name	Code	Distance (km) & Direction	Qualifying Interest
			diversity. The site's biodiversity value is enhanced by the mix of native and non-native species, coupled with uncommon limestone plants. The Site makes a meaningful contribution to local biodiversity and ecological connectivity and combines natural limestone habitats with historical features.
Shournagh Valley	000103	Ca. 1.7km	This site includes two sections of the Shournagh River, which rises in the Boggeragh Mountains and meets the River Lee before it flows through Cork City. The northwest portion of the site contains habitats such as wet woodlands, scrub and old estate woodlands. As the river moves southeast, the habitats include riparian woodland and areas of improved agricultural grassland. The Cloghphilip and Coolymurraghne woodlands form the most important sections of the site, with mature oak (*Quercus rober)* and beech (*Fagus sylvatica)* trees present.
Blarney Lake	001798	Ca. 3.4km	This site is located 1 km southwest of Blarney, near Blarney Castle. It lies on limestone soil, which supports a diverse range of plant and animal life. Blarney Lake is central to the site. This is an artificial lake surrounded by woodland dominated by oak, beech, and fir (Abies sp.), and its outflow is also included. Wetlands near the lake and river host a variety of sedges and tall herb plants, including species such as greater pond-sedge (*Carex riparia*), bladder-sedge (*C. vesicaria*), smooth-stalked sedge (*C. laevigata*) and great fen-sedge (*Cladium mariscus*), tall herb stands of meadowsweet (*Filipendula ulminaria*), great willowherb (*Epilobium hirsutum*) and hemp agrimony (*Eupatorium cannabinum*) and river edge groups of nodding bur-marigold (*Bidens cernua*), blue water-speedwell (*Veronica anagallis-aquatica*) and mints (*Mentha spp*.). Aquatic plants like rigid hornwort (Ceratophyllum demersum) are found in the lake.
Blarney Castle Woods	001039	Ca. 4.1km	This woodland is located 1km southwest of Blarney within Blarney Castle grounds and is bordered by the Blarney River (north) and parklands (south). It sits on exposed limestone and is an ecologically rich site, as are two nearby pNHAs: Blarney Lake (001798) and Ardamadare Wood (001799). The limestone base supports a diverse range of flora and fauna. Tree species that are dominant include oak, ash and sycamore (*Acer pseudoplatanus*). Ground flora includes species such as pignut (*Conopodium Majus*), sanicle (*Sanicula europaea*), and goldilocks buttercup (*Ranunculus auricomus*). The soils are rocky and shallow and support wood melic (*Melica uniflora*) and bearded couch (*Elymus caninus*). Parasitic plants like toothwort (*Lathraea squamaria)* and ivy broomrape (*Orobanche hederae*) are supported by the deeper soils.

Site Name	Code	Distance (km) & Direction	Qualifying Interest
			The woodland is of interest for its birdlife. Woodcock (*Scolopax rusticola*) occurs within the woodlands during winter. Within the site, the main land uses are fishing, shooting, grazing (sheep and cattle) and amenity use. The base-rich woodland is a habitat not widely found in Cork, where acid uplands predominate.
Blarney Bog	001857	Ca. 5km	Located 0.5km west of Blarney Town and 4.5km northwest of Cork City, this pNHA lies in the flat valley floor of the River Blarney and was formed due to natural ponding caused by a bedrock fault near Gothic Bridge. The soil consists mainly of fine silt with some peat, particularly on the south side, where past peat cutting has occurred. The key habitat features are lowland wet grassland (grazed and ungrazed) and freshwater marsh/fen. The dominant vegetations include reed canary-grass (*Phalaris arundinacea*), soft rush (*Juncus effusus*), creeping bent (*Agrostis stolonifera*), tufted hair-grass (*Deschampsia cespitosa*) and Yorkshire fog (*Holcus lanatus*). The western wetter area hosts species such as pond-sedge (*Carex riparia*), bladder sedge (C. *vesicaria*), yellow loosestrife (*Lysimachia vulgaris*) and purple loosestrife (*Lythrum salicaria*). The drier eastern area hosts mixed grasses and sedges and herbs such as common sorrel (*Rumex acetosa*) and tormentil (*Potentilla erecta*). Willow trees (*Salix spp*.), bogbean (*Menyanthes trifoliata*), devils-bit scabious (*Succisa pratensis*), marsh cinquefoil (*Potentilla palustris*) and purple moor grass (*Molinia caerulea*) are some of the species found south of the river where the land is wetter. The watercourses are not particularly flora-rich but are known for hosting species such as duckweed (*Lemna minor*), floating sweet-grass (*Glyceria fluitans*), and fool's watercress (*Apium nodiflorum*).

Figure 4-2: Nationally Designated Sites within 5km of the Site



4.1.3 NBDC Protected Species

Table 4-3 provides a summary of records of legally protected or otherwise notable species that occurred within 2km of the Site at the time of writing this report [16]. The NBDC records were checked on 16th April 2026, and the following NBDC 2km grids have been checked: W56U, W56Z, W57Q, W57R, W57V, W47W, W66E, W67A and W67B [16].

Only species recorded within the past 10 years were included in Table 4-3. The 10-year parameter was chosen based on habitat adaptation and modification; that is, it is assumed that records older than 10 years are not representative of the current distribution of species populations.

Table 4-3: NBDC Notable / Protected Species within 2km of the Site (W56U, W56Z, W57Q, W57R, W57V, W57W, W66E, W67A and W67B)

Common Name	*Scientific Name*	Date of Last Record *	Designation
Bird Species			
Barn Owl	*Tyto alba*	27/05/2024	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Red List
Barn Swallow	*Hirundo rustica*	12/07/2025	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List

Common Name	***Scientific Name***	**Date of Last Record ***	**Designation**
Black-headed Gull	*Chroicocephalus ridbundus*	14/02/2023	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Brambling	*Fringilla montifringilla*	05/11/2023	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Canada Goose	*Branta canadensis*	25/10/2018	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex II Section I Bird Species Invasive Species: High Impact Invasive Species
Common Kestrel	*Falco tinnunculus*	09/04/2024	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Common Kingfisher	*Alcedo atthis*	18/08/2024	Wildlife Acts 1976 / 2000 EU Birds Directive Annex 1 Bird Species Birds of Conservation Concern Amber List
Common Linnet	*Linaria cannabina*	06/05/2024	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Common Pheasant	*Phasianus colchicus*	06/05/2024	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex II Section I and Annex III and Section I Bird Species Birds of Conservation Concern Green List
Common Sandpiper	*Actitis hypoleucos*	06/02/2023	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Common Shelduck	*Tadorna tadorna*	28/04/2020	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Common Snipe	*Gallinago gallinago*	28/03/2020	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex II Section I and Annex III and Section III Bird Species Birds of Conservation Concern Red List

Common Name	***Scientific Name***	**Date of Last Record ***	**Designation**
Common Starling	*Sturnus vulgaris*	06/05/2020	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Common Swift	*Apus apus*	27/05/2024	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Red List
Common Wood Pigeon	*Columba palumbus*	11/02/2024	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex II Section I and Annex III Section I Bird Species Birds of Conservation Concern Green List
Cormorant	*Phalacrocorax carbo*	27/05/2024	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Eurasian Curlew	*Numenius Arquata*	17/11/2021	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex II Section II Bird Species Birds of Conservation Concern Red List
Eurasian Golden Plover	*Pluvialis apricaria*	18/01/2021	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex I Annex II Section II and Annex III and Section III Bird Species Birds of Conservation Concern Red List
Eurasian Teal	*Anas crecca*	11/04/2021	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex II Section I and Annex III Section II Bird Species Birds of Conservation Concern Amber List
European Shag	*Phalacrocorax aristotelis*	11/04/2021	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Goldcrest	*Regulus regulus*	18/08/2024	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List

Common Name	***Scientific Name***	**Date of Last Record ***	**Designation**
Golden Plover	*Pluvialis apricaria*	18/01/2021	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex 1, Annex II Section II and Annex III and Section III Bird Species Birds of Conservation Concern Red List
Great Spotted Woodpecker	*Dendrocopos major*	11/02/2024	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Greenfinch	*Chloris chloris*	29/05/2024	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Grey Wagtail	*Motacilla cinerea*	18/08/2024	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Red List
House Martin	*Delichon urbicum*	16/07/2024	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
House Sparrow	*Passer domesticus*	08/03/2021	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Lesser Black backed Gull	*Larus fuscus*	28/04/2020	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Little Egret	*Egretta garzetta*	12/07/2025	Wildlife Acts 1976 / 2000 EU Habitats Annex I Bird Species Birds of Conservation Concern Green List
Mallard	*Anas platyrhynchos*	27/05/2024	Wildlife Acts 1976 / 2000 EU Birds Directive Annex II Section I and Annex III and Section I Bird Species Birds of Conservation Concern Amber List
Merlin	*Falco columbarius*	20/06/2016	Wildlife Acts 1976 / 2000 EU Birds Directive Annex I Birds of Conservation Concern Amber List

Common Name	***Scientific Name***	**Date of Last Record ***	**Designation**
Mistle Thrush	*Turdus viscivorus*	09/04/2024	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Mute Swan	*Cygnus olor*	01/06/2023	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Northern Lapwing	*Vanellus Vanellus*	18/01/2021	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex II Section I and Annex III Section III Bird Species Birds of Conservation Concern Red List
Red Kite	*Milvus milvus*	30/09/2018	Wildlife Acts 1976 / 2000 EU Birds Directive Annex I Bird Species. Birds of Conservation Concern Amber List
Redwing	*Turdus ilacus*	10/03/2023	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Red List
Robin	*Erithacus rubecula*	18/08/2024	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Green List
Rock Dove	*Columba livia*	21/02/2023	Wildlife Acts 1976 / 2000 EU Birds Directive Annex II, Section I Bird Species Birds of Conservation Concern Green List
Sand Martin	*Riparia riparia*	27/05/2024	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Sandwich Tern	*Thalasseus sandvicensis*	04/07/2022	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex I Bird Species Birds of Conservation Concern Amber List
Sparrowhawk	*Accipiter nisus*	18/08/2024	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List

Common Name	***Scientific Name***	**Date of Last Record ***	**Designation**
Willow Warbler	*Phylloscopus trochilus*	18/08/2024	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Stonechat	*Saxicola rubicola*	06/05/2024	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Bat Species			
Daubenton's Bat	*Myotis daubentonii*	30/8/2021	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex IV
Leisler's Bat	*Nyctalus leisleri*	20/07/2020	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex IV
Common Pipistrelle	*Pipistrellus pipistrellus sensu stricto*	21/08/2019	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex IV
Soprano Pipistrelle	*Pipistrellus pygmaeus*	07/10/2025	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex IV
Terrestrial Mammals			
Eurasian Badger	*Meles meles*	21/09/2016	Wildlife Acts 1976 / 2000
Eurasian Red Squirrel	*Sciurus vulgaris*	03/06/2018	Wildlife Acts 1976 / 2000
European Otter	*Lutra lutra*	12/05/2017	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex II and IV
West European Hedgehog	*Erinaceus europaeus*	07/09/2023	Wildlife Acts 1976 / 2000
Invasive Species			
American Mink	*Neovision vision*	12/05/2017	High Impact Invasive Species Regulation S.I. 374 (Ireland)
Cherry Laurel	*Prunus laurocerasus*	27/04/2021	High Impact Invasive Species
Harlequin Ladybird	*Harmonia axyridis*	15/09/2025	High Impact Invasive Species Regulation S.I. 374 (Ireland)
Himalayan Balsam	*Impatiens glandulifera*	27/08/2024	High Impact Invasive Species Regulation S.I. 374 (Ireland)
Himalayan Knotweed	*Persicaria wallchii*	20/07/2020	Medium Impact Invasive Species Regulation S.I. 374 (Ireland)

Common Name	*Scientific Name*	Date of Last Record *	Designation
Japanese Knotweed	*Reynoutria japonica*	14/11/2024	High Impact Invasive Species Regulation S.I. 374 (Ireland)
Spanish bluebell	*Hyacinthoides hispanica*	08/05/2021	Invasive Species Regulation S.I. 374 (Ireland)
Three-cornered Leek	*Allium triquetrum*	24/04/2017	Medium Impact Invasive Species Regulation S.I. 374 (Ireland)

*Table 4-3 only includes invasive species regulated under S.I. 374 of 2024 (Ireland).

4.2 Field Survey

4.2.1 Habitats

The following section provides details of the most up-to-date habitat survey, which was undertaken for the Site on 9th October 2025. A description of the habitats and features of ecological significance is outlined below and illustrated in Figure 4-3.

Buildings and Artificial Surfaces (BL3)

Artificial surfaces were present along the southern boundary of the Site, comprised of existing footpaths and the local road (L2263 / Old Fort Road). This habitat also extended into the Site from the main entrance off Old Fort Road and occupied the southeastern portion of the Site, continuing eastwards towards the Ballincollig Nursing Home. No notable species were identified.

Refuse and Other Waste (ED5)

Stockpiles of dead wood, garden waste and rubbish were located within the central section of the Site. Vegetation had begun to establish within some of these piles, and those species identified included bramble (*Rubus fructicosus*) and various grass species.

Recolonising Bare Ground (ED3)

This habitat was located primarily within the eastern section of the Site, with a small section also recorded in the northwestern corner of the Site. Species recorded included: common fleabane (*Pulicaria dysenterica*), moss species, red clover (*Trifolium pratense*), smooth cat's ear (*Hypochaeris glabra*), dandelion (*Taraxacum officinale*), bramble, ribwort plantain (*Plantain lanceolata*), ground ivy (*Glechoma hederacea*), pussy willow saplings (*Salix caprea*), butterfly bush (*Buddleja davidii*), tansy ragwort (*Jacobaea vulgaris*), hairy willowherb (*Epilobium hirsutum*), common dogwood saplings (*Cornus sanguinea*), common alder saplings (*Alnus glutinosa*), lesser knapweed (*Centura nigra*), virginia creeper (*Parthenocissus quinquefolia*), common gorse (*Ulex europaeus*), wild carrot (*Daucus carota*) and one isolated plant of drooping sedge (*Carex pendula*).

Scrub (WS1)

A large portion of the western section of the Site was comprised of stockpiles of rubble and soil that were recolonised with some vegetation. The species present within this habitat included: butterfly bush, winter heliotrope (*Petasites pyrenaicus*), smooth cat's ear, bramble, ribwort plantain, large bindweed (*Calystegia sylvatica*), virginia creeper (*Parthenocissus quinquefolia)*, Yorkshire fog (*Holcus lanatus*), common gorse, red clover, big root geranium (*Geranium macrorrhizum*), red osier dogwood (*Cornus sericea*), common vetch (*Vician sativa*), dandelion, bitter dock (*Rumex obtusifolius*), doves's foot cranesbill (*Geranium molle*),

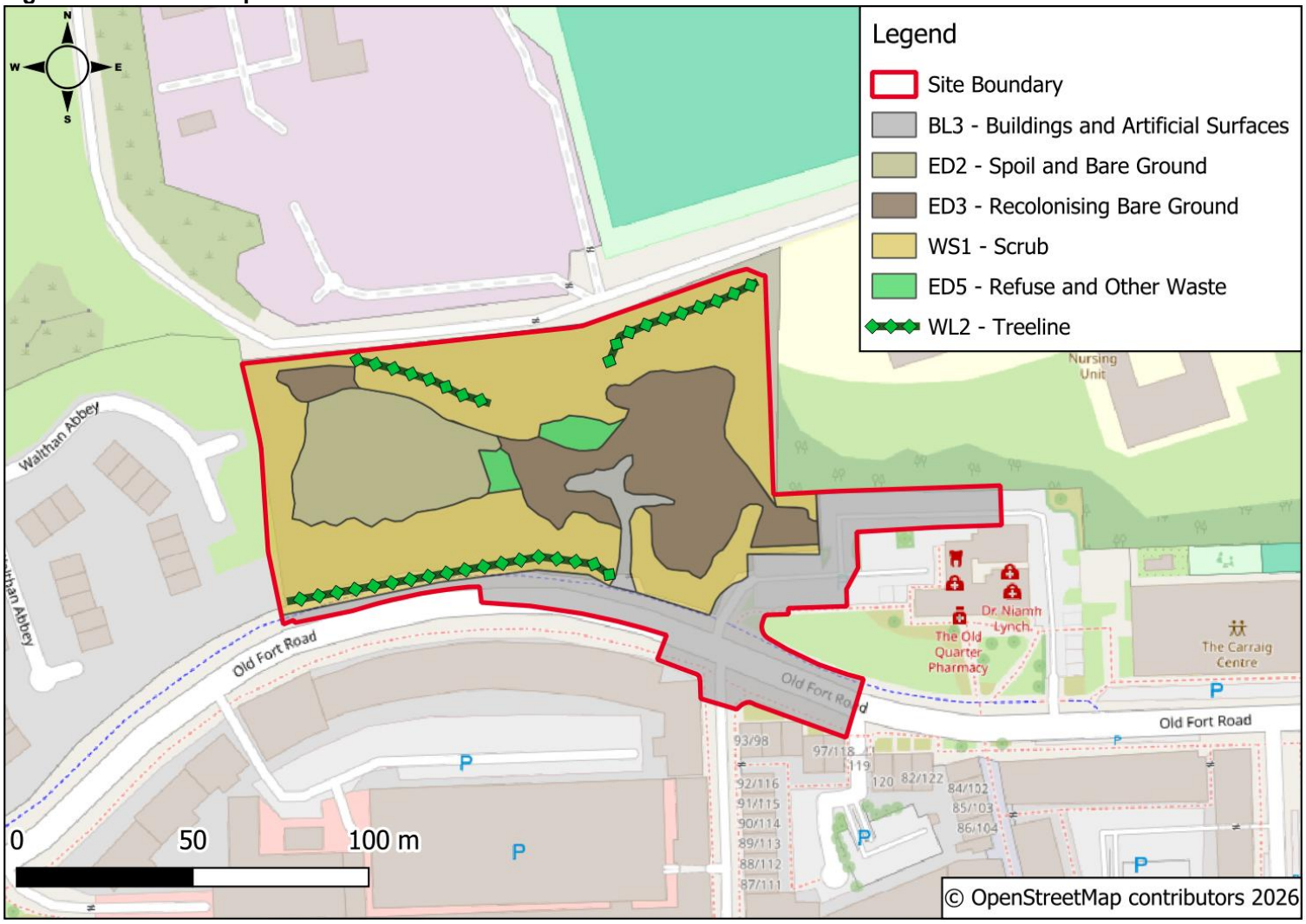
lesser knapweed, greater bird's foot trefoil (*Lotus pedunculatus*), pussy willow saplings, soft shield fern (*Polystichum setiferum*), herb robert (*Geranium robertianium*), horse weed (*Conyza canadensis*), moss spp., slender false garlic (*Allium gracile*) creeping bent (*Agrostis stolonifera*), meadow buttercup (*Ranunculus acris*), rosebay willowherb (*Chamaenerion angustifolium*) sun spurge (*Euphorbia helioscopia*), common nettle (*Urtica dioica*) and pedunculate oak saplings (*Quercus robur*).

Treelines (WL2)

One treeline was located adjacent to the southern perimeter of the Site. Two mature treelines were also present along the northern boundary. Species present within this habitat included: mature pedunculate oak and mature Lawson's cypress (*Chamaecyparis lawsoniana*), pussy willow, downy birch (*Betula pubescens*), sycamore (*Acer pseudoplatanus),* common alder, common dogwood, European ash (*Fraxinus excelsior*) and small-leaved lime *Tilia cordata*.

The understorey comprised of: bramble, holly (*Ilex acquifolium*), red osier dogwood (*Cornus sericea)*, old man's beard (*Clematis vitalba)*, butterfly bush (*Buddleja davidii*), common gorse, hawthorn, horseweed (Conyza canadensis), tansy ragwort (*Jacobaea vulgaris*), smooth cat's ear, hoary willowherb (*Epilobium parviflorum*), harts tongue fern (*Asplenium scolopendrium*), herb robert, hedge woundwort (*Stachys sylvatica*), ivy *(helix hedra*), common vetch, meadow buttercup, red clover, soft shield fern, winter heliotrope, dogrose, elder saplings (*Sambucus nigra*) and large bindweed.

Figure 4-3: Habitat Map



4.2.2 Protected / Notable Species

4.2.2.1 Flora

No plant species protected under the Flora Protection Order were recorded on site.

Invasive Species

The NBDC held records of four high-impact invasive species regulated under the European Union (Invasive Alien Species) Regulations 2024 (S.I. No. 374/2024): American mink, harlequin ladybird, Himalayan Balsam and Japanese knotweed within 2km of the Site [16] in the last 10 years. The NBDC also held records of medium impact invasive species Himalayan knotweed, Spanish bluebell and three-cornered leek, which are also subject to the above detailed regulation.

No high-impact invasive species (including those that are regulated under the European Union (Invasive Alien Species) Regulations 2024 (S.I. No. 374/2024) [33]) were recorded within the Site.

Five medium-impact invasive species were identified on the Site, namely butterfly bush, winter heliotrope, sycamore, Virginia creeper and Himalayan honeysuckle. These species are non-regulated.

4.2.2.2 Amphibians

The NBDC held no records for amphibians within 2km of the Site over the last 10 years [16]. In addition, no evidence of amphibians was recorded during the field surveys undertaken.

The areas of scrub recorded on the Site have the potential to provide suitable habitat for amphibians during the terrestrial phase of their lifecycle; however, these habitats are considered to be suboptimal due to their highly disturbed nature. Additionally, there are no suitable waterbodies capable of supporting breeding amphibians located on site or within the immediate vicinity of the Site.

Overall, it was considered unlikely that the Site is of significant value to amphibians due to the lack of breeding habitat and the surrounding habitats.

4.2.2.3 Badgers

The NBDC held records for badgers within 2km of the Site within the last 10 years [16].

However, no evidence of badgers was noted within the Site during the site walkover, such as setts, latrines or footprints. The Site was considered suboptimal for this species due to the urban landscape and adjacent anthropogenic activities. In addition, the Site is bounded to the south by Old Fort Road, which may act as a barrier to movement. It should be noted that Ballincollig Regional Park is located ca. 330m north of the Site and provides habitat suitable for badger, including a mosaic of woodlands, scrub and hedgerows.

As badgers are common and widespread across Ireland, it is considered possible that badgers may commute through the Site. However, it is considered unlikely that the Site is of value to this species due to high levels of human activity within the surrounding area.

4.2.2.4 Bats

NBDC Records and Landscape Suitability

As per Table 4-3, the NBDC held records of four bat species within 2km of the Site over the last 10 years: common pipistrelle, Daubenton's bat, Leisler's bat and soprano pipistrelle. In addition, as per the NBDC landscape suitability metric, the Site and surrounding area is considered to be of 'High' suitability for bats (Landscape Suitability Metric Score: 36 - 58 [16].

Please note that the landscape suitability metric is calculated using a desk-based model only and is a regional-scale assessment. The metric is not tailored to local site-specific ecological features or conditions but rather averages over a much larger landscape. The metric is an average score; it does not guarantee that the Site itself is of 'high' bat suitability.

The predictor layers are constructed from this database, ranging in scale from 0.5km to 20.5km, which shows suitable regions for each species to exist, but makes large generalisations of species occurrence rather than site-specific detail obtained during field surveys. This metric is not a substitute for a Site visit to assess bat suitability by a suitably qualified and experienced ecologist following the current best practice guidelines [34].

Following the Site visit, it was concluded that the suitability metric reflects the current site conditions, as the Site provides green space and habitat connectivity to the wider area.

Daytime Bat Walkover

The existing treelines inside the northern, eastern (outside the Site boundary) and southern boundary of the Site provide suitable foraging habitat and connectivity to the wider landscape for commuting bats. The Ballincollig Regional Park lies ca. 330m further to the north, which provides suitable bat habitat. However, it should be noted that the majority of the surrounding habitats comprise urban areas, including residential and commercial areas and sporting facilities with flood lights.

Ground-Level Tree Assessment / Preliminary Roost Assessment

Four trees assessed as PRF-I were identified within the Site along the northern boundary and were surveyed via dusk emergence surveys for the presence of roosting bats. Note, as per the latest Bat Conservation Trust guidance with respect to PRF-I trees, a further survey was not strictly necessary [23]. However, as a precautionary approach, these additional surveys were undertaken.

No buildings were identified on site.

Dusk Emergence Survey Results

One possible soprano pipistrelle roost was identified during the surveys conducted in 2025. The potential roost was in a tree that will be retained and protected for the lifetime of the Proposed Development. An update dusk emergence survey on 14th May 2026 did not record any evidence of roosting bats at this location.

Nighttime Bat Walkover

During the 2025 NBW surveys, a 'Low' level of bat activity was recorded from foraging and commuting bats. Three bat species were recorded on-site: soprano pipistrelle, common pipistrelle and Leisler's bat. The majority of bat activity was recorded along the northern boundary of the Site.

Surveys undertaken thus far in 2026 have identified similar levels of foraging and commuting activity, that is, activity remains 'Low'. The same three bat species were recorded on-site: soprano pipistrelle, common pipistrelle and Leisler's bat.

SM4 Detector Deployment

Deployment 1 – 21st April 2026

Bat call data obtained from the detector deployments in April is shown in the following tables:

- Figure 4-4: Location 1 (Eastern Boundary); and,
- Figure 4-5: Location 2 (Northern Boundary).

Figure 4-4: Location 1 (Eastern Boundary) – April Deployment

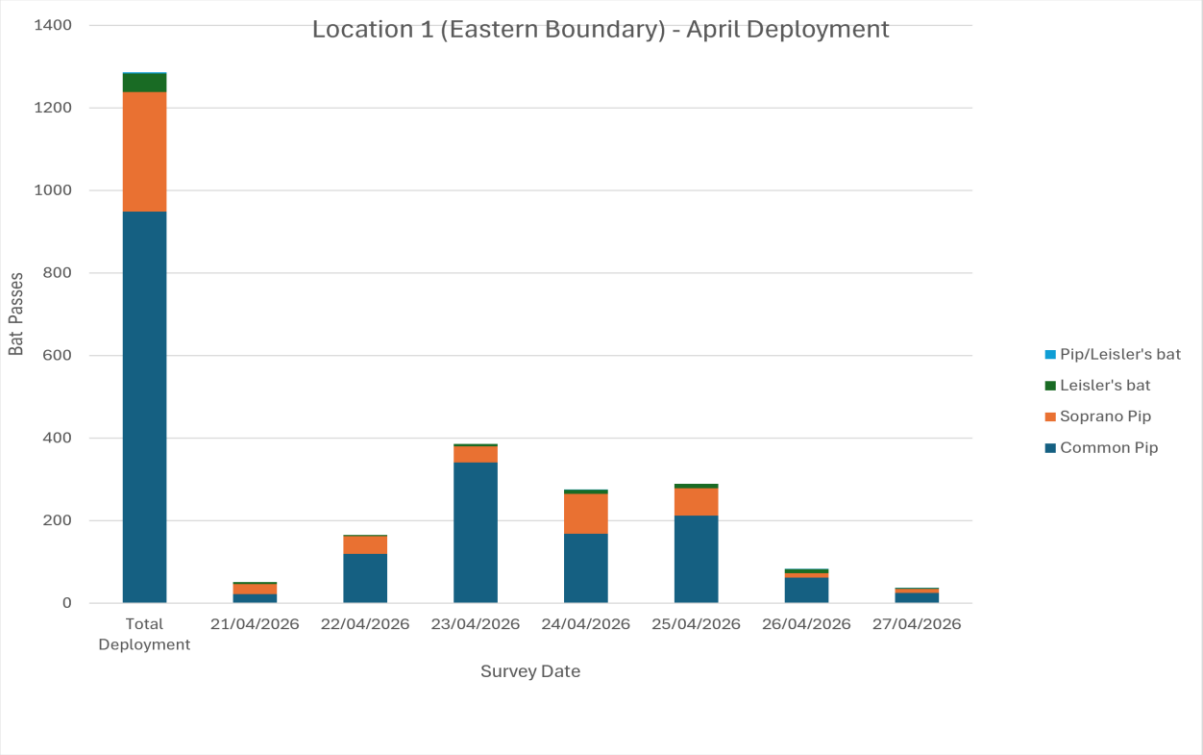
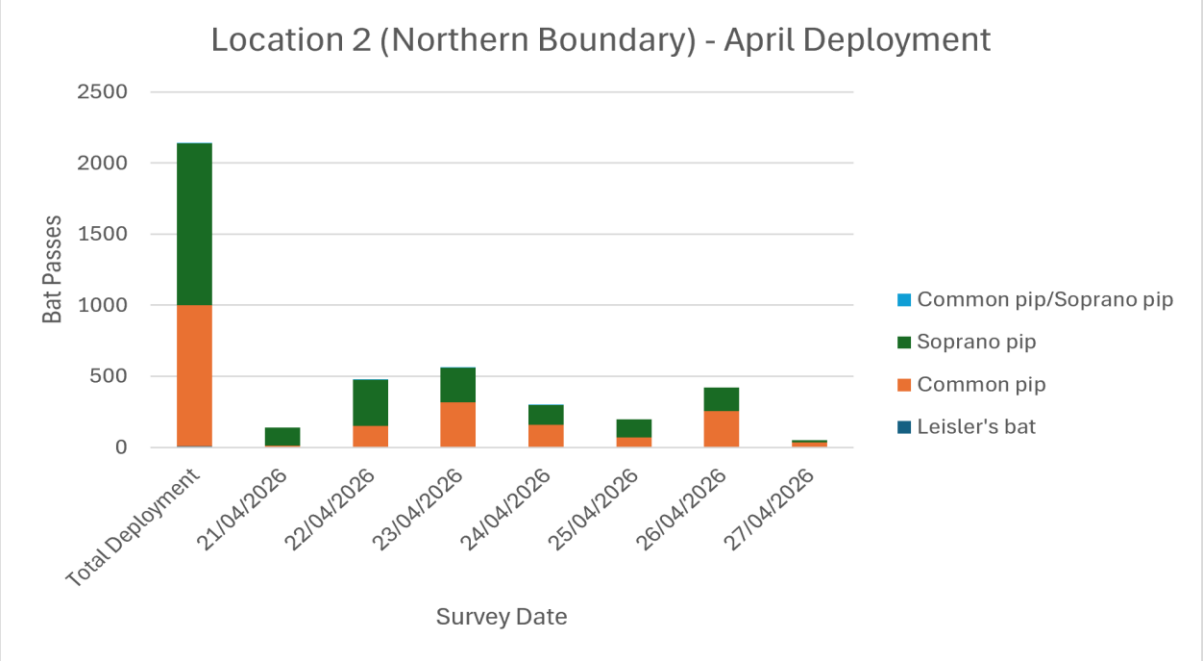


Figure 4-5: Location 2 (Northern Boundary) – April Deployment



Summarising the April activity, three species are confirmed as present on the Site: common pipistrelle, soprano pipistrelle and Leisler's bat. This aligns with species recorded during the dusk emergence surveys and NBW surveys.

During the April deployment, a total of 3,430 bat passes were recorded. Of these, 2,142 were recorded along the northern boundary (Location 2), while 1,288 were recorded along the eastern boundary (Location 1).

The most active night recorded at both locations on a single night was 23rd April 2026. Averaging out the total calls across the deployment (seven nights) gives an average number of bat passes per night as follows:

- Location 1 (Eastern Boundary): 184 passes; and,
- Location 2 (Northern Boundary): 306 passes.

The overwhelming majority of bat passes recorded during the deployment, 3,366 out of a total of 3,430, were from either common pipistrelle (a total of 1,938 passes) or soprano pipistrelle (a total of 1,428 passes). Together, these two common species of bat made up over 98% of bat calls recorded. The remaining approximate 2% of calls were from Leisler's bat (54 passes in total) or were calls which were a pipistrelle species (common or soprano), but it could not be confidently determined.

Species data from the June and July deployments have yet to be analysed. These data will be included in an updated report.

4.2.2.5 Birds

The NBDC held records of a number of protected bird species within 2km of the Site [16]. However, no notable or protected bird species were identified on-site during the habitat survey; only common countryside birds such as blackbirds (*Turdus merula*) were recorded. However, the on-site hedgerows / treelines are considered suitable for a range of nesting birds.

The Site is not considered to provide any suitable habitat for foraging for wintering birds. Additionally, there are no waterbodies onsite or wet grassland areas that wintering birds typically utilise.

In addition, the Site is small in nature and also surrounded by mature trees to the north and Ballincollig town centre to the south. These features further reduce the suitability of larger waterbirds, such as swans and geese, which require open areas and adequate space in order to take flight. As such, the Site is not considered suitable for supporting wintering bird assemblages.

As agreed with CCC, additional surveys for birds will be undertaken commencing in April/May 2026. The results of surveys completed to date (17 April, 20 May and 5 June 2026) are summarised below in Table 4-4.

A total of 27 species were recorded on-site thus far. This includes birds noted flying over the Site and immediately adjacent fields. Of these species, 23 were observed displaying territorial behaviours and were classified as '*possible breeding*', and one species, wren, was identified as '*confirmed breeding*.'

Of the 27 species that were recorded:

- 21 Green Birds of Conservation Concern Ireland ('BoCCI') listed species;
- Four Amber BoCCI listed species: cormorant, willow warbler, common starling, house sparrow; and
- Two Red BoCCI listed species: greenfinch and meadow pipit

Table 4-4: Birds recorded within/adjacent to the Site on Visits 1, 2 and 3

BoCCI Status	Species	Latin Name	Number Recorded			Notes	Breeding Status
			Visit 1 17/04/26	Visit 2 20/05/26	Visit 3 05/06/26		
Green-listed	Blackbird	*Turdus merula*	3	3	5	Visit 1: Two blackbirds were heard singing from hedgerow / treeline inside the eastern and northern Site boundaries. One individual was observed perched on hedgerow / treeline on the southern Site boundary. Visit 2: Three blackbirds were heard singing within the Site, from the hedgerow / treelines along the southern, western and northern boundaries. Visit 3: Five blackbirds were observed on site. There were three males and 1 female present in the hedgerow/treeline of the site. One individual was not seen but heard in song.	Possible breeding.
	Blue tit	*Cyanistes caeruleus*	1	0	1	Visit 1: One individual was observed singing from hedgerow / treeline inside the northern Site boundary. Visit 2: No individuals were observed Visit 3: One individual was seen perched on the treeline of the site and was calling.	Possible breeding
	Bullfinch	*Pyrrhula pyrrhula*	1	0	2	Visit 1: One individual was observed perched in the treeline inside the northern Site boundary. Visit 2: No individuals were observed Visit 3: There were two bullfinches observed on site. One male was seen perched on a conifer tree, calling. The other individual was not seen but heard calling.	Possible breeding.

BoCCI Status	Species	Latin Name	Number Recorded			Notes	Breeding Status
			Visit 1 17/04/26	Visit 2 20/05/26	Visit 3 05/06/26		
	Chaffinch	*Fringilla coelebs*	2	0	3	Visit 1: Two individuals were heard singing from hedgerow / treelines inside the northern Site boundary. Visit 2: No individuals were observed Visit 3: One female and one male chaffinch were flushed together from the hedgerow/treeline to the other side of the site. One chaffinch was not seen but heard in song.	Possible breeding
	Chiffchaff	*Phylloscopus collybita*	1	0	1	Visit 1: One individual was heard calling from the hedgerow / treeline on the northern Site boundary. Visit 2: No individuals were observed Visit 3: One chiffchaff was observed in song on site.	Possible breeding
	Coal tit	*Periparus ater*	0	1	0	Visit 1: No individuals were observed Visit 2: One individual was heard calling from the hedgerow / treeline present along the northern boundary of the Site. Visit 3: No individuals were observed	Possible breeding
	Dunnock	*Prunella modularis*	1	0	1	Visit 1: One individual was heard singing from treeline and scrub located inside the eastern Site boundary. Visit 2: No individuals were observed. Visit 3: One individual was heard calling on site.	Possible breeding
	Eurasian blackcap	*Sylvia atricapilla*	0	0	3	Visit 1: No individuals were observed. Visit 2: No individuals were observed.. Visit 3: There were three blackcaps heard in song on site. None were seen.	Possible breeding

BoCCI Status	Species	Latin Name	Number Recorded			Notes	Breeding Status
			Visit 1 17/04/26	Visit 2 20/05/26	Visit 3 05/06/26		
	Eurasian goldfinch	*Carduelis carduelis*	0	0	10	Visit 1: No individuals were observed. Visit 2: No individuals were observed. Visit 3: There were 10 sightings of goldfinch on site. They were all observed perched or in flight through the site.	Possible breeding
	Great Tit	*Parus major*	1	0	0	Visit 1:One individual was heard singing from hedgerow / treeline located inside the northern Site boundary. Visit 2: No individuals were observed. Visit 3: No individuals were observed.	Possible breeding
	Jackdaw	*Coloeus monedula*	0	0	3	Visit 1: No individuals were observed. Visit 2: No individuals were observed. Visit 3: There were three jackdaws observed on site. One sighting was a call of a jackdaw that was not seen, the other sighting was two individuals perched on the nearby house.	Possible breeding
	Hooded Crow	*Corvus cornix*	2	0	4	Visit 1: One individual was observed carrying food over the hedgerow / treeline on the eastern Site boundary. One hooded crow was observed perched. Visit 2: No individuals were observed. Visit 3: There were four sightings of a hooded crow on site, perched or flying through the site.	Possible breeding
	Long-tailed tit	*Aegithalos caudatus*	0	0	1	Visit 1: No individuals were observed. Visit 2: No individuals were observed. Visit 3: There was one long-tailed tit flying through the site.	Possible breeding

BoCCI Status	Species	Latin Name	Number Recorded			Notes	Breeding Status
			Visit 1 17/04/26	Visit 2 20/05/26	Visit 3 05/06/26		
	Magpie	*Pica pica*	0	0	1	Visit 1: No individuals were observed. Visit 2: Calling in vegetation at east of Site. Not seen. Visit 3: One magpie was heard calling on site but not seen.	Possible breeding
	Mistle Thrush	*Turdus viscivorus*	1	0	0	Visit 1: One individual was identified singing within the scrub on the southern Site boundary.	Possible breeding
	Robin	*Erithacus rubecula*	3	0	3	Visit 1: Three individuals were observed singing and calling from treeline and scrub on the southern Site boundary. Visit 2: No individuals were observed. Visit 3: three sightings of robins were recorded on site. They were perched, singing and on the ground, foraging.	Possible breeding
	Rook	*Corvus frugilegus*	0	3	4	Visit 1: No individuals were observed. Visit 2: Three individuals were observed flying in a southerly direction over the Site. They did not land in or interact with the Site. Visit 3: There were four rooks observed on site. Two individuals were perched on the apartment complex and foraging on the ground.	Non-breeding
	Song Thrush	*Turdus philomelos*	0	2	0	Visit 1: No individuals were observed. Visit 2: Two individuals were heard singing from hedgerow / treelines on-site. Visit 3: No individuals were observed	Possible breeding

BoCCI Status	Species	Latin Name	Number Recorded			Notes	Breeding Status
			Visit 1 17/04/26	Visit 2 20/05/26	Visit 3 05/06/26		
	Stonechat	*Saxicola rubicola*	0	1	0	Visit 1: No individuals were observed. Visit 2: One individual was heard calling from the hedgerow / treeline on-site. Visit 3: No individuals were observed	Possible breeding
	Woodpigeon	*Columba palumbus*	1	1	6	Visit 1: One individual was flushed from hedgerow / treeline on the western Site boundary. Visit 2: One individual was heard calling from the hedgerow / treeline present on the southern boundary of the Site. Visit 3: There were six sightings of woodpigeon on site. There were seen perched on the machinery and on the conifer trees, singing and foraging on the ground.	Possible breeding
	Wren	*Troglodytes troglodytes*	2	5	6	Visit 1: Two individuals were observed singing from treeline and scrub inside the southern and northern Site boundaries. Visit 2: Five individuals were heard singing from the hedgerow / treelines on-site. Visit 3: There were three juveniles observed with one adult, begging. This confirms breeding on site for wren. There were two additional sightings of wren calling and perched while singing on site.	Confirmed breeding
Amber-listed	Cormorant	*Phalacrocorax carbo*	0	0	7	Visit 1: No individuals were observed. Visit 2: No individuals were observed. Visit 3: There was a flock of seven cormorants that flew overhead on site during the visit. This could indicate a possible commuting site for cormorant.	Non-breeding

BoCCI Status	Species	Latin Name	Number Recorded			Notes	Breeding Status
			Visit 1 17/04/26	Visit 2 20/05/26	Visit 3 05/06/26		
	Willow Warbler	*Phylloscopus trochilus*	1	0	0	Visit 1: One individual was heard singing from treeline and scrub inside the southern Site boundary. Visit 2: No individuals were observed. Visit 3: No individuals were observed.	Possible breeding
	Common starling	*Sturnus vulgaris*	0	1	6	Visit 1: No individuals were observed Visit 2: Perching adult noted within scrub at eastern edge of site. Three more individuals noted perching in and around tall ruderal at centre of the Site. Visit 3: There were six sightings of starlings on site. There were all seen perched on trees on site or on the buildings, two of the sightings were seen in flight.	Possible breeding
	House sparrow	*Passer domesticus*	0	0	1	Visit 1: No individuals were observed. Visit 2: No individuals were observed. Visit 3: One individual was flushed from its perch on a tree.	Possible breeding
Red	Greenfinch	*Chloris chloris*	0	0	2	Visit 1: No individuals were observed. Visit 2: No individuals were observed. Visit 3: There were two individuals seen flying through the site from the buildings.	Possible breeding
	Meadow pipit	*Anthus pratensis*	0	0	1	Visit 1: No individuals were observed. Visit 2: No individuals were observed. Visit 3: There was one meadow pipit flushed from its perch on a house on site.	Non-breeding

4.2.2.6 Hedgehogs and Pygmy Shrews

Hedgehogs and pygmy shrews are common and widespread species that typically occur in scrub, woodland, and rank grassland habitats. The NBDC held records of hedgehogs within 2km of the Site [16] within the past 10 years. No records of pygmy shrew were recorded by the NBDC within 2km of the Site [16].

The treelines bounding the sports fields adjacent to the Site have the potential to support foraging and commuting hedgehogs. The scrub on-site has the potential to support these species. Although no direct evidence of this species was recorded on-site, it should be noted that a number of small mammal paths were identified that may be utilised by this species.

4.2.2.7 Other Species

The NBDC held records of Eurasian red squirrel and otter within 2km of the Site within the past 10 years [16]. No evidence of red squirrel was identified on-site in the form of dreys, scratch marks on the bark of trees or feeding remains. Additionally, no evidence of otter was noted on site, and the Site and the surrounding habitats were considered suboptimal for otters.

No other species of conservation concern were noted on site or were contained in the NBDC records in the past 10 years.

5 CHARACTERISTICS AND POTENTIAL EFFECTS OF THE PROPOSED WORKS AND MITIGATION MEASURES

5.1 Sensitive Design

Specialist ecological input was a key element of the proposed design, to ensure that the design layout of the Proposed Development is sensitive to valued ecological features that occur or may occur within the Site and the surrounding landscape.

In order to minimise the adverse effects of the Proposed Development on biodiversity and, where possible, enhance the ecological value of the Site, a range of environmental measures have been incorporated into the project at the design stage. The key measures relevant to biodiversity for this project have been detailed below:

- A comprehensive Landscape Plan has been developed for the Proposed Development, which includes ecological enhancement measures. For full details refer to Section 5.4.1 below;
- All vegetation removal required on-site will be undertaken in accordance with relevant legislation to avoid potential disturbance to nesting birds. These works will be undertaken outside the period of 1st March to 31st August; and,
- All boundary trees and hedgerow / treelines that are to be retained will be protected from unnecessary damage.

5.2 Identification of Potentially Significant Effects on Identified Receptors

Based on the methodology that is set out in Section 2.4, Table 5-1 sets out the findings of the evaluation of important and legally protected receptors. Each receptor is assessed, and a scoping justification for each receptor is provided for the Construction and Operational Phases of the Proposed Development.

Table 5-1: Valuation of Potential Ecological Receptors

Potential Biodiversity Receptor	Relevant Legislation	Valuation	Scoping Justification	Screening Result
Protected Sites				
European Sites	European Communities (Natural Habitats) Regulations 1997 (as amended)	Internationally designated sites for conservation.	A Stage One AA Screening Report has been prepared as part of the overall planning application in line with objective 6.23 of the CCDP [10]. The AA concluded that the Proposed Development would not cause any adverse effects on any European sites or any of their designated features. Therefore, progression to Stage Two – Natura Impact Statement was not considered necessary. For full details on the assessment of effects on European sites, refer to the AA submitted as part of planning.	European Sites have been screened out from further consideration. Refer to the AA report submitted as part of planning for further details.
Nationally Designated Sites	Wildlife Act 2000 (as amended)	Nationally designated sites for conservation.	Nationally designated conservation sites within 5km of the Site were investigated as per Objective 6.23 of the CCDP. There are no NHAs within 5km of the Site. There are six pNHAs within 5km of the Site. Impacts on the pNHAs can be discounted given the intervening urban land, the lack of impact pathways and the distance separating these sites from the Proposed Development.	Nationally Designated Sites have been screened out from further consideration
Habitats				
Buildings and Artificial Surfaces (BL3)	N/A	Low Local Value	This is a common habitat type throughout Ireland. This habitat did not contain any species of interest. Overall, these habitats are of low ecological value and are not of significant conservation value. The Proposed Development includes the alteration and removal of this habitat. However, this habitat is not of significant conservation value, and the loss is not considered significant. Therefore, the impact of the Proposed Development on this habitat is not significant, and this receptor has been screened out from further consideration.	Buildings and Artificial Surfaces have been screened out from further consideration.
Refuse and other Waste (ED5)	N/A	Low Local Value	The Proposed Development includes the removal of this habitat, which is not considered to be of ecological importance. Therefore, the impact of the Proposed Development on this habitat is not significant and this receptor has been screened out from further consideration.	Refuse and other Waste has been screened out

Potential Biodiversity Receptor	Relevant Legislation	Valuation	Scoping Justification	Screening Result
				from further consideration.
Recolonising Bare Ground (ED3)	N/A	Low Value Local	This habitat will be removed in order to facilitate the Proposed Development. However, no protected / notable species were identified within this habitat. This habitat is not of significant conservation value, and the loss is not considered significant. Therefore, the impact of the Proposed Development on this habitat is not significant and this receptor has been screened out from further consideration.	Recolonising Bare Ground have been screened out from further consideration
Spoil and Bare Ground (ED2)	N/A	Low Value Local	In order to facilitate the Proposed Development, this habitat will be removed. However, no protected / notable species were identified within this habitat, with the stockpiles colonised by common plant species along with medium-impact invasive species such as butterfly bush and winter heliotrope. This habitat is not of significant conservation value, and the loss is not considered significant. It should also be noted that the invasive species on-site will be removed in an appropriate manner to prevent the spread of invasive species. Therefore, the impact of the Proposed Development on this habitat is not significant, and this receptor has been screened out from further consideration.	Spoil and Bare Ground has been screened out from further consideration
Scrub (WS1)	Wildlife Act 2000 (as amended)	Low Value Local	This is a common habitat type throughout Ireland and provides suitable habitat for a variety of species. This habitat will be removed to facilitate the Proposed Development; however, this habitat is not of significant conservation value, and the loss is not considered significant due to disturbances on-site. This habitat does, however, have the potential to support nesting birds. Therefore, restrictions apply with regard to the time of year in which vegetation can be cut (see Nesting Birds below). Additional planting as part of the Proposed Development will be undertaken to compensate for the loss of vegetation removed, see Section 5.4 and Appendix C for further details.	Scrub habitats have been screened in for further consideration.
Treelines (WL2)	Wildlife Act 2000 (as amended)	Low Value Local	Hedgerows / treelines are a common habitat throughout Ireland, and a review of aerial imagery surrounding the Site shows that this habitat is common within the vicinity of the Site.	Treelines have been screened in for further consideration.

Potential Biodiversity Receptor	Relevant Legislation	Valuation	Scoping Justification	Screening Result
			In order to facilitate the Proposed Development, two category U trees are recommended for immediate removal and 10 Category B1 trees are recommended for remedial works, as per the Tree Survey Report – Appendix D. As outlined in the Landscape Pack prepared by Brady Shipman Martin, as part of the mitigation and compensation measures, along with onsite enhancement, it is proposed to plant the following: • Semi-mature Trees; • Multistem Small Trees / Shrubs for Podiums; • Clipped Hedge Planting; • Groundcover Shrub Planting; • Vegetated Retaining Wall Groundcover Planting; • SuDS Biofiltration Planting; • Herbal planting mixes; • Climbers; • Woodland native sub-canopy shrub planting; • Woodland edge shrub/groundcover planting; and, • Low maintenance mix with clover. This compensatory planting is proposed along the borders of the newly built section of the Site, in line with Objective 6.5 of the CCDP [10]. The proposed tree planting will greatly increase species diversity on the Site to provide a more resilient tree population in the local landscape. The vegetation onsite has been designed to maintain a degree of connectivity to the wider landscape (where possible) through the retention of the hedge/treeline and additional planting. There will be no net biodiversity loss on-site due to additional planting. As part of construction works, a Tree Impact and Protection Plan has been prepared with the purpose of providing a system of working to ensure retained trees are protected at all times during construction, see Section 5.3 below.	

Potential Biodiversity Receptor	Relevant Legislation	Valuation	Scoping Justification	Screening Result
			Restrictions apply with regard to the time of year in which vegetation can be cut (see Nesting & Breeding Birds below). Therefore, any vegetation clearance works will need to take account of protected species. Appropriate mitigation measures will be implemented considering notable / protected species. These mitigation measures will also be implemented for any vegetation removal onsite; refer to Section 5.3 for further details.	
Flora and Fauna				
Flora	Flora (Protection) Order 2022 (S.I. No. 235/2022)	N/A	No plant species protected under the Flora Protection Order were noted on-site. Overall, the impact of the Proposed Development on protected flora is considered unlikely to be significant. Therefore, this receptor has been screened out from further consideration.	Flora species have been screened out from further consideration
Amphibians	Wildlife Act 2000 (as amended) EU Habitats Directive Annex V	Low Local Value	The NBDC held no records for amphibians onsite. Amphibians are commonly associated with agricultural grassland habitats. It should be noted that these species are relatively widespread and abundant in Ireland; however, they are of conservational interest and are protected under Schedule V of the Wildlife Act. The Site is not considered to be of significant value to amphibians, given the fact that no amphibians were identified on-site and no suitable waterbodies / drainage ditches for breeding amphibians were recorded. Overall, the Site is considered sub-optimal for this species. Nonetheless, should any amphibians be discovered on-site during the construction works, the ECoW will be consulted for advice, and any works that have the potential to impact on amphibians will cease until appropriate mitigation measures are in place. However, no species-specific mitigation is required at this stage, and this receptor has been screened out from further consideration.	Amphibians have been screened out from further consideration
Bats	Wildlife Act 2000 (as amended)	High Local Value	The NBDC contained records of four bat species within 10km of the Site in the last 10 years. <u>Roosting Bats</u> As part of the ground-level tree assessment and subsequent bat emergence surveys undertaken in 2025, it was established that a possible soprano pipistrelle roost was identified	Bats have been screened in for further consideration

Potential Biodiversity Receptor	Relevant Legislation	Valuation	Scoping Justification	Screening Result
	EU Habitats Directive Annex IV		in one of the trees that will be trimmed 1/3 in height, but otherwise protected and retained for the lifetime of the Proposed Development. Following the first emergence survey of this tree in May 2026, it is currently concluded that this tree is not a bat roost. This will be confirmed during further surveys in 2026 In order to facilitate the Proposed Development, two trees will be fully removed, and 10 will be managed (thinned, have thick ivy and deadwood removed). None of these trees to be removed or managed had PRF. The Proposed Development will not result in the loss of any bat roosting habitat, subject to the implementation of mitigation measures with regard to works on the tree possibly containing a soprano pipistrelle roost. Mitigation measures will be implemented during the tree management works to ensure that there is no loss of bat roosts on-site. <u>Commuting and Foraging</u> During the site inspection, the existing hedgerows and trees that could potentially act as foraging or commuting routes for bats were assessed. It was established that: • The hedgerows / treelines onsite provide suitable foraging habitat and connectivity to the wider landscape for commuting bats; and, • The areas of scrub are also suitable foraging habitats for bats. Bat activity recorded thus far via the static detectors has shown a 'moderate' level of activity. However, when considered with the results of the NBW, it is clear that these bat passes are being generated from multiple passes by low numbers of bats, as opposed to originating from a large number of bats making a few passes. The vast majority of foraging and commuting bat activity was by common and soprano pipistrelles, with the majority of this taking place along the northern Site boundary over the hedgerow / treelines in this area. Of the trees in this area of the Site, two will be fully removed, and ten will be managed (thinned, have thick ivy and deadwood removed). Furthermore, the overall suitability of these habitats is considered to be reduced due to the close proximity of anthropogenic activities. Noise associated with anthropogenic activities, such as traffic, is known to negatively impact bat activity and feeding behaviour within 20m of the noise source. Given the close proximity to the L2263 / Old Fort Road, existing residential properties and Ballincollig town, high traffic levels would be expected. In addition, the Landscape Plan will include measures in order to maintain connectivity between the Site and the wider landscape. The proposed new vegetative habitats will provide opportunities for commuting bats, while scrub planting will also be introduced onsite alongside	

Potential Biodiversity Receptor	Relevant Legislation	Valuation	Scoping Justification	Screening Result
			native hedgerows and trees to thicken out boundary features. These habitats will attract insects and therefore will provide suitable foraging habitats for bats. Furthermore, to provide an additional roosting resource, at least three bat boxes will be installed on the Site. Please refer to section 5.4. <u>Lighting Impacts</u> The foraging and roosting behaviour of bats could be adversely affected by luminance. Inappropriate lighting can result in delayed emergence and, subsequently, bats missing peak insect levels at dusk. The foraging behaviour of bats can also be altered by short-wave frequency ('UV') light, causing insect populations to congregate around the light and increasing the chances of bats being preyed on. Excess luminance can also cause bats to desert roosts due to light spillage on roost exit points. There is currently no lighting on-site, but it should be noted that the areas bordering the Site were lit up, and this light was observed to be spilling onto the Site. Temporary lighting will be required during the Construction Phase of the Proposed Development and permanent lighting will be installed for the Operational Phase of the Proposed Development. A Public Lighting Report has been prepared by Kelliher's Electrical (henceforth referred to as the 'Lighting Plan'), and has been submitted as part of the overall planning application. The majority of the lighting installed on-site will be adjacent to roadways and car parks, for safety and security. The Lighting Plan shows that there will be light spillage onto the retained trees along the northern boundary. The lighting along this northern boundary starts at 5Lux and drops towards 1.5Lux over the trees on this boundary. It should be noted that if pre-construction checks identify a bat roost in the retained mature oak tree along this boundary, a derogation licence will need to be obtained from the NPWS prior to the installation of lighting, as it is an offence to undertake any activity that an impact a bat roost, including installing lighting adjacent to a known roost, without a licence to derogate from Regulation 54 of the Habitats Regulations 1997. As mitigation measures are required to protect bats from inappropriate lighting strategies during the Construction and Operational Phases of the Proposed Development, bats have been screened in for further consideration.	

Potential Biodiversity Receptor	Relevant Legislation	Valuation	Scoping Justification	Screening Result
Badgers	Wildlife Act 2000 (as amended)	Low Value Local	The NBDC holds records for badger within 2km within the last ten years. However, following the badger suitability assessment, no badger evidence was recorded within the Site. Furthermore, no signs of badger setts were noted during the field survey within any sections of hedgerow / treeline. However, given the close proximity of the Site to Ballincollig Regional Park and considering the nature of the intervening lands between the park and the Site, there is potential for badger to utilise the Site. Therefore, on a precautionary basis, mitigation measures for badgers and terrestrial mammals will be implemented into the Construction Phase of the Proposed Development. See Section 5.3.1.2 below.	Badgers have been screened in for further consideration
Birds	Nesting Birds Wildlife Act 2000 (as amended)	High Value Local	<u>Disturbance / Habitat Loss</u> Studies have shown that traffic noise can result in acoustic interference or masking of bird songs and that bird abundance, occurrence and species richness is reduced near roads. Based on the data obtained thus far, birds are not favouring the treeline within close proximity to Old Fort Road for breeding purposes. The loss of these hedgerows / treelines is not considered to be significant [35] [36] [37]. It is considered that any birds using the Site would be habituated to high levels of noise. In addition, it should be noted that there are alternative / more suitable habitats within the wider are which would provide an alternative resource for any birds affected by the proposed works. Nonetheless, precautionary mitigation will be implemented to avoid any potential effects to breeding birds; refer to Section 5.3.1.2 below for further details. <u>Nesting Birds</u> The scrub throughout the Site and mature treeline on the northern perimeter of the Site provide suitable nesting habitat for bird species. As per the Tree Survey Report, two trees are recommended to be removed to facilitate the Proposed Development and enhance the remaining good quality. Any vegetation to be removed will be removed outside of nesting bird season. Additional planting and enhancements will take place as part of the Proposed Development. See details on the Landscape Plan in Section 5.3.1.1 below. <u>Wintering / Wetland Birds and Flight Collision</u>	Birds have been screened in for further consideration

Potential Biodiversity Receptor	Relevant Legislation	Valuation	Scoping Justification	Screening Result
			The Site is located ca. 10.5km from the nearest SPA – Cork Harbour SPA. However, birds are highly mobile and have the potential to fly inland from coastal foraging and roosting areas. The Site is not considered to be suitable for any of the species designated under the SPA. The Proposed Development will comprise apartment blocks up to six storeys high. The Site is located in a built-up town, and the building on the other side of Old Fort Road comprises apartment blocks ca. four storeys high. Additionally, there are multiple apartment blocks in Ballincollig that are multiple storeys high. Therefore, the Proposed Development is unlikely to pose any additional collision risk to bird species based on the height of the surrounding buildings. Artificial lighting can also pose a collision risk to bird species, as birds are known to sometimes aggregate around and occasionally collide with illuminated objects. The Site is located in an urban environment and is in close proximity to illuminated residential and commercial properties, roads and streetlights. Overall, it is not considered that the Proposed Development will stand out in the landscape and thus will not impact patterns of birds flying over the Site.	
Hedgehogs and Pygmy Shrews	Wildlife Act 2000 (as amended)	Low Local Value	Given the presence of suitable habitats on-site and within the wider area for hedgehogs, pygmy shrew and other nocturnal and terrestrial species, standard protection measures for these species will be incorporated into the construction works. Refer to Section 5.3.1.2 below.	Hedgehogs and Pygmy Shrews have been screened in for further consideration
Invasive Species	N/A	N/A	Butterfly bush, winter heliotrope, Virginia creeper, Himalayan honeysuckle and sycamore were recorded across the Site. These species are non-regulated invasive species. These species will be removed from the Site during the Construction Phase of the Proposed Development. Additionally, standard measures will be implemented in order to ensure no invasive species are introduced on-site during the Construction Phase (see Section 5.2.1.2). This is in compliance with Objective 6.26 of the CCDP [10] and Objective 1.6 of the Cork City Heritage and Biodiversity Plan [11].	Invasive Species have been screened in for further consideration
Other Species	N/A	N/A	The NBDC held records of red squirrel and otter within 2km of the Site in the last 10 years [16]. No evidence of either of these species or of any other species of conservation interest were noted on-site. However, given the presence of suitable habitats on-site and within the	Other Species have been screened in for

Potential Biodiversity Receptor	Relevant Legislation	Valuation	Scoping Justification	Screening Result
			adjacent lands for common species such as foxes, rabbits and other terrestrial mammals, standard protection measures for these species will be incorporated into the works.	further consideration

5.2.1 Summary of Potential Effects

Following a detailed assessment, the following receptors were identified as having the potential to be impacted by the Proposed Development and were brought forward for further consideration:

- Scrub (WS1);
- Treelines (WL2);
- Bats;
- Badgers;
- Birds;
- Hedgehogs and Pygmy Shrews;
- Invasive Species; and,
- Other species.

As per the scoping justification outlined in Table 5-1, further consideration was required for each of the receptors listed above in order to develop appropriate mitigation to protect these receptors and avoid effects arising from the Proposed Development. Refer to Section 5.2 below for further details.

5.3 Mitigation Measures

5.3.1 Construction Phase

During the Construction Phase, all works will comply with all relevant legislation and best practice to reduce any potential environmental effects. A CEMP will be prepared by the appointed main contractor and will be submitted to the planning authority in advance of works commencing, as detailed in Section 3.6.

The following mitigation measures will be incorporated and adhered to in order to ensure that the proposed works do not result in any contravention of wildlife legislation:

- All activities will comply with all relevant legislation and best practice to reduce any potential environmental effects. The mitigation measures detailed within this EcIA will be fully adhered to;
- The Site manager shall ensure that all personnel working on-site will be trained and made aware of the mitigation measures detailed within this EcIA;
- An ECoW will be appointed for the construction works and will be available as required. If protected or notable species are encountered during operations at the Site, the ECoW will be contacted for advice; and,
- In advance of works, all Site personnel will receive a toolbox talk regarding notable and protected species. Everybody working on-site must understand the role and authority of the ECoW.

5.3.1.1 Protection Measures for Trees and Root Systems

The Proposed Development will require the removal of on-site trees and hedgerow, as outlined in the Tree Assessment Report prepared as part of the planning submission. All other hedgerows and trees that will be retained as part of the Proposed Development will be protected from any damage or impacts. Mitigation measures outlined in the Tree Assessment Report will be adhered to and implemented throughout the Construction Phase.

During the Construction Phase, any boundary hedgerows / treelines to be retained will be protected for the duration of the construction activities on site and in accordance with British Standards BS 5837:2012 [38]. All retained hedgerows / treelines will be protected from unnecessary damage, and care will be taken to protect these features from both direct and indirect disturbance, as per the measures outlined in the Tree Protection Measures and the Landscape Pack. As outlined in the Tree Survey Report, the following protection measures will be adhered to:

- The removal of Lawson Cypress trees (0623) and (0632) should be undertaken in accordance with BS39982010 by a reputable and insured tree surgery company;
- All remedial works as recommended in the Tree Survey Report should also be carried out by a reputable and insured tree surgery company;
- Compaction of the ground adjacent to the trees must be avoided. Accordingly, heavy equipment should not encroach on the root plates; and,
- Protection should be afforded to the remaining trees with fit-for-purpose barriers in accordance with the root protection areas.

Following the completion of the construction works, the project ECoW will assess the retained trees and hedgerow to ensure that the above mitigation measures have been complied with. As part of the Landscape Plan prepared for the Proposed Development, additional planting will take place throughout the Site.

5.3.1.2 Protection Measures for Species

Protection measures for Bats

Lighting

Temporary lighting will be required during the Construction Phase of the Proposed Development. However, it should be noted that temporary lighting will only be required during construction in the winter months when there is insufficient daylight (08:00 – 18:00 hours Monday to Friday inclusive and between 08:00 – 14:00 hours on Saturdays). As bats enter torpor and have significantly reduced activity levels during winter, this limits the potential effects of Construction Phase lighting on bats.

Regardless, the lighting for the Construction Phase of the Proposed Development will include the following measures:

- Avoidance of excessive lighting;
- Light Emitting Diodes ('LEDs') will be used, and the brightness will be set as low as possible;
- Lighting height should be kept to a minimum while remaining in accordance with lighting standards to reduce lateral light intrusion into adjacent vegetation; and,
- Directional lighting focused only where needed, helping to maintain darker zones along retained treelines and woodland edges and reducing upward lighting.

Tree Works

On a precautionary basis, the following mitigation measures will be implemented during the tree works on-site:

- Where possible, all trees will be felled on mild days during the autumn months of October – November or during spring months of February-March (felling during the spring or autumn avoids the periods when bats are most active);

- If trees are to be cut down, they will be left in place for 24-48 hours on the ground to allow any bats to potentially escape; and,
- If any bats are identified inside trees during the tree trimming on-site, all works will cease immediately, and the ECoW will be contacted for advice, who will consult with the NPWS as required.

Additionally, as mentioned in Section 5.2 above, if bats are found to be roosting in the retained mature oak tree along the northern boundary of the Site, a derogation licence will be sought from the NPWS prior to the installation of any permanent lighting on-site.

Protection measures for Nesting & Breeding Birds

In order to ensure that no disturbances occur to breeding birds that may potentially use the Site or the adjacent lands, the following mitigation measures will be put in place:

- As per Section 40 of the Wildlife Act 1976, as amended by Section 46 of the Wildlife (Amendment) Act 2000, the cutting, grubbing, burning or destruction by other means of vegetation growing on uncultivated land or ditches will be restricted during the nesting and breeding season for birds and wildlife, from 1st March to 31st August. Therefore, any vegetation clearance required within the Site will take place outside of the nesting bird season (1st March to 31st August);
- In the event that works need to be undertaken within the main breeding season, the following measures will be implemented:
    - The Ecological Clerk of Works will contact the NPWS for consultation on an appropriate construction strategy;
    - Prior to any vegetation removal, the ECoW will inspect the area; and,
    - All vegetation clearance works will be undertaken in a systematic way under the direction of the ECoW.
- Prior to vegetation removal, the ECoW will inspect the Site. The management and removal of vegetation on-site will be undertaken in a systematic way, under the direction of the ECoW, to ensure that the retained hedgerows / treelines are not damaged by the works; and,
- Should a bird's nest be found within the active working area during the Construction Phase, work within the area will stop until the project ECoW is consulted.

Protection Measures for Terrestrial Mammals

As outlined in Section 4.2, the on-site habitats have features that have the potential to support sheltering, foraging and commuting mammals such as badger and hedgehogs. Therefore, in order to ensure that the works in relation to the Proposed Development will not have significant effects on terrestrial mammals, general construction procedures and mitigation measures will be undertaken. These include the following measures:

- Should construction works be required outside of daylight hours, the appointed project ECoW will be consulted as required;
- All vegetation clearance will be undertaken in a systematic way to allow any potential species that may be utilising these areas to disperse naturally as works progress;
- New drainage infrastructure will be laid in sections and backfilled;
- Waste will be kept contained in a designated area to avoid animals becoming trapped in litter;

- Where deep excavations will be required on-site, appropriate measures to protect mammals from ingress will be installed; and,
- If unidentified burrows are identified within the works area during construction, the project ECoW will be contacted for advice.

The construction works will be short-term, and as terrestrial mammals are highly mobile, it is likely that they will move away from any temporary disturbances. However, to reduce the potential for disturbance to wildlife from noise, the following mitigation measures will be implemented during the Construction Phase:

- Avoid unnecessary revving of engines and switch off equipment when not required;
- Minimise the drop height of materials;
- Start-up plant and vehicles sequentially rather than all together;
- Review planting equipment on-site to ensure that they are the quietest versions available for the required purpose; and,
- Noise construction works will be limited to 8am to 6pm on weekdays.

Invasive Species

Medium impact, non-regulated invasive species were noted on-site: Butterfly bush, winter heliotrope, sycamore, Virginia creeper and Himalayan honeysuckle.

To mitigate against the unintentional introduction of invasive species during construction, the following biosecurity measures will be implemented. These measures are in line with NRA (now TII) *Guidance for the Management of Noxious Weeds and Non-Native Invasive Plant Species* [39]:

- Prior to works commencing as part of the Proposed Development, an Alien Invasive Species Management Plan will be prepared and submitted to CCC;
- All vehicles, machinery and any other equipment that may be used for the works will be washed prior to its use on-site to prevent the import of plant material and seeds;
- Before machinery or equipment is unloaded at the Site, equipment will be visually inspected to ensure that all adherent material and debris have been removed;
- Any vehicles and machinery that are not clean will not be permitted entry to the Site;
- All materials to be imported to the Site, including additional planting, will be sourced from a reputable supplier and records of all material / supplies to the Site will be maintained; and,
- In advance of works, all site personnel will receive an induction regarding invasive species.

5.3.2 Operational Phase

5.3.2.1 Protection of Fauna

Nocturnal Species

Nocturnal species, such as bats, are impacted by lighting. Therefore, it is important that lighting installed onsite is completed with sensitivity for local wildlife whilst still providing the necessary lighting for human usage.

A Lighting Plan has been prepared by Kelliher's Electrical and submitted as part of the overall planning application. This Lighting Plan shows light spillage of 1.5Lux – 5Lux onto the northern hedgerow / treeline, where the majority of bat activity was recorded during the NBW surveys,

and where compensatory planting will take place (see Section 5.4.1 below). These lighting levels may impact foraging and commuting bat species. However, it is worth noting that the lighting plan does not show any light spillage in the far northeastern corner of the Site, thereby keeping this connective corridor running north-south in place. This area will remain suitable for foraging and commuting bats. It is also the case that the vast majority of on-site bat activity is from common and soprano pipistrelle bats, which are fairly light-tolerant species, and that the Site is in a semi-urban and well-lit location already.

The following measures should also be taken into consideration during the lighting layout design:

- Avoidance of excessive lighting;
- Light Emitting Diodes ('LEDs') will be used, and the brightness will be set as low as possible;
- Lighting height will be kept to a minimum while remaining in accordance with lighting standards to reduce lateral light intrusion into adjacent vegetation; and,
- Directional lighting focused only where needed, helping to maintain darker zones along retained treelines and woodland edges and reducing upward lighting.

5.4 Ecological Enhancement Measures

A number of ecological enhancement measures will be incorporated into the overall Site and include:

- Provision of artificial roosting sites;
- Lighting Restrictions;
- Bird Boxes.

5.4.1 Fauna

The recommendations proposed below detail measures that will enhance the attractiveness of the Site to wildlife in the surrounding areas. The locations and quantity of the following measures are indicative and are to be specified by an ecologist following the completion of works.

5.4.1.1 Bats

Provision of artificial roosting sites

It is proposed to install artificial bat boxes (at least three) within the Site.

Artificial bat boxes will be erected on suitable mature trees within the Site. Artificial bat boxes can provide vital roosting places in habitats devoid of natural roosting opportunities. Bat boxes can also provide additional suitable roosting habitats for bats in an area.

Bat boxes should be placed in a position sheltered from strong wind and exposed to the sun for part of the day. The boxes will be located in / close to linear features, such as the hedgerow / treelines, and will be placed a minimum of 2m above the ground. Figure 5-1 below shows suitable bat roost box examples, including a Pole Mounted Bat Box, Bat Box Schwegler 1FF and Vivara Small Bat Box.

The exact location of the bat boxes will be determined by an experienced ecologist after the completion of the Construction Phase of the Proposed Development. Provisional locations and numbers can be found in the Landscape Plan prepared by Brady Shipman Martin. This is to allow the ecologist to assess the exact conditions that have been created and thus to ensure that the bat boxes are sited in the most appropriate location possible.

Figure 5-1: Suitable Bat Boxes



5.4.1.2 Lighting Restrictions

Many bats are averse to light and will avoid areas with high-intensity lighting. Therefore, in order to minimise any potential impacts from light spillage, consideration should be given to the lighting strategy on-site.

A Lighting Plan has been prepared by JODA Engineering Consultants. Lighting will be installed.

Where lighting is essential, i.e., for security reasons, low-pressure sodium lamps would be preferable to high-pressure sodium or mercury lamps in order to keep the brightness as low as possible. The lighting should also be directional, aimed only where it is needed (with no upward lighting).

5.4.2 Bird Boxes

A variety of bird nest boxes (at least three) designed to attract a variety of nesting bird species will be erected on suitable trees within the Site. The creation of a nesting habitat, along with the creation of a species-rich habitat, will encourage an abundance of invertebrate life (a potential food source) and will be beneficial to local birds. General bird boxes designed to cater for a variety of species will be used, the number and location of which will be specified by an ecologist. Refer to the examples provided in Figure 5-2.

An example is the 1B Schwelger Nest Box - This nest box will attract a wide range of species and is available with different entrance hole sizes to prevent birds from competing with each other for the boxes.

Different bird species require different entrance sizes as outlined below:

- The circular 26mm entrance hole suits blue, marsh, coal and crested tit and possibly wren. All other species are prevented from using the nest box due to the smaller entrance hole;
- The circular 32mm entrance hole will attract great, blue, marsh, coal and crested tit, redstart, nuthatch, collared and pied flycatcher, wryneck, tree and house sparrow;
- The 45mm entrance hole will attract starlings; and,
- Open-fronted nest boxes will attract robins, wrens, pied and grey wagtail, song thrush and blackbirds.

The exact location of the bird boxes will be determined by an experienced ecologist after the completion of the proposed works. This is to allow the ecologist to assess the exact conditions

that have been created and thus to ensure that the bird boxes are sited in the most appropriate location possible. However, it is recommended that bird boxes face between north and southeast to avoid strong winds, rain and sunshine. In addition, bird boxes should be tilted slightly forward to ensure that rain runs off the top, and there should be a clear flight path to access the nestbox hole. Also, bird boxes with a hole should be placed ca. 2-4m off the ground, whereas open-fronted bird boxes should be placed lower than 2m among dense vegetation where predators will not easily see it.

It should be noted that the distance between nest boxes can vary. Species such as house sparrow and starling have a preference for nesting in colonies, and therefore the bird boxes should be placed closer to each other, whereas species such as robins and tits can be highly territorial and therefore the nest boxes should be separated by a greater distance.

Figure 5-2: Bird Box Examples



6 CONCLUSIONS

Based on the findings of a detailed desk-based study, a review of all the ecological information available for the Site and wider area and field surveys conducted by suitably qualified MOR Environmental Ecologists, it is considered reasonable to conclude the following:

- The Site is currently considered to be of 'high local' ecological value. This is based on its suitability to support protected species (specifically breeding birds and foraging / commuting bats) rather than the intrinsic value of its habitats (assessed as 'low local' ecological value);
- The Site supports a low number of common species of bats which utilise the Site for foraging and commuting purposes at relatively 'Low' levels of activity. Provided mitigation with respect to lighting and habitat creation is delivered, the Site will remain a foraging and commuting resource for local bats, and there will be no significant effects on the local bat assemblage.
- No bat roosts were identified within the trees on the Site;
- The Site is not considered to be of high suitability or a site of importance for any Annex I or Annex II species or Red-listed birds, though a small number of amber and red species currently utilise the site for foraging and/or breeding. Mitigation measures will ensure no significant effects on nesting birds or local bird assemblages;
- The Proposed Development will not result in any significant effects on ecological receptors identified both on-site and in the surrounding area following the implementation of appropriate mitigation measures; and,
- The proposed Landscape Plan has been designed to compensate for any vegetation removed during Site clearance works and ensure the Site continues to support biodiversity.

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APPENDICES

APPENDIX A

December 2025

Bat Report

Proposed Large-scale Residential Development

O'Flynn Construction Co. Unlimited Company

Old Fort Road, Ballincollig, Co. Cork

MALONE O'REGAN ENVIRONMENTAL

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Revision Record

Issue No.	Date	Description	Remark	Prepared	Checked	Approved
01	17/12/25	Report	Final	SL	KB	KB

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Bat Report

Proposed Large-scale Residential Development

O'Flynn Construction Co. Unlimited Company

Old Fort Road, Ballincollig, Co. Cork

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1 INTRODUCTION

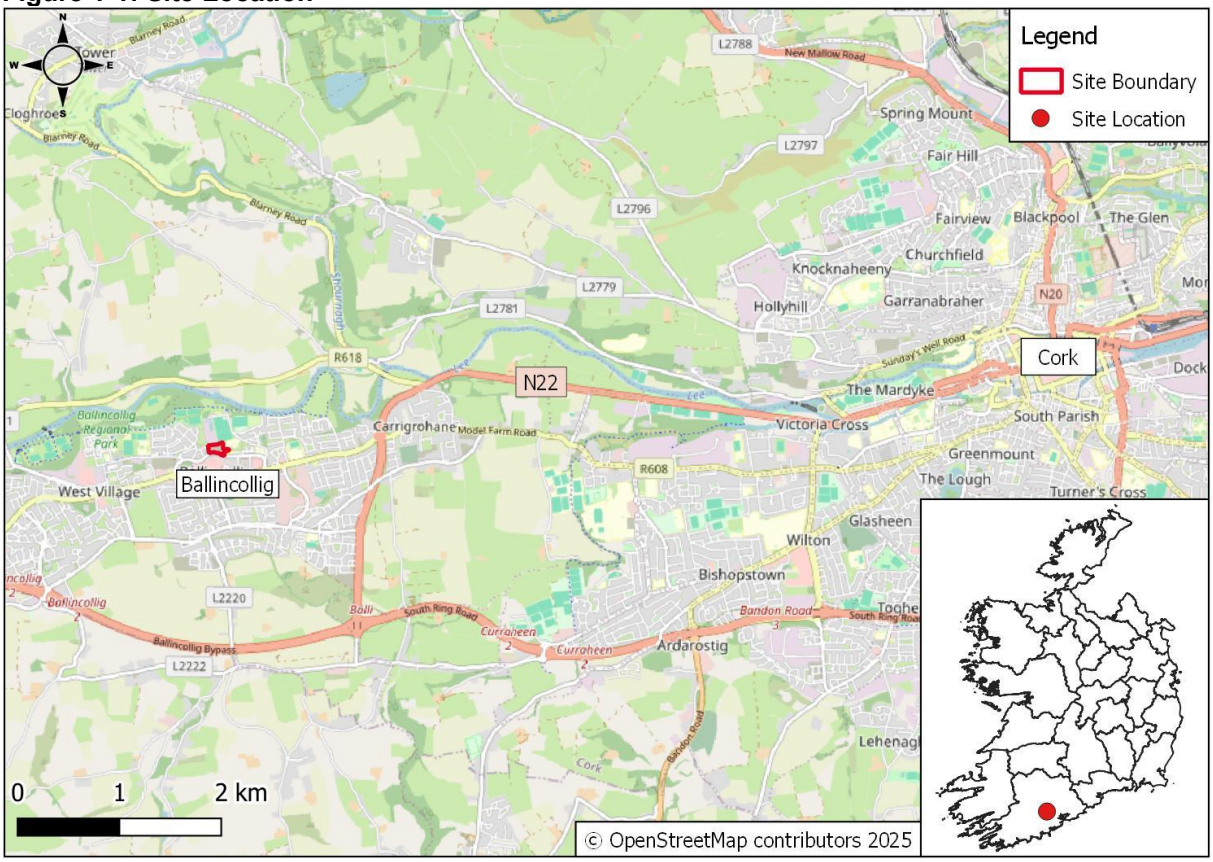
This Bat Report has been prepared by Malone O'Regan Environmental ('MOR Environmental') on behalf of O'Flynn Construction Co. Unlimited Company ('the Applicant'), to present the findings of bat surveys undertaken at the Site at Old Fort Road, Ballincollig, Co. Cork ('the Site') (OSI Reference ITM X 559274 Y 571071). This Bat Report is an Appendix to the Ecological Impact Assessment Report ('EcIA') prepared by MOR Environmental in support of a planning application for the Large-scale Residential Development ('LRD') and associated site works (the 'Proposed Development') at Old Fort Road, Ballincollig, Co. Cork. This Bat Report should be read in conjunction with the EcIA.

The Site is located within a predominantly urban landscape and comprises areas of spoil and bare ground, recolonising bare ground and scrub with sections of treeline on the southern and northern boundaries. The Site is bordered to the west by housing developments and to the north by a grass field and sports playing fields. It is bordered to the south by Old Fort Rd and to the east by a community nursing home and medical centre. The Site is ca. 1.189 hectares ('ha') in size.

Bat surveys were deemed necessary based on the previous survey effort undertaken onsite (see Section 2.1.1 below).

The location of the Site shown in Figure 1-1.

Figure 1-1: Site Location



1.1 Relevant Legislation

All Irish bat species are protected by law under the Wildlife Act 2000 (as amended) and its subsequent amendments. They are afforded full protection under this act, which makes it a criminal offence for anyone without a licence to:

- Kill, injure or handle a bat;
- Possess a bat (whether alive or dead);
- Disturb a roosting bat; and,
- Damage, destroy or obstruct access to any place used by bats for shelter, whether they are present or not.

In addition to domestic legislation, bats are also protected under the EU Habitats Directive (92/43/EEC). All Irish bats are listed in Annex IV of the Habitats Directive and the lesser horseshoe bat is further listed under Annex II, which make it an offence to:

- Deliberately capture, injure or kill any bat; or,
- Deliberately disturb a bat, in particular any disturbance which is likely;
    (a) To impair their ability:
        (i) To survive, to breed or reproduce, or to rear or nurture their young; or,
        (ii) To hibernate or migrate.
    (b) To affect significantly the local distribution or abundance of the bat species; or,
- Damage or destroy a breeding site or resting place of a bat.

Therefore, the destruction, alteration or evacuation of a known bat roost is a notifiable action under current legislation and a derogation license must be obtained from the National Parks and Wildlife Service (NPWS) before works can commence.

Furthermore, it should also be noted that any works interfering with bats and especially their roosts, including for instance, the installation of lighting in the vicinity of the latter, may only be carried out under a license to derogate from Regulation 54 of the Habitats Regulations 1997, (which transposed the EU Habitats Directive into Irish law) issued by NPWS.

1.2 Statement of Authority

The bat inspection surveys and report were undertaken under the guidance of the following MOR Environmental personnel: Stephanie Lonergan, Henry Tennyson and Dyfrig Hubble.

Stephanie Lonergan, Environmental Consultant, who has a B.A. (Mod) (Hons) in Environmental Science. Stephanie is a qualifying member of the Chartered Institute of Ecology and Environmental Management (CIEEM) with a particular interest in bat ecology and conservation. Stephanie has completed courses on bat ecology, identification, handling, biometrics and mitigation with CIEEM and Bat Conservation Ireland. Stephanie has undertaken training run by Wildlife Acoustics for analysis of bat calls in Kaleidoscope Pro Software and regularly uses this programme within her role at MOR Environmental. Stephanie also holds a certificate of Bat Acoustic Analysis from Batability. Stephanie has experience undertaking bat surveys and tree / building assessments and regularly attends events held by local bat groups.

This report was reviewed and approved by Mr. Dyfrig Hubble, Associate Director – Ecologist. Dyfrig has a B.Sc. (Hons) in Tropical Environmental Science and an M.Sc. in Environmental Forestry. Dyfrig is a full member of the Chartered Institute of Ecology and Environmental Management. Dyfrig has over 18 years' experience working in the ecological consultancy sector including habitat appraisals and specialist species specific surveys. Dyfrig has extensive experience in undertaking a variety of bat surveys including dawn / dusk surveys, transects, static monitoring, harp trapping, Lesser Horseshoe roost counts. Dyfrig has also

worked on numerous projects that have required supervision of building demolition and tree removal works under licence. These projects have included work both in the UK and Ireland.

1.3 Species Background

Bats in Ireland feed exclusively on insects, and in the summer months (May – September) they generally emerge from their roosts around sunset to feed. Bats are known to use a number of different foraging sites in the same night and move between them to locate areas of high insect concentrations. They are also known to exhibit site loyalty and will return to the same foraging sites night after night [1].

There are eleven recorded bat species in Ireland, nine of which are considered resident and two which are considered vagrants (Please see Table 1-1 below).

Table 1-1: Status of Irish Bat Species [2]

Bat Species	*Latin Name*	Irish status	European Status
Resident Bat Species			
Brown Long-eared Bat	*Plecotus auritus*	Least Concern	Least Concern
Common Pipistrelle	*Pipistrellus pipistrellus*	Least Concern	Least Concern
Daubenton's Bat	*Myotis daubentonii*	Least Concern	Least Concern
Leisler's Bat	*Nyctalus leisleri*	Least Concern	Least Concern
Lesser Horseshoe Bat	*Rhinolophus hipposideros*	Least Concern	Near Threatened
Nathusius' Pipistrelle	*Pipistrellus nathusii*	Least Concern	Least Concern
Natterer's Bat	*Myotis nattereri*	Least Concern	Least Concern
Soprano Pipistrelle	*Pipistrellus pygmaeus*	Least Concern	Least Concern
Whiskered Bat	*Myotis mystacinus*	Least Concern	Least Concern
Vagrants			
Brandt's Bat	*Myotis brandtii*	Data Deficient	Least Concern
Greater Horseshoe Bat	*Rhinolophus ferrumequinum*	Data Deficient	Near Threatened

1.4 Types of Bat Roosts

Bats were originally cave and tree dwelling animals, but many now use buildings to roost within. Buildings are highly important as roosting sites for all Irish bat species as they use buildings for all roost types. Most significant in terms of roosts in buildings are maternity roosts, but cellars and attics can serve as hibernation sites for bats. Roosts within buildings can far exceed the numbers encountered in trees, bridges, caves or cliffs and roosts of over 1,000 bats have been recorded in buildings [3].

Bats are social animals, and most species congregate in large colonies during the later spring / summer. These colonies consist mostly of females, with some juvenile males from the previous year. Male bats normally roost individually or in small groups meeting up with the females in the late autumn, when it is time to mate. In summer, bats seek warm dry buildings in which they can give birth and suckle their young. In winter, they seek out places with a constant low temperature and high humidity where they can become torpid and hibernate

during adverse weather conditions. However, bats do not hibernate continuously during winter and will awake and hunt during mild nights when there are insects available and it is energetically advantageous to forage [4].

One purpose of daytime tree or building inspections is to determine the potential of bat roosts within the survey area. Due to the transient nature of bats and their seasonal life cycle, there are a number of different type of bat roosts. Where possible, one of the objectives of the surveys is to be able to identify the types of roosts present, if any.

Table 1-2 below shows an excerpt of the definitions of the types of bat roosts taken from the Bat Conservation Trust's '*Bat Surveys for Professional Ecologists - Good Practice Guidelines* (4th ed.) [4]. It should be noted that there is no equivalent Irish guidance, and that this guidance is applicable to the bat roost types found in Ireland. Additionally, all bat species found within Ireland are also present in the UK, so Irish bat species have been fully assessed as part of this Bat Conservation Trust guidance.

Table 1-2: Bat roost types. (definitions written by the Natural England Earned Recognition Project). [4]

Roost Type	Natural England Definition
Day Roost	A place where individual bats or small groups, rest or shelter in the day during the summer.
Night Roost	A place where bats rest or shelter in the night but are not found in the day. May be used by a single individual on occasion, or it could be used regularly by the whole colony..
Feeding Roost	A place where individual bats, or few individuals, rest or feed for short periods during the night but are not present by day.
Transitional Roost	A place used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation.
Maternity Site	A place where female bats give birth and raise their young to independence. In some species males may also be present in the maternity roost.
Hibernation Site	A place where bats may be found individually or together during winter. They have a constant cool temperature and high humidity.
Satellite Roost	An alternative roost found in close proximity to the main nursery colony used by a few individuals to small groups of breeding females throughout the breeding season.

1.5 Purpose of Survey Work

The implication of these legislative policies is that the Proposed Development needs to take account of the potential effects on bats. Survey work is necessary to establish whether the species are currently present in areas where suitable habitat exists and in areas where bats have previously been recorded. Survey work also enables appropriate mitigation measures to be incorporated into the design of the project and ensures that there are no adverse effects on the conservation status of the species.

Survey work was deemed necessary based on desktop surveys and suitable habitat for roosting, foraging and commuting bats being identified during the initial walkover of the Site.

2 METHODOLOGY

The methodologies used to establish the presence / potential presence of bats are summarised below.

2.1 Desk-Based Studies

A desk-based study was undertaken to identify records of bats within the survey area. The following sources of information were reviewed:

- Aerial mapping was reviewed to identify any habitats and features likely to be used by bats. Maps and images of the Site and general landscape were examined for suitable foraging or commuting habitats including woodlands and forestry, hedgerows, treelines, and watercourses;
- The National Parks and Wildlife Service (NPWS) website was consulted to obtain the most up to date detail on conservation objectives for the European sites relevant to this assessment [5];
- The National Biodiversity Data Centre (NBDC) website was consulted with regard to bat species distributions and the bat habitat suitability index [6];
- The National Bat Database of Ireland dataset on the NBDC website was consulted to investigate the nearest known roosts within the vicinity of the Site [7];
- A review of an Arborist Report prepared by South of Ireland Tree Surveys was also undertaken; and,
- A review of the Bat Survey Report prepared by MOR Environmental in May 2022 (see Section 2.1.1 below).

2.1.1 Review of Previous Surveys undertaken On-site

MOR Environmental undertook the following surveys in 2021 on-site in support of a Strategic Housing Development ('SHD') (ABP-323642-22):

- Ground-level tree inspection;
- One dusk emergence bat survey; and,
- One dawn re-entry survey.

These surveys were undertaken in line with Bat Conservation Trust's '*Bat Surveys for Professional Ecologists – Good Practice Guidelines'* (3rd edition) [8], which was the most up-to-date guidance at the time.

According to CIEEM Advice Note on the Lifespan of Ecological Reports and Surveys, survey data that is 12-18 months old can still remain valid following an updated survey by a professional ecology and updated desk-based assessment to confirm that the Site has not experienced significant change and the local distribution of species in the wider area around the Site has not changed [9]. While the above survey data is over 4 years old at the time of writing this report, it is still considered that a review of these survey results can provide additional insight into the potential importance of the Site for bat species. Additionally, as updated surveys were undertaken in 2025, it was considered that the 2021 surveys could supplement the findings of the updated surveys.

2.2 Field Based Studies

The survey design was informed by previous experience and the following publications:

- *Best Practice Guidelines for the Conservation of Bats in the Planning of National Road Schemes* [3];

- *A Conservation Plan for Irish Vesper Bats* Irish Wildlife Manual No. 20 [10];
- *UK Bat Mitigation Guidelines: A guide to impact assessment, mitigation and compensation for developments affecting bats. Version 1.2.* [11]*;*
- *Bat Mitigation Guidelines for Ireland – V2*. Irish Wildlife Manuals, No. 134 [12] a publication by the NPWS; and,
- *Bat Surveys for Professional Ecologists - Good Practice Guidelines* (4th ed.). London: The Bat Conservation Trust [4].

2.2.1 Daytime Bat Walkover and Identification of Bat Habitats

The Site was assessed during a daytime walkover survey before the first bat survey on 15th September 2025 in relation to potential bat roosting potential, foraging habitat and potential commuting routes. Bat habitats and commuting routes identified were considered in relation to the wider landscape to determine connectivity for local bat populations, and through the examination of aerial mapping.

Assessment criteria for evaluating the potential suitability of the Site for bats were carried out in line with *'Bat Surveys for professional Ecologists: Good Practice Guidelines'* [4].

Table 2-1: Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement [4]

Potential Suitability	Description of Roosting habitats in structures	Description of Potential flight-paths and foraging habitats
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevice/suitable shelter at all ground/underground levels).	No habitat features on site likely to be used by any commuting or forging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines, or generate/shelter insect populations available to foraging bats).
Negligible[1]	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on site likely to be used as flight-paths or by foraging bats, however a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[2] and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e., unlikely to be suitable for maternity and not a classic cool/stable hibernation site, but could be used by individual hibernating bats[3]).	Habitat that could be used by small numbers of bats as flight-paths such as a gappy hedgerow or unvegetated stream, but isolated, i.e., not very well connected to the surrounding landscape by another habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.

[1] Negligible is defined as 'so small or unimportant as to be not worth considering, insignificant'. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute).

[2] For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

[3] Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments [14] ((and [15]).Common pipistrelle swarming has been observed in the UK ([16] and [17]) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland ([18]). This phenomenon requires some research in the UK,

Potential Suitability	Description of Roosting habitats in structures	Description of Potential flight-paths and foraging habitats
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

2.2.2 Ground Level Tree Assessment

As part of the walkover, all trees within the Site were assessed for the presence of features that could be utilised by roosting bats, using close-focusing binoculars and a powerful focused-beam light source. The following criteria were used:

- Presence of natural cavities, splits, cracks, loose bark and rot holes in the trunk or boughs of the tree;
- Presence of dense and woody ivy (*Hedera helix*) growth that could be used by bats for roosting;
- Evidence of bat droppings, which may also be seen as a black streak beneath holes, cracks, branches, etc;
- Presence of smooth edges with dark marks and urine stains at potential entrances to roosts;
- Adjoining habitat which are likely to be important to bats, including the river corridor, and hedge / treelines within the survey area that offer a variety of potential foraging, roosting and commuting opportunities for bats; and,
- Adjoining potential roosts / known roosts identified, as this raises the likelihood of a tree being of benefit, as bats may move roosts if a roost becomes too hot / cold.

The potential suitability of any PRFs identified were then categorised as per Table 2-2 below (Table 6.2 in BCT guidance [4]).

Table 2-2: Guidelines for Categorising the Potential Suitability of PRFs

PRF Suitability	Description
PRF-I	PRFI is only suitable for individual bats or very small numbers of bats, either due to size or lack of suitable surrounding habitats.
PRF-M	PRF is suitable for multiple bats and may, therefore, be used by a maternity colony.

This assessment was not undertaken during the optimal period for ground-level tree inspections, which is considered to be from December to March inclusive [4]. However, this is not considered to be a significant survey constraint as the survey was designed around the previous trees surveyed for bat roosts in 2021.

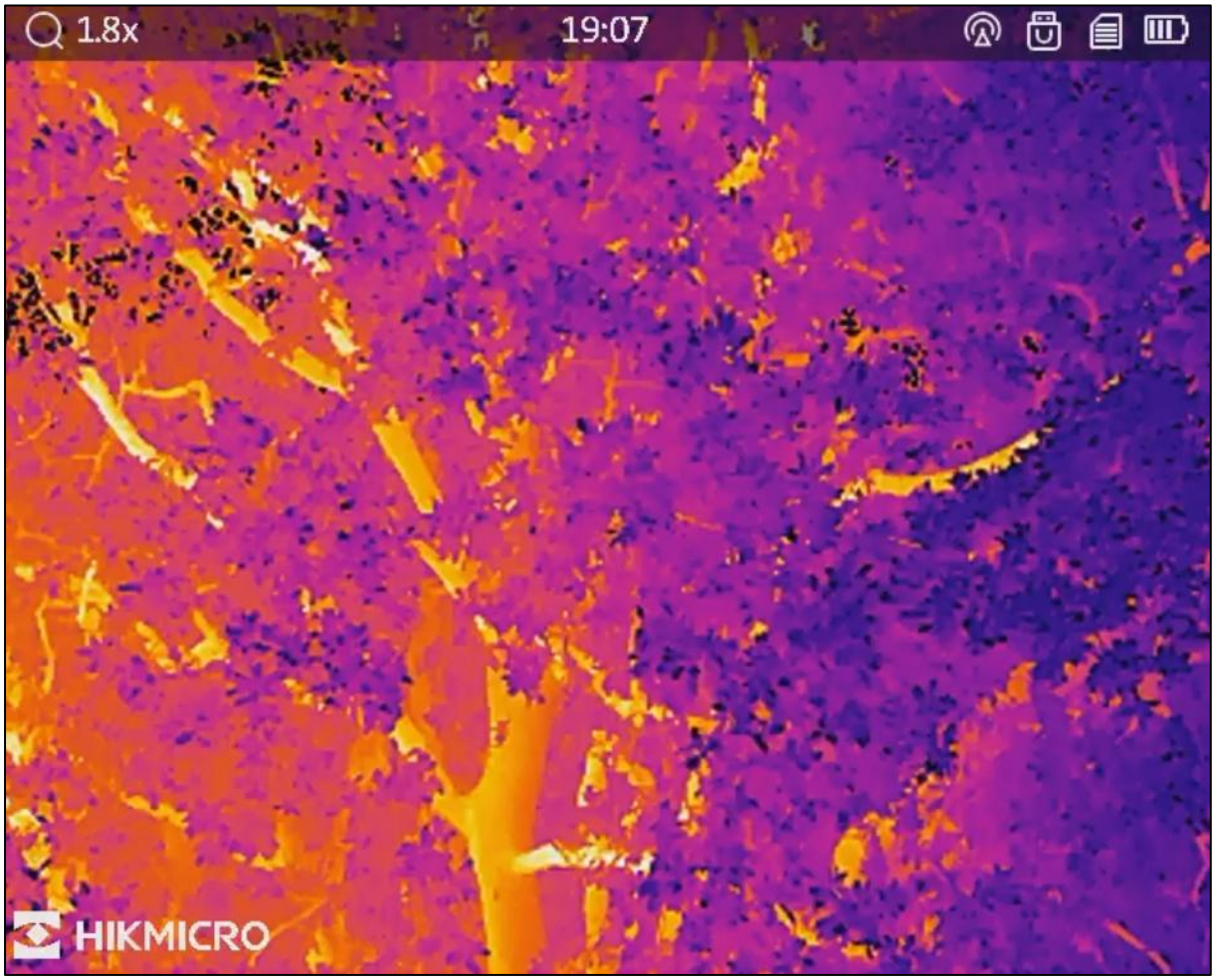
but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.

2.2.3 Dusk Emergence and Nighttime Bat Walkover (NBW) Surveys

Two dusk emergence and NBW surveys took place at the Site, the first on 15th September 2025 and the second on 23rd September 2025. The surveys commenced 15 minutes before sunset and ended 2 hours after sunset, therefore encompassing the typical emergence times of Irish bat species.

The emergence survey took place using night vision aids ('NVAs'), and by surveyors at vantage points ('VPs'). One NVA was used at VP1 as this vantage point had the most suitable potential trees for roosting bats. The surveyor at VP1 used one HIKMICRO Lynx 2.0 Pro Thermal Monocular as a night vision aid during the emergence survey to aid in monitoring the trees within the Site for bat emergence. See Plate 2-1 below for the viewshed from VP1.

Plate 2-1: NVA Viewshed at VP1



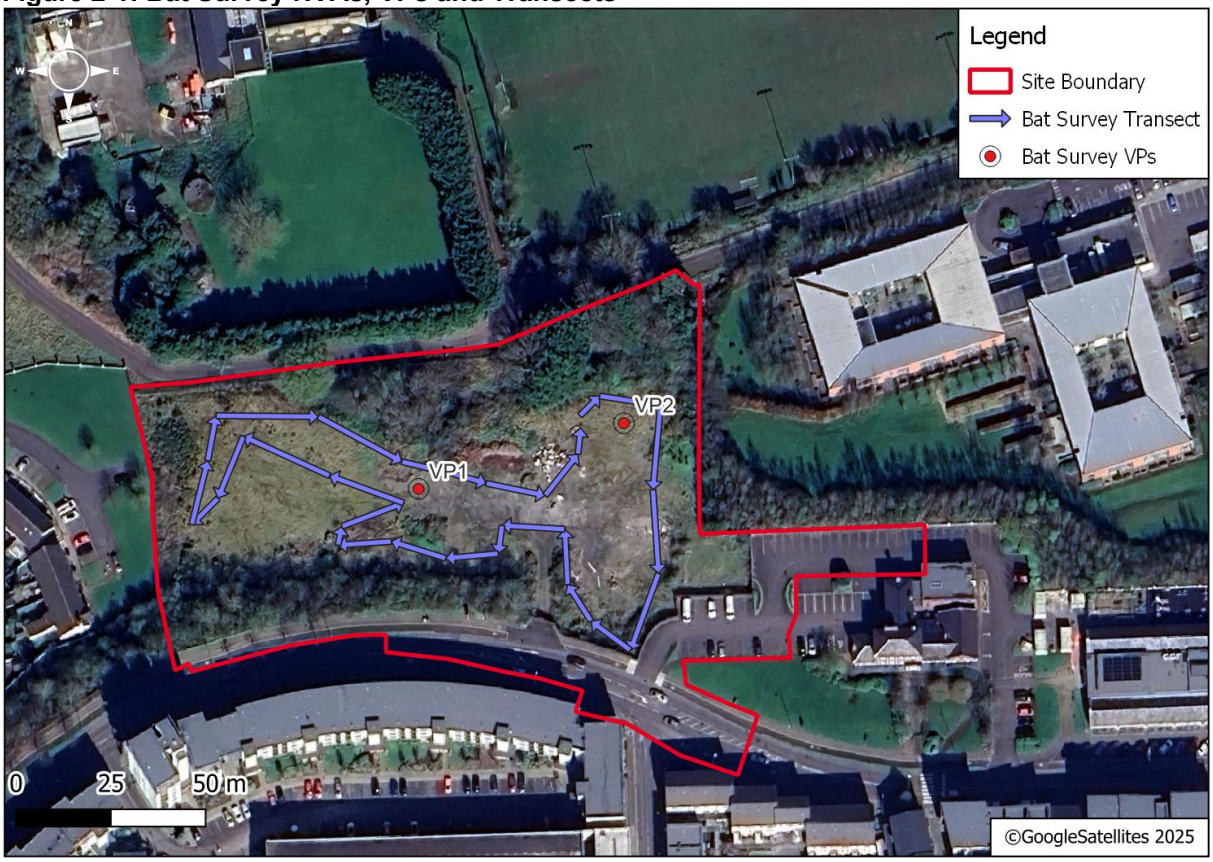
The emergence surveys took place for one hour and fifteen minutes and were designed to incorporate all trees identified as having Potential Roost Features ('PRFs'), and the trees that were surveyed for bat roosts in 2021. These trees were surveyed so they could be monitored for bat emergence.

The NBW portion of the survey involved walking a predetermined transect ('T') for one hour after the VPs, and was designed to incorporate all treelines, linear features and other areas of the Site that the daytime bat walkover survey identified as providing suitable habitats for foraging and commuting bats. The transect aimed to capture bat activity levels within the wider survey area and to determine what areas within the Study Area are important habitats for bats. During both the emergence and NBW portions of the survey, the surveyors used an Echo

Meter Touch2 Pro to listen for bat calls. These bat calls were recorded using this Echo Meter Touch2 Pro and stored on the EchoMeter App. A combination of visual observation and listening to ultrasonic bat calls were used during the emergence and NBW survey. Surveyors continuously recorded any signs of bat activity using the Echo Meter Touch2 Pro and noted any visual observations.

Two MOR Environmental Ecologists surveyed the Site; see Figure 2-1 below for full details of the locations of the NVAs, VPs and transects walked during the surveys.

Figure 2-1: Bat Survey NVAs, VPs and Transects



2.2.4 Data Analysis

The bat recordings taken during the surveys were analysed using the software KaleidoscopePro to aid the identification of bat species present. A combination of the visual observations taken during the survey and the number of bat passes [4] identified on the recordings were used to determine bat activity levels within the area.

All sound file data recorded during the bat surveys was analysed using Kaleidoscope Pro Software. The 'auto-ID' function was used to batch assign the top auto-ID species for each sound file. This approach allows identification of bats to genus level for *Myotis* species, and to species level for other bats found in Ireland. Separation of *Myotis* species is complicated by the high degree of overlap between call characteristics. This software can also automatically sort sound files that contain only noise ('non-bat') from sound files that contain bat passes.

All non-noise recordings taken on the surveys were manually checked by a capable bat acoustic analyst.

[4] It is important to acknowledge that bat calls provide a measure of bat activity rather than the number of individuals in a population. In practice, bat activity (as, for example, represented by 100 recordings) could be from 100 bats passing the detector or one bat passing 100 times [4].

2.3 Validity of Survey Data

Bat surveys are a snapshot of the bat activity within an area at the time of surveying. It is therefore important that bat surveys are comprised of a number of surveys designed to provide as much information on the species and levels of bats using an area. Therefore, a combination of surveys was used to determine the potential importance of the Site for bats.

All survey work was conducted in accordance with current best practice guidelines, which dictate that bat surveys should be undertaken when there is no wind and the temperature is above 10°C.

During the dusk bat surveys, temperatures were between 14°C -10°C (see Table 2-2 below).

Table 2-3: Bat Survey Metadata

Date	Survey Type	Sunset	Survey Times (Start-End)	Weather	Temperature (°C) Start - End
15/09/2025	Dusk Emergence & NBW	19.50	19:35-21:50	Light drizzle from: 19:58 – 20:13 and 20:53 – 20:57	14°C -13°C
23/09/2025	Dusk Emergence & NBW	19.32	19:17-21:32-	Dry with light breeze	12°C -10°C

During the first dusk emergence and NBW survey on 15th September, there was light drizzle from 19:58 – 20:13 and from 20:53 – 20:57. This was not considered to be a significant survey limitation as this drizzle did not significantly deter bat activity onsite.

The 2025 bat surveys were undertaken outside of the optimal period for undertaking emergence surveys for maternity roosts, but were undertaken during the optimal period for survey for transitional / occasional roosts [4]. This was not considered to be a survey limitation as all trees surveyed for bat emergence were classified as '*PRF-I – PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats*' [4], and were therefore deemed unsuitable to support a bat maternity colony.

2.4 Evaluation of the Importance of the Site for Bat Species

The value of the importance of the Site for bat species was evaluated using the ecological evaluation guidance given in the Transport Infrastructure Ireland (TII), formerly known as National Roads Authority (NRA), guidance on assessment of ecological impacts of National Road Schemes [13]. This guidance provides ratings for resources based primarily on geographic context and allows for resources at the following levels:

- International Importance;
- National Importance;
- County Importance (or vice-county in the case of plant or insect species);
- Local Importance (Higher Value); and,
- Local Importance (Lower Value).

3 RESULTS

3.1 Desk-Based Results

Prior to conducting the field surveys, a desk-based review of information sources was completed.

Four of the nine resident bat species found in Ireland have been recorded within 2km of the Site within the past 10 years at the time of writing this report [6]: Daubenton's Bat, Leisler's bat, common pipistrelle and soprano pipistrelle. The NBDC records were checked on 23rd September 2025. The following NBDC 2km grids have been reviewed: W56U, W56Z, W57Q, W57R, W57V, W57W, W66E, W67A and W67B [6]. Only records over the past 10 years were included in this report. The parameter of 10 years was chosen on the basis of habitat adaption and modification, and it is considered that any records over 10 years old are not representative of the current distribution of bat species populations.

A review of The National Bat Database of Ireland did not show any known roosts within 3km of the Site [7].

Table 3-1 provides details of the habitat suitability index for the Site [6]. The habitat suitability index identifies the geographical areas that are suitable for individual species. The index ranges from 0 to 100, with 100 being the most favourable to bats. The index presented is for all species combined, in addition to the individual species indices within the study area.

From the indices, it can be established that the Site has an overall very high habitat suitability index range of 36-58. The habitat suitability for Irish bats within the area ranges from very high to low. Excluding the lesser horseshoe bat which has a 'very low' habitat suitability for the Site, all of the other listed species are likely to occur within the area.

Table 3-1: Habitat Suitability Index

Bat Species	Latin Name	Suitability Index Range	Suitability Index Level
All Bat Species	-	36-58	Very High
Brown Long-eared Bat	*Plecotus auritus*	50-79	Very High
Leisler's bat	*Nyctalus leisleri*	47-71	Very High
Soprano Pipistrelle	*Pipistrellus pygmaeus*	46-64	Very High
Whiskered Bat	*Myotis mystacinus*	45-69	Very High
Common Pipistrelle	*Pipistrellus pipistrellus*	39-47	High
Daubenton's Bat	*Myotis daubentonii*	30-38	High
Natterer's Bat	*Myotis nattereri*	37-48	Moderate
Nathusius' Pipistrelle	*Pipistrellus nathusii*	6-15	Low
Lesser Horseshoe Bat	*Rhinolophus hipposideros*	0-4	Very Low

3.1.1 Review of Previous Surveys undertaken Onsite

No bats were roosting in the trees surveyed onsite during the 2021 surveys. Low bat activity was recorded from the following species: common pipistrelle, soprano pipistrelle and Leisler's

bat. Foraging and commuting bat activity was recorded along the north of the Site where there are hedgerow / treelines.

3.2 Field Based Results

3.2.1 Daytime Bat Walkover Survey

The baseline ecological survey identified four trees with potential roost features ('PRF's) along the northern boundary. It should be noted that these are the same four trees that were surveyed in 2021.

In addition, the treeline on the northern boundary, just outside the eastern boundary and on the southern boundary also provide suitable foraging habitat and connectivity to the wider landscape for commuting bats.

3.2.2 Ground Level Tree Assessment

Four trees within the Study Area were considered suitable for roosting bats (see Table 3-2 below). In line with '*Bat Surveys for Professional Ecologists - Good Practice Guidelines* (4th ed.)' it was concluded that all trees provided '*PRF-I suitability – PRF* is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats' [4]. It should be noted that these trees were surveyed for bat emergence in line with the survey effort undertaken at the Site in 2021.

Table 3-2: Ground Level Tree Assessment Results

Tree No.	Species	Latin Name	Description	PRF-I or PRF-M
1	Oak	*Quercus robur*	• Loose bark; • Cracks and crevices; and, • Ivy present.	Individual
2	Oak	*Quercus robur*	• Loose bark; • Cracks and crevices; and, • Ivy present.	Individual
3	Oak	*Quercus robur*	• Loose bark; and, • Cracks and crevices.	Individual
4	Oak	*Quercus robur*	• Ivy present.	Individual

It should also be noted that none of the above trees will be removed to facilitate the Proposed Development, but they will undergo management recommendations (thinning crown, removal of lower limbs etc) in line with the Tree Survey Report prepared by South of Ireland Tree Surveys and submitted as part of the overall planning application.

3.2.3 Dusk Emergence and NBW Survey Results

The surveyors identified bats foraging and commuting onsite. The majority of bat activity was recorded in the northeast of the Site, where bats were observed foraging and commuting over vegetation and trees.

3.2.3.1 Dusk 15/09/25

Sunset was at 19.50.

VP1

At VP1, the first bat recorded and observed was a Leisler's bat at 19:58. It was seen foraging over the centre of the Site (LB, Figure 3-1). This bat was recorded passing over the Site multiple times until 20:03. This was the only bat recorded at VP1.

Overall, there was low bat activity at VP1, with ca. eight bat passes recorded per hour. Leisler's bat was the only bat species recorded at VP1.

VP2

At VP2, the first bat recorded and observed was a soprano pipistrelle at 19:57. It was seen foraging and commuting over the northeast of the Site (SP, Figure 3-1). Shortly afterwards from 19:58 – 19:59 a total of three bats were observed foraging and commuting over the northeast of the Site. Bat calls from soprano pipistrelle, common pipistrelle and Leisler's bat were recorded during this time, so it was considered that the bats observed were a combination of these species (SP, CP and LB respectively – Figure 3-1).

At 20:04 one soprano pipistrelle was observed foraging and commuting along the hedgerow / treeline along the northern boundary of the Site (SP, Figure 3-1). Common pipistrelle and soprano pipistrelle were recorded infrequently for the remainder of the VP survey and were observed foraging and commuting over the hedgerow / treeline in the northeast of the Site (CP and SP, Figure 3-1). The last bat recorded at VP2 was a common pipistrelle at 20:30.

Overall, there was high bat activity recorded at VP2 with ca. 44 bat passes recorded per hour. Common pipistrelle had ca. 20 passes per hour, soprano pipistrelle had ca. 18 passes per hour and Leisler's bat had ca. six passes per hour.

Joint Transect

Considerably less activity was recorded during the transect. Only two bat passes were recorded during the hour-long transect - one common pipistrelle at 21:30 and one soprano pipistrelle at 21:23 when the surveyors were walking along the southern hedgerow / treeline (CP and SP, Figure 3-1).

3.2.3.2 Dusk 23/09/23

Sunset was at 19.32.

VP1

At VP1, the first bat recorded and observed was a soprano pipistrelle at 19:42. It was seen commuting over the northern hedgerow / treeline (SP, Figure 3-1). At 19:43 a possible soprano pipistrelle emergence was noted from an oak tree along the northern hedgerow / treeline (TN1, Figure 3-1). It should be noted that neither the surveyor nor the NVA could confirm if this bat emerged from this tree due to the presence of dense foliage at the top of the tree.

Further possible soprano pipistrelle emergences from this same tree were noted by the surveyor at 19:47 and 19:49. Possible re-entries into this tree by two soprano pipistrelle were also observed at 19:55 (TN1, Figure 3-1). The only other bats recorded at VP1 were one Leisler's bat at 20:15 and one common pipistrelle at 20:17, neither of which were observed by the surveyor.

Overall, there was moderate bat activity recorded at VP1, with ca. 16 bat passes recorded per hour. Soprano pipistrelle had ca. 14 passes per hour, common pipistrelle had ca. one pass per hour and Leisler's bat had ca. one pass per hour.

VP2

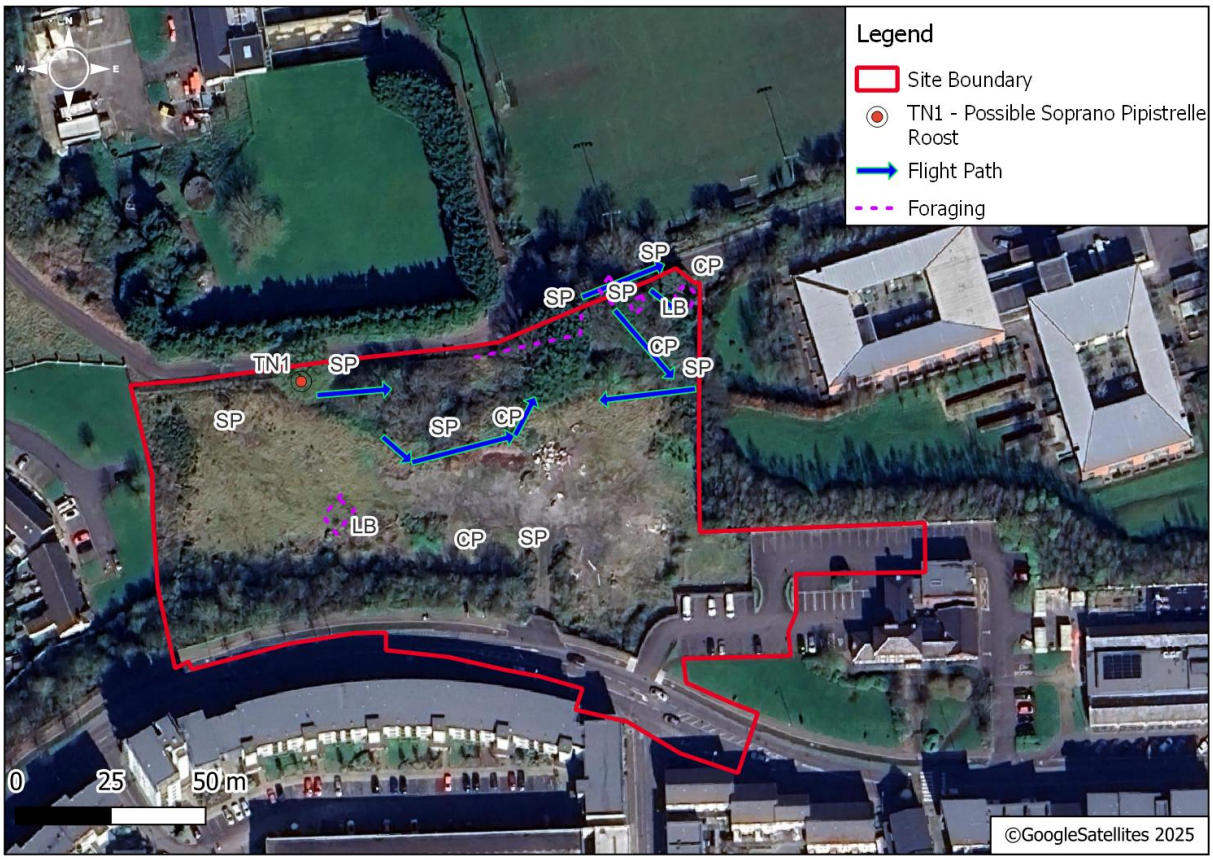
At VP2, the first bat recorded was a common pipistrelle at 19:39, but not observed by the surveyor. The first bats observed at VP2 were three bats at 19:45, seen commuting over the northern hedgerow / treeline. Bat calls from soprano pipistrelle and common pipistrelle were recorded at this time, so it is likely that the bats observed were a combination of these species (SP and CP, Figure 3-1). No other bats were observed at VP2 but calls from common pipistrelle and soprano pipistrelle continued to be recorded infrequently for the remainder of the VP survey. The last bat recorded was a soprano pipistrelle at 20:28.

Overall, there was moderate bat activity recorded at VP2 with ca. 21 bat passes recorded per hour. Common pipistrelle had ca. 12 passes per hour and soprano pipistrelle had ca. nine passes per hour.

Joint Transect

Only one bat was recorded during the transect – a soprano pipistrelle at 21:23 when the surveyors were walking along the western boundary of the Site (SP, Figure 3-1).

Figure 3-1: Bat Activity within the Site



3.3 Overall Results

The following bats were recorded as a result of the dusk emergence / transect surveys:

- Common pipistrelle, soprano pipistrelle and Leisler's bat were recorded commuting / foraging within or above the survey area. The most frequently encountered species of these were common pipistrelle, followed by soprano pipistrelle and Leisler's bat. All

three of these species are relatively wide-spread and the most commonly encountered species within Ireland; and,

- A possible soprano pipistrelle roost was recorded in one of the oak trees along the northern boundary of the Site.

Based on the levels of activity and movement of the bats recorded during the surveys, it is considered that the Site is of high local value to foraging / commuting bats

4 IMPACT ASSESSMENT AND MITIGATION

The following bat species were recorded during the dusk emergence and NBW surveys: common pipistrelle, soprano pipistrelle and Leisler's bat. This represents three of the nine resident bat species known to Ireland, all of which are common Irish bat species. All bat species recorded during the bat surveys are Annex IV species under the EU Habitats Directive and all have a favourable status in Ireland.

Bat species using the Site have the potential to be affected by both the construction and operational phase of the Proposed Development. The impact assessment and mitigation will be undertaken in relation to the three bat species recorded within the Site and the surrounding area: common pipistrelle, soprano pipistrelle and Leisler's bat.

4.1 Potential Impacts on Bats

Principal impacts of the Proposed Development, in general, on bat fauna may be summarised as follows:

4.1.1 Loss of Roosting, Foraging and Flight-Path Habitat

A potential soprano pipistrelle roost was identified in one of the oak trees along the northern boundary of the Site. This could not be confirmed as a roost by the surveyor or the NVA used during the survey due to the presence of dense foliage and vegetation growth on this tree. However, it should be noted that this tree will be retained during the construction and operational phases of the Proposed Development, and the upper crown will be thinned by 1/3 to protect the structure and longevity of this tree. On a precautionary basis and assuming that there may be a small (<five bats) soprano pipistrelle roost be present in this oak tree, mitigation measures will be implemented to ensure no loss of bat roosts on-site.

The majority of bat activity was recorded along the northern boundary of the Site, where bats were observed foraging and commuting over the hedgerow / treelines. Of the trees in this area, two will be fully removed and 10 will be managed (thinned, have thick ivy and deadwood removed) and otherwise protected and retained for the lifetime of the Proposed Development. There will also be root-protection fencing installed adjacent to the retained trees in this area, as well as other mitigation measures to ensure the protection of these trees.

A Landscape Design Report has also been prepared for the Site by Brady Shipman Martin and will be submitted as part of the overall planning application.

However, mitigation measures are required to ensure that the Proposed Development does not result in a loss of bat foraging and flight path habitat.

4.1.2 Lighting of the General Area (street lighting, security lighting etc.)

Lighting for the Proposed Development will potentially impact on bat species in relation to commuting and foraging potential within survey area and the wider area. The degree of this impact is dependent on the sensitivity of the bat species, as some bats are more tolerant of lighting. Pipistrelles will tolerate low levels of lighting, while brown long eared bats and Myotis species are very sensitive to lighting and require the light levels to be below 1lux.

While no lighting was present on-site, it was noted during the bat surveys that areas surrounding the Site were significantly lit up, and this lighting could be seen from the Site and also spilling onto the southwest of the Site.

It should be noted that no 'light-sensitive' bat species (*Myotis* species, brown long-eared bat or lesser horseshoe bats) were recorded during the bat surveys on-site. Regardless, the lighting strategy for the Site must be designed to ensure that bats can still use the on-site habitats for foraging and commuting.

In the absence of an appropriate lighting scheme, it is considered that the Proposed Development could have a Negative Impact on foraging and commuting bats.

4.2 Mitigation and Enhancement Measures

Comprehensive mitigation measures will be implemented to reduce the potential impact of the Proposed Development on local bat populations as outlined in the EcIA. In addition, ecological clerk of works ('ECoW') monitoring will be undertaken as required, as outlined in the ER.

Furthermore, as outlined in Landscape Plan submitted as part of the overall planning application, enhancement measures will be implemented that will provide foraging, commuting and potential roosting opportunities for bats. These include the provision of artificial roosting sites (bat boxes) and planting of scrub, hedgerows and treelines on-site.

5 CONCLUSIONS

The bat surveys undertaken for the Proposed Development included a walkover of the lands within the Site, a review of the previous bat surveys undertaken on-site, and two dusk emergence and NBW activity surveys. In line with the previous bat surveys undertaken on-site, trees along the northern boundary of the Site were surveyed for bat roosts. A small soprano pipistrelle may be present in one of the trees that will be retained and protected for the lifetime of the Proposed Development. Additionally, there will be no light spillage onto this area of the Site. Therefore, there will be no loss of bat roosts as a result of the Proposed Development.

Moderate to low bat activity was recorded during the surveys undertaken on-site. Common pipistrelle, soprano pipistrelle and Leisler's bat were the only bat species recorded. The majority of foraging and commuting bat activity was recorded along the northern boundary of the Site, where vegetation removal is proposed. However, as per the Landscape Plan, the northern boundary along with the eastern and northern boundaries will be planted and compensate for the vegetation removal and provide suitable foraging and commuting habitat.

Overall, the Site is considered to be of high local importance for commuting and foraging bats within the local area as the majority of the Site is dark at night and contains good commuting and foraging habitats for bats. However, it is considered that if the mitigation measures presented within this report are followed, the potential impacts on bats will be reduced and the overall impact from the Proposed Development on bats will be Low-Negligible.

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APPENDIX B



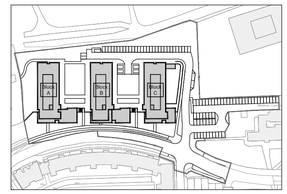
Site Plan - Ground Floor Plan

Scale 1:500@A1

N

NOTE:
- DO NOT SCALE. USE FIGURED DIMENSIONS ONLY
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS AND DRAWINGS.
- ALL DIMENSIONS TO BE CHECKED ON SITE.
- IN THE EVENT OF ANY DISCREPANCIES BETWEEN DRAWINGS THE CONTRACTOR IS TO INFORM THE ARCHITECT IMMEDIATELY

REV.	DATE	DESCRIPTION	DRWN	CHKD.	APP'RD
A	23.09.2025	Issued for 247 Meeting	COC	PH	PH
B	10.12.2025	Issued for 328 Meeting	COC	PH	PH
C	17.04.2026	Issued for Info	COC	PH	PH
D	08.06.2026	Issued for Info	COC	PH	PH



N

Key Plan

Scale 1:2500@A1

NOTES

1. ALL DIMENSIONS IN MILLIMETERS
2. FURNITURE AND FITTINGS SHOWN ARE INDICATIVE

LEGEND-

- 1-Bed Units Min
- 1-Bed Units +10%
- 2-Bed (3-person) Units Min
- 2-Bed (3-person) Units +10%
- 2-Bed (4-person) Units Min
- 2-Bed (4-person) Units +10%
- SITE BOUNDARY
- ADJOINING SITE ALSO IN CONTROL OF THE APPLICANT
- RIGHTS OF WAY / WAYLEAVES
- INDICATES FINISHED FLOOR LEVEL

Reference Index:
Map Series | Map Sheets
1:1,000 | 6380-20
1:1,000 | 6380-19

CAR PARKING

	Regular	Disabled
New Spaces	48	5
Repurposed Spaces	38	0
TOTAL	91	
Car Space to Unit Ratio	0.6	

UNIT SUMMARY

	1-Bed		2-Bed (3-Person)		2-Bed (4-Person)		Total
	Min	+10%	Min	+10%	Min	+10%	
	28	49	3	5	70	2	
TOTAL	77		8		72		157
Unit Mix %	49.0 %		5.1 %		45.9 %		

UNIT TYPES		Description	Number	Area	1-Bed	2-Bed (3P)	2-Bed (4P)		+10%
1921_1B-01		1-Bed	28	45.6 m²	28				
1921_1B-02		1-Bed	34	49.5 m²	34				34
1921_1B-03		1-Bed	12	49.7 m²	12				12
1921_1B-04		1-Bed	3	50.6 m²	3				3
1921_2B-01		2-Bed (3P)	3	63.4 m²		3			
1921_2B-02		2-Bed (3P)	5	70.6 m²		5			5
1921_2B-03		2-Bed (4P)	62	73.2 m²			62		
1921_2B-04		2-Bed (4P)	7	73.2 m²			7		
1921_2B-06		2-Bed (4P)	2	81.8 m²			2		2
1921_2B-07		2-Bed (4P)	1	78.2 m²			1		
Totals					77	8	72		56
					49.0%	5.1%	45.9%		35.7%
Total Units					157				
Net Site Area					1.206 Ha				
Net Density					130.2 per Ha				

WILSON ARCHITECTURE

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Apartment Development
Ballincollig
OFlynn Construction

Site Plan
Ground Floor Plan

SCALE	DATE	DRAWN BY	CHECKED	REVISION No.	DRAWING NO.
1:1000@A3 1:500@A1	June 2026	CG	PH	D	2530 - PL - 100

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APPENDIX C

Old Fort Road, Ballincollig
Landscape Design Report

BSM
Est. 1968
Brady Shipman Martin
Built. Environment.

Landscape
Design
Built
Environment

Client: O'Flynn Construction

Date: 18 June 2026

DOCUMENT CONTROL SHEET

6752_RP01_Landscape Design Report

Project No.	**6752**
Client:	**O'Flynn Construction**
Project Name:	**Old Fort Road, Ballincollig**
Report Name:	**Landscape Design Report**
Document No.	**RP01**
Issue No.	**02**
Date:	**18/06/2026**

This document has been issued and amended as follows:

Issue	Status	Date	Prepared	Checked
00	Planning Application	18 Dec 2025	AK	DB
01	Planning Application	30 Apr 2026	AK	DB
02	Planning Application	18 Jun 2026	AK	DB

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1 Introduction

The subject site for this residential development planning application is located to the north of the Old Fort Road, Ballincollig Town Centre, Cork.

The proposed development is located north of Old Fort Road in Ballincollig Town Centre, Cork. The lands are zoned 'ZO. 06 Urban Town Centre' in the Cork City Development Plan 2022-2028. The proposed development consists of 157 apartments in three blocks, 2 and 3 storeys in height facing onto Old Fort Road, and 5 and 6 storeys in height at the northern end of the site as the topography slopes away. The space between the blocks 'A' and 'B' will be used as courtyard semi-private open space for the apartment residents, whereas between the Block 'B' and 'C' divided between semi-private open space and a car park. A proposed creche is located on the lower ground floor west of Block 'C'.
Further details on the scheme is outlined in the architectural design report prepared by Wilson Architecture which accompanies the application.

The landscape design strategy and design principles for the development are described in this report. This report should be read in association with the following documents and drawings;

Document/Drawing No	Name	Scale
6752-RP Tree Survey	Tree Survey	Nts
6752-100	Tree Survey and Tree Protection Measures	1:250
6752-300	Landscape Plan	1:250
6752-301	Landscape Sections	1:150/ 1:100
6752-302	Landscape Sections	1:100
6752-303	Boundary Treatment	Various
6752-304	Planting Schedule, SuDS & Playground Details	Various

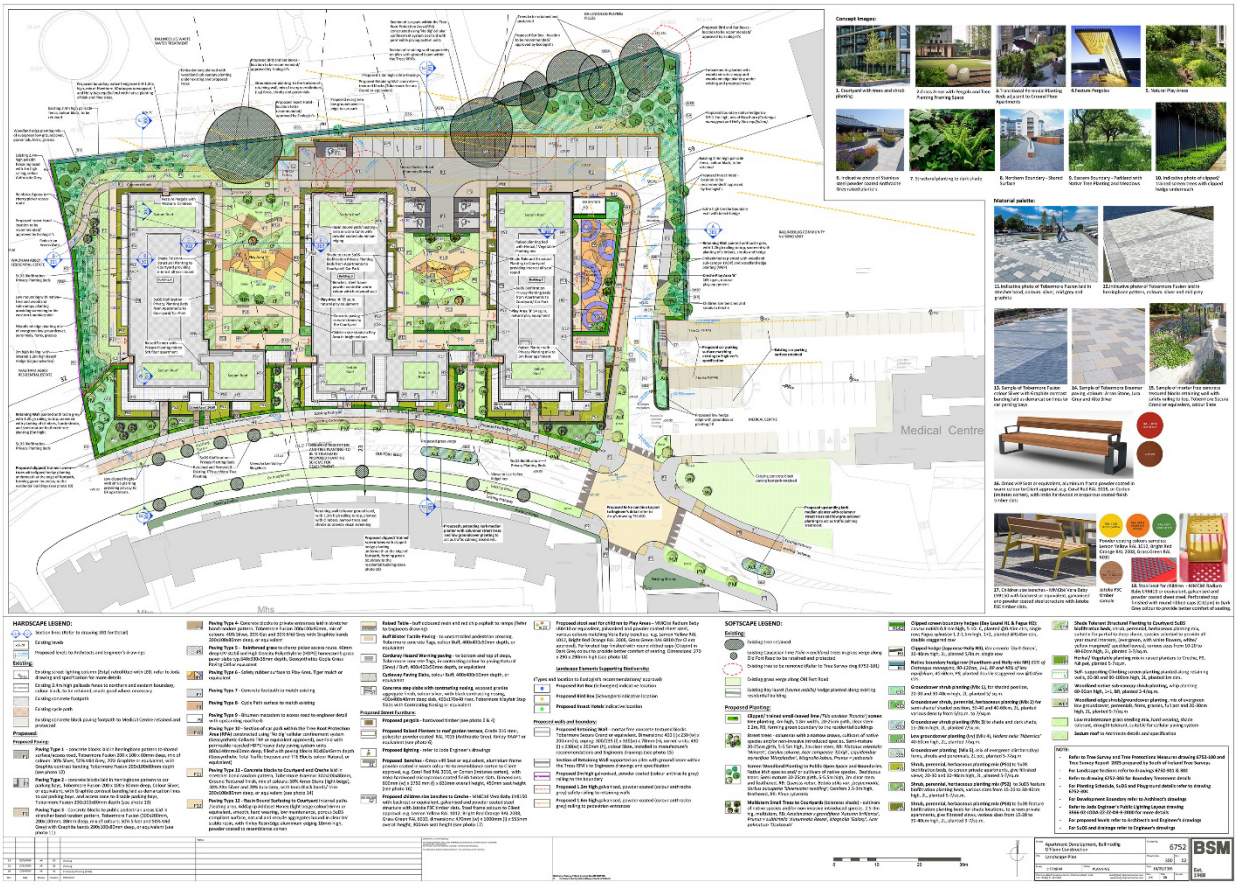


Figure 1 – Old Fort Road Landscape Plan (drg. 6752_300)

2 Site Context

The site was formally part of the Ballincollig military barracks which closed in the late 1990s. An Action Area Plan was prepared and completed in 2000 for Cork County Council by the Department of Defence, which outlined a framework plan for the development of the barracks as a mixed use, town centre development with residential, retail, commercial and amenity uses. A more detailed masterplan was prepared by the current applicant, O'Flynn Construction, and submitted for planning in 2002, and which was granted planning permission in 2003 (see Figures 2 and 3 below).

In the preparation of the masterplan, the core area of the former military barracks north of Main Street Ballincollig, was developed for commercial office around the Barrack's Square, with new retail and residential streets. Old Fort Road was designed as a tree lined street with buildings fronting onto the street. To the north of Old Fort Road, views out over the Lee Valley and ridgelines, and Ballincollig Regional Park were retained to provide an attractive visual backdrop to the development. A comprehensive and well maintained landscape design to the new streets and spaces has resulted in an attractive, vibrant, and successful mixed use, urban environment.

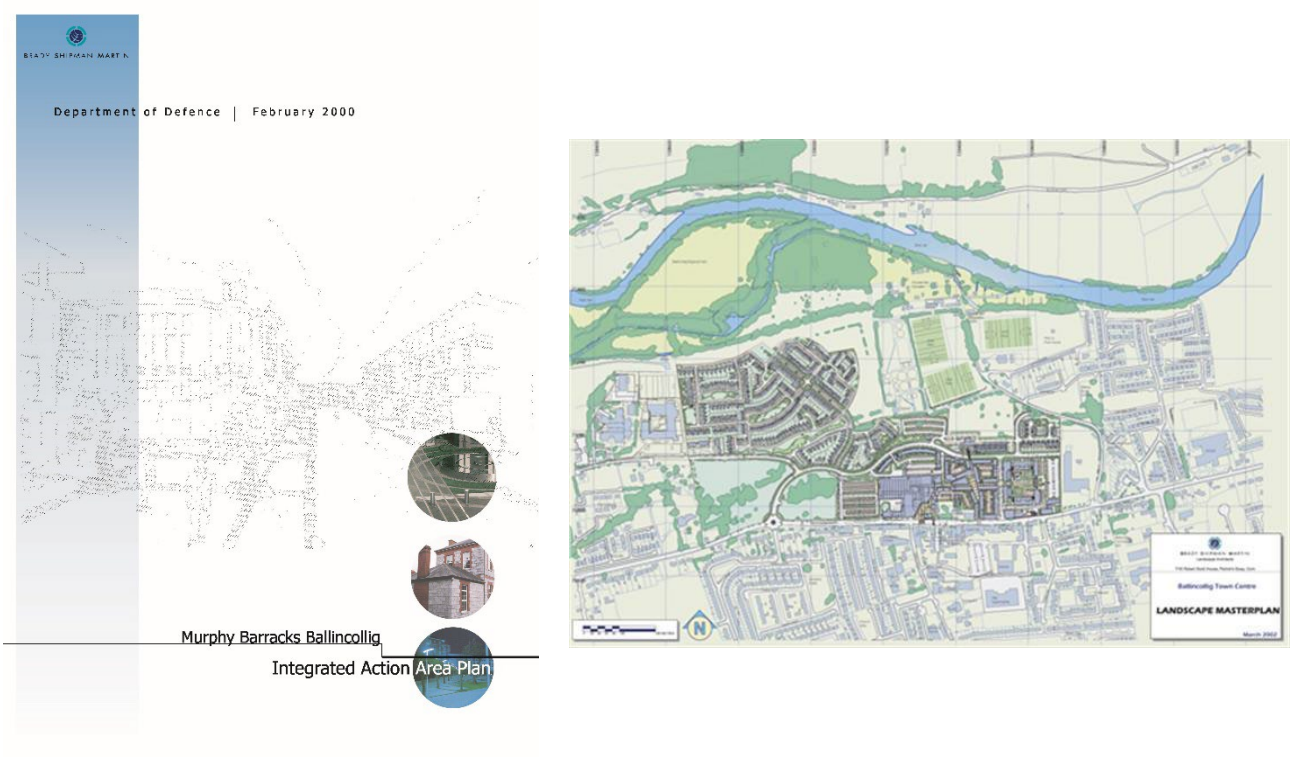


Figure 2 - Ballincollig Barracks Action Area Plan (2000, BSM)

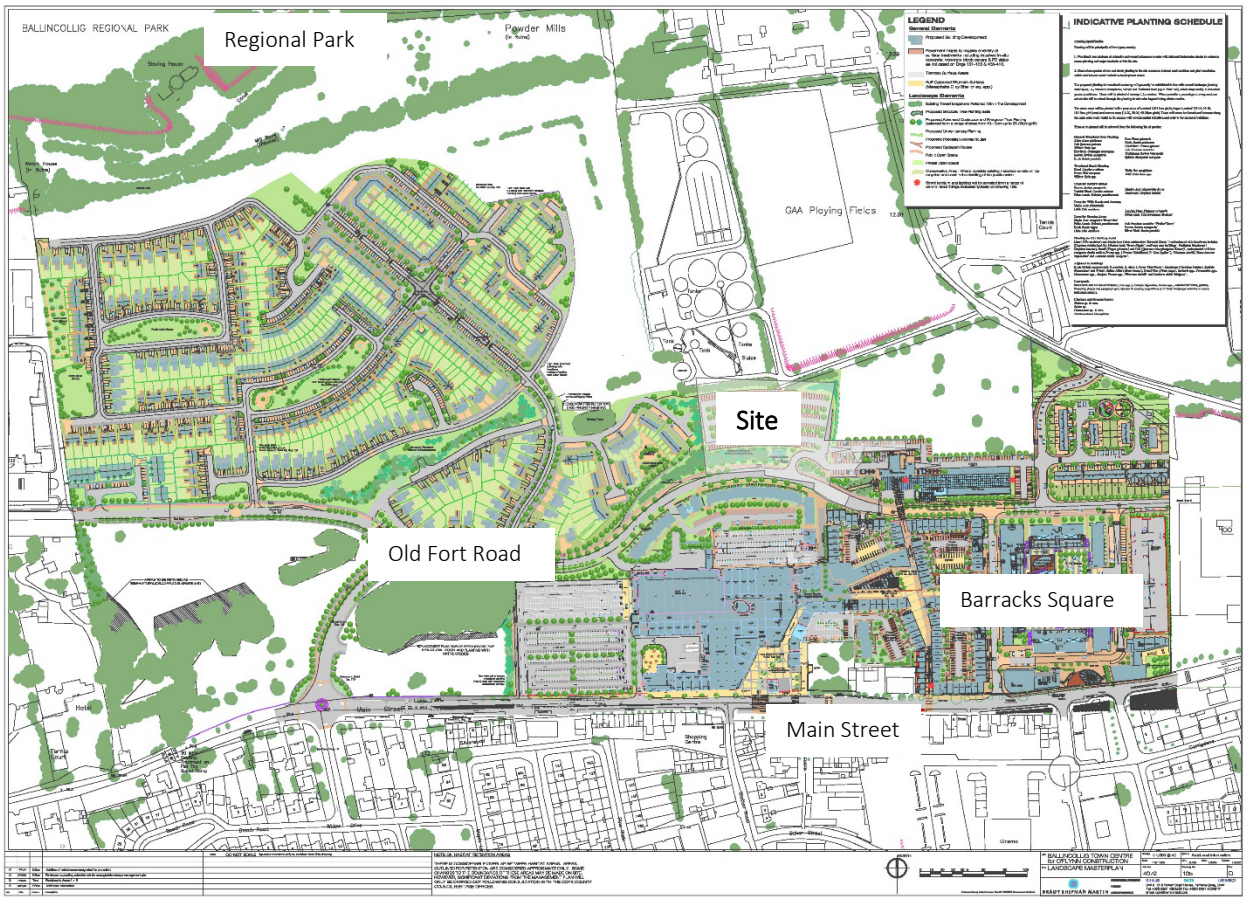


Figure 3 - Ballincollig Masterplan (2002, BSM)

The proposed development site is located in the last remaining undeveloped site on the former barracks and is located immediately north of 'The Crescent' and Ballincollig Town Centre.



Photo 1 Site Context in Ballincollig Town Centre

The site's southern and western boundaries face existing residential development, 'The Crescent' and Waltham Abbey. Medical services are located to the east of the site and a waste water treatment plant, Ballincollig Regional Park and Ballincollig GAA grounds are located to the north. Both the north and eastern boundaries are well screened from existing development.

There are panoramic views over the Regional Park and Lee Valley landscape to the north, providing a beautiful background and views from the site. Old Fort road runs along the southern boundary of the site. This is defined by distinct avenue planting of semi mature Lime *(Tilia)* trees and mature hedging (Beech, *Fagus sylvatica* and Bay Laural, *Lauris nobilis*).

From the Old Fort Road, the topography falls steeply into the site to the north. The embankment was with a mixture of small trees (Birch, Alder, Ash) and dogwoods. This existing boundary planting is proposed to be removed in development.

The site levels are approximately four meters down from south to north, in a 1 in 14 slope. The area was used as a compound during the construction of the town centre development. A 2.4m high wire mesh paladin fence demarcates the eastern and western boundary, with a 2.4m high palisade fence to the northern boundary. A steep 1 in 2 sloped landscape berm forms along the northern part of the site protecting existing trees and natural ground from the made up ground of the south.

There are a number of existing trees located along the northern boundary of the site. These trees comprise a mixture of mature Oak (Quercus robur) and Lawson Cypress, along with self-seeded Hawthorn and Willow. The Oak trees are of a high value on the site and are to be protected where feasible. Moreover, they provide screening to the northern boundary, alongside with Lawson cypress and are recommended for retention.

A Tree Survey Report has been prepared by South of Ireland Tree Surveys and accompany the planning submission. Trees to be retained within the development will be protected in accordance with BS5837:2012.

Please refer to the corresponding tree report and survey drawing 6752-100 for reference.

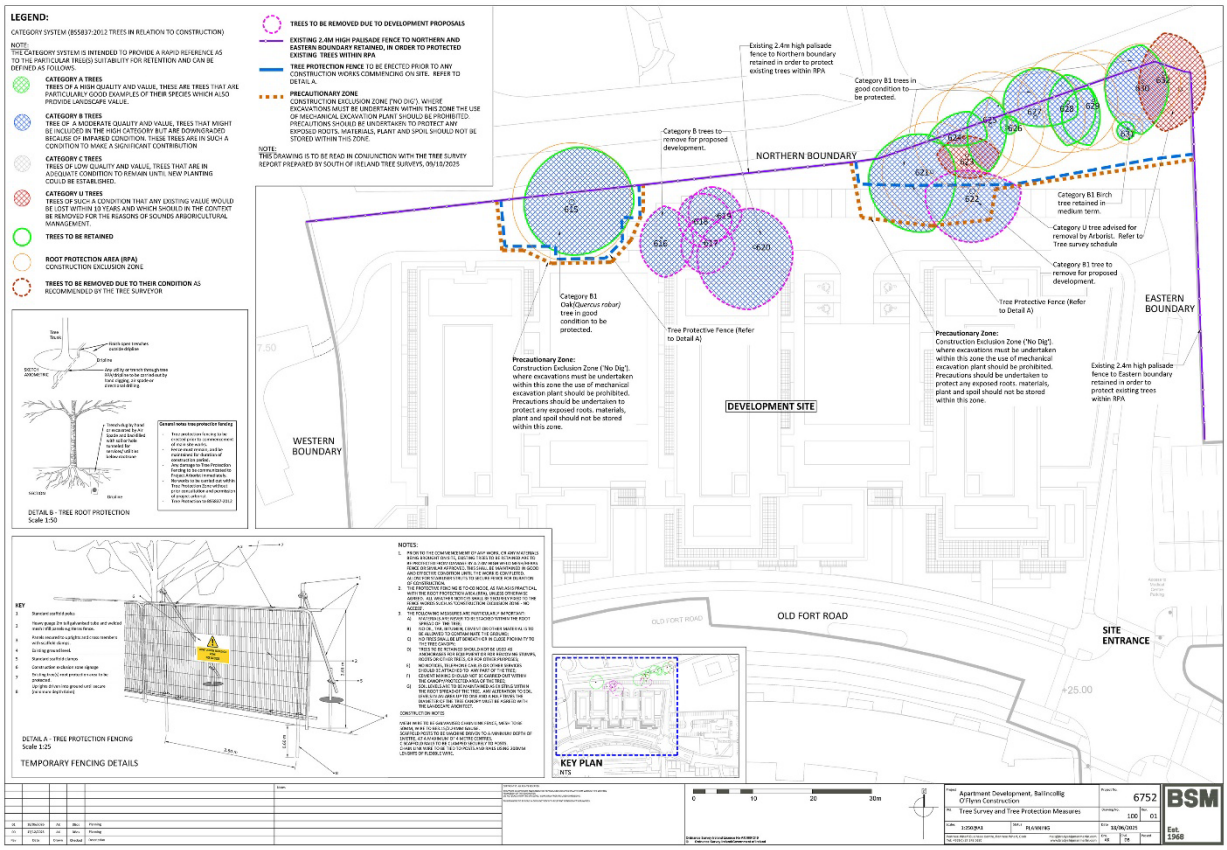


Figure 4 – Tree survey drawing (drg. 6752-100), including tree removal and tree protection measures



Photo 2 View of site from Old Fort Road (site behind blue hoarding)



Photo 3 View of site from Waltham Abbey

3 Landscape Design Principles

The preliminary design and layout of the landscape masterplan (drg. **6752-300**) aims to to create an inclusive and coherent new community based on best practice urban planning and landscape design principles, giving residents a sense of place, ownership and identity. The design concept responds to the site's character with the following measures:

- Provide a series of **high quality, landscape spaces** around the buildings, helping **integrate** the development into Ballincollig Town Centre and provide an attractive landscape setting for existing and future residents. The landscape has been designed to provide **clear definition of public, semi-private and private open space** within the scheme as follows (see Figure 5) ;
  - **Public** – footpath and cycle way with grass verge and existing Lime trees along Old Fort Road, with clipped hedge planting and pleached lime trees providing spatial definition to the street and demarcating the south facing, semi-public buffer space to the apartment buildings.
  - **Semi-private** – at the old Fort Road street level main access to the buildings, a series of entrances with SuDS biofiltration beds, and planted areas with trained tree planting and grasses 0.9mhigh and clipped hedging up to 1.2m high providing privacy to the apartments, whilst maintaining passive surveillance of spaces and street.
  - **Private** – Ground floor apartments with terraces and privacy SuDS biofiltration beds planting providing filtrated views. The courtyard between blocks 'A' and 'B' will include the provision of planting, seating areas and small pocket junior play areas for apartment residents. The courtyard between blocks 'B' and 'C' will have smaller pocket gardens with seating areas, planting to SuDS biofiltration beds, screen hedges and attractive tree planting. The creche located on the eastern side of the block 'C', will have a screened external space, with 1.8m high wall, and a hedge planting.

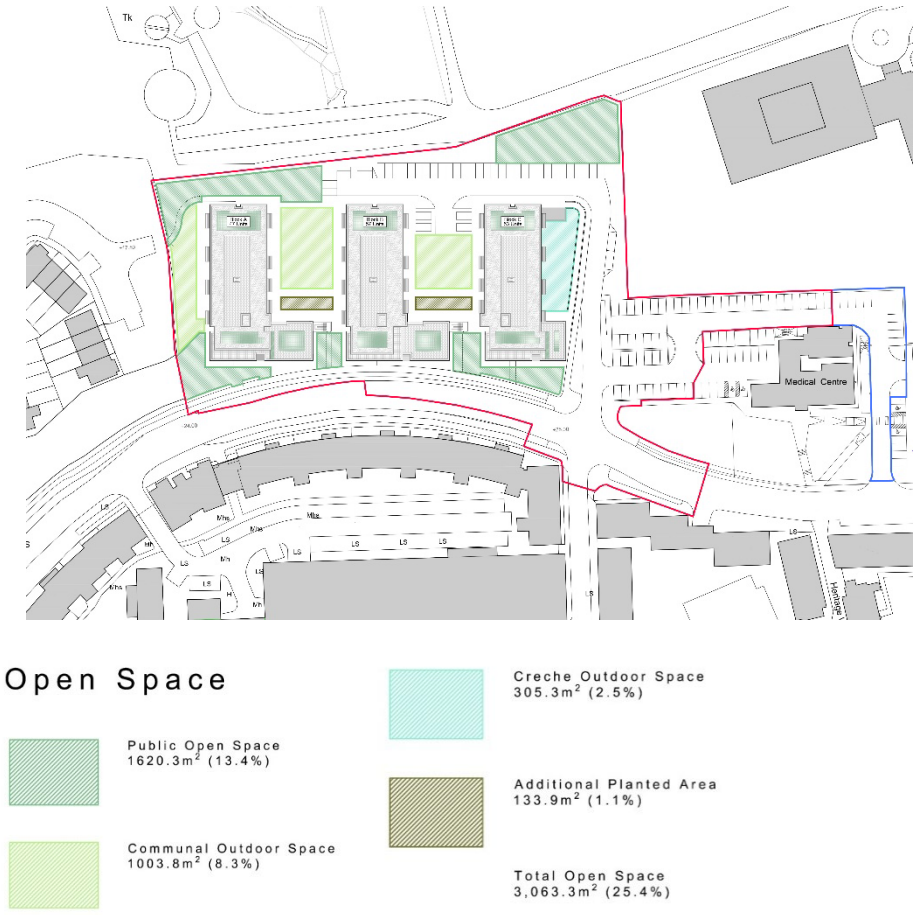


Figure 5 – Extract of Architect's drawing - Open Space Amenity Areas

- Retain, protect and enhance the good quality trees along the northern boundary of the site.
- Provide an attractive, 'soft', urban edge to Old Fort Road, with south facing semi-private open space with tree and hedge planting to the curved street, reflecting the existing clipped hedge privacy planting to the 'Crescent'.
- Create quality public and semi-private open spaces that provide a strong neighbourhood identity, including south facing planted green spaces to Old Fort Road and attractive courtyard garden with attractive planting, seating, and play area for younger children who reside in the scheme.
- Incorporating sustainable drainage systems to manage stormwater runoff in form of SuDS biolfitration planting beds, planted with pollinator friendly shrubs and herbaceous species.
- New apartments to overlook open spaces to ensure passive surveillance of amenity areas
- Retain and frame the panoramic views of undulating the Lee Valley landscape for residents of the scheme, existing residents in the Crescent, as well as the public travelling along Old Fort Road.
- Provide for a range of both active and passive uses, community facilities and amenities and natural & formal play areas for future and existing residents of the area.
- Visually screen, soften and break up external views of development with proposed screen planting where feasible, helping to integrate the development into the surrounding landscape.
- To complement the architectural design with appropriate materials robust for current uses and also to enhance the character of the site and surrounding areas.

4 Landscape Design Details

A high-quality landscape design is proposed throughout the proposed scheme establishing a strong sense of place connected with nature, provision of a variety of public/semi-private/private open space, with connections provided for to the adjacent Town Centre and Waltham Abbey residential area. Tree, hedge and shrub planting will provide an attractive screen to the neighbouring residential and health care developments, as well as providing a strong and attractive frontage to Old Fort Road.

4.1 Connections

The proposed scheme is designed to integrate with the surrounding urban/suburban fabric through the construction of a new pedestrian connection to the north of development connecting Waltham Abbey to the Town Centre. The access junction to the scheme on Old Fort Road will include for the provision of improved pedestrian and cycling with traffic calming measures to provide an attractive and safe connection to the Town Centre, Main Street and other amenities immediately to the south.

Connecting open spaces and communities will be a positive benefit to existing and future residents.

4.2 Active Street Edge to Old Fort Road

The treatment of the public realm and landscape to the Old Fort Road will consist of:

- Proposed new junction with buff coloured, raised table and other traffic calming measures giving improved priority to pedestrians and cyclists from the site to the Town Centre,
- Continuation/minor rerouting of the existing footpath and cycle path past the site.
- Proposed pleached Lime trees with clipped hedge planting underneath, forming ‘soft’, green boundary between Old Fort Road street and residential buildings. Hedge species to be Laurus nobilis to mirror existing hedge species planted along existing residential building on the south part of Old Fort Road.
- Increasing the boulevard of tree planting along the Old Fort Road verge with narrow forms of Oriental Plane *(Platanus orientalis 'Minaret')*

Low structural planting of 1.2m high Beech (*Fagus sylvatica*) hedging will define residential ground floor edges. Low maintenance structural planting such as *Prunus laurocerasus ‘Zabeliana’* and *Pittosporum tenuifolium 'Tom thumb'* will provide transitional spaces from the road to these semi-private and private areas.

Avenue tree planting along the road will be re-established. *Corylus colurna* will bookend the new development avenue planting, continuing the existing avenue into the scheme. *Magnolia Kobus* will provide a smaller intimate space relating to the adjacent residences proposed. Entrances to the courtyard space will be framed by ornamental trees *Prunus × yedoensis and Magnolia kobus* defining the entrances to these semi private spaces. Please refer to landscape Section C on drawing 301.

Transition planting beds graduate these private amenity spaces into the semi-private and public areas. The proposed planting beds will contain a mixture of low maintenance shrub and perennial planting for semi shade and shade locations.

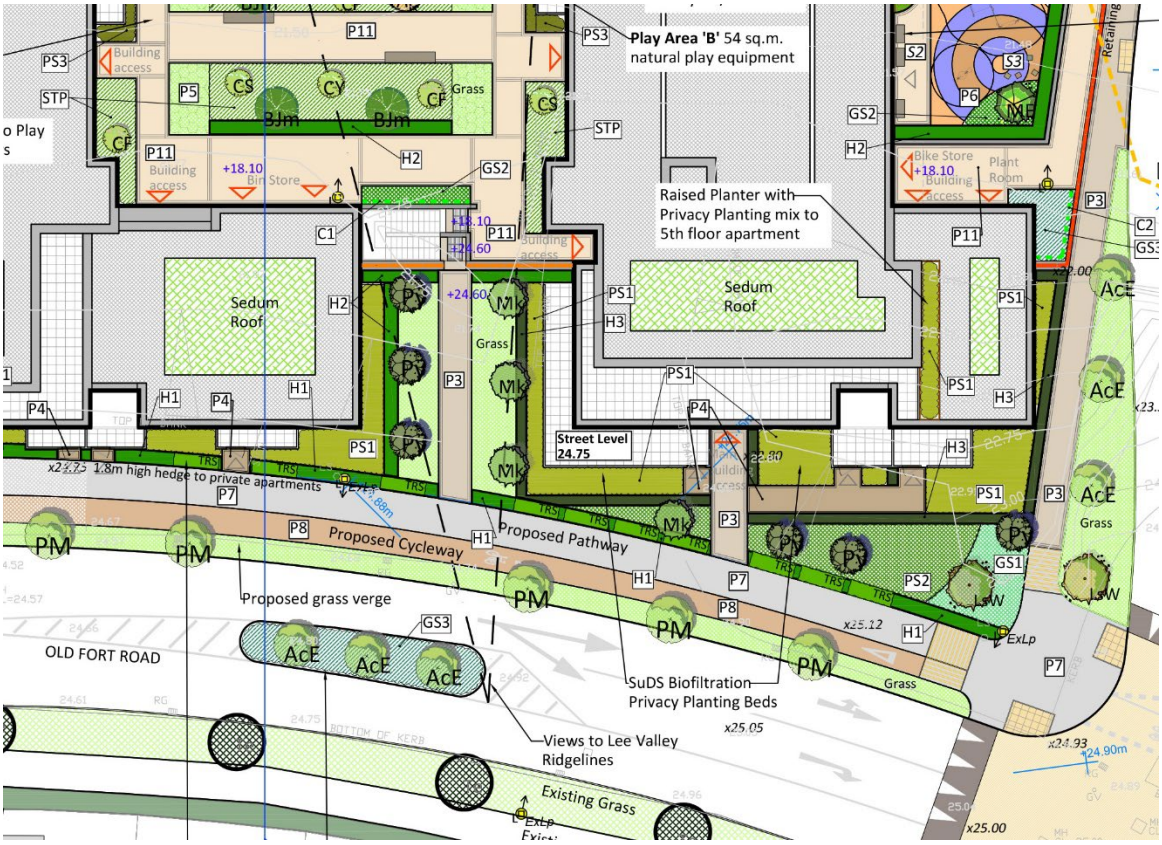


Figure 6 – Extract of drg. 6752-300 illustrating the hard and soft landscape treatment tom Old Fort Road.





Reference photos illustrating typical landscape treatments providing spatial definition and connection with nature for residents

4.3 Courtyard Landscape

The courtyard landscape aims to provide clear accessibility, with a variety of zones that contrast between enclosure and opening views.

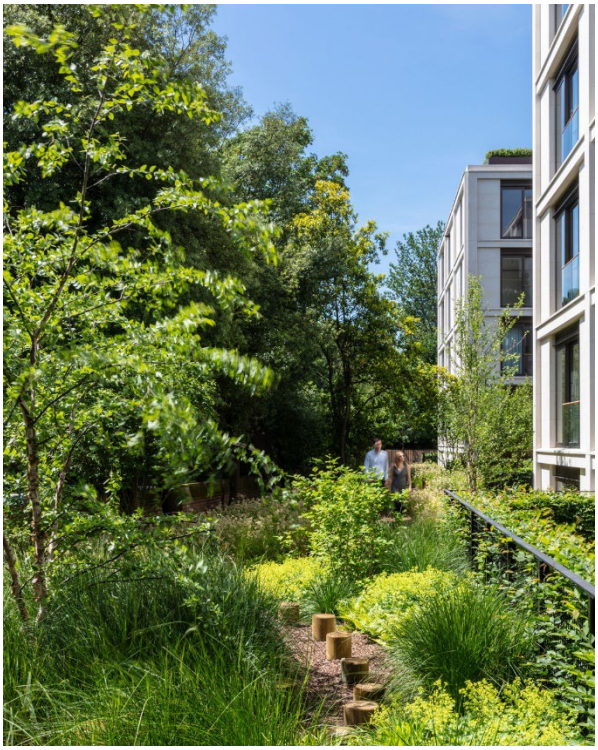
The courtyard landscape will be located on the lower ground floor level between apartment blocks with access from the north, containing small trees/shrubs throughout the scheme. Due to the drop in levels and north facing aspect of the courtyards, the planting species has been chosen to survive in semi-shade and deep shade conditions, be drought tolerant, pollinator friendly, provide all year round interest (evergreen, with white/ bright flowers, white/ yellow margined/ speckled leaves).
The variety of small tree/shrub planting will provide season long interest such as *Amelanchier x grandiflora 'Autumn brilliance', 'Prunus subhirtella 'Autumnalis Rosea', Acer palmatum 'Osakazuki', and Magnolia brooklynensis 'Elizabeth'.* Ornamental trees such as cherry *Prunus subhirtella 'Autumnalis Rosea'* and magnolia *Magnolia brooklynensis 'Elizabeth'* will bookend the northern courtyard edge. These trees will screen the waste water treatment development north of the site whilst framing the external undulating valley views.

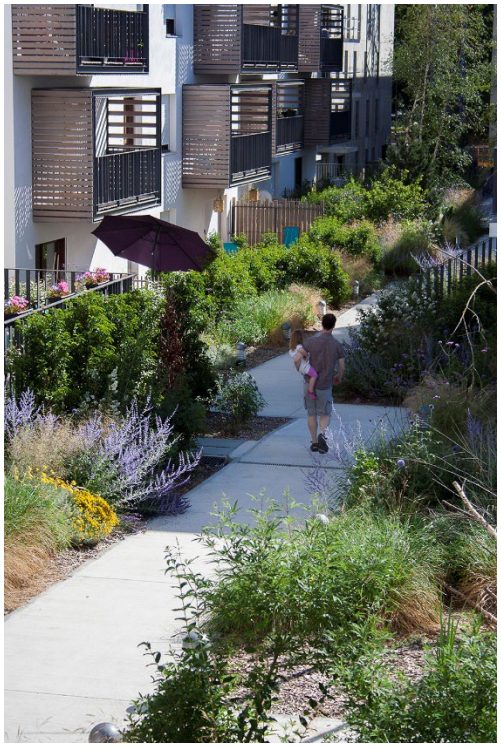
4.3.1 Play

Informal natural play space is designed with natural materials enclosed by tree and shrub planting, providing south facing seating areas for parents and children alike. These spaces will be overlooked by residences in the development.

4.3.2 Seating area

The courtyard will feature a seating area which will transition active zones into passive activities. A feature pergola will break views through the zone providing privacy and interest. South facing seating and feature perennial planting will provide a sensory experience for all users.





Reference images for treatment of courtyard landscape and play areas

4.3.3 Gardens

Quiet garden areas are located in the semi-private courtyard landscape and act as a passive zones for the residences to use and relax in. Framed with planting, providing a transition into a passive oasis.

4.3.4 Private Balcony Gardens

Similar as in the Courtyard space the gardens will act as a passive zone for the residents to use and relax in. Private gardens surrounding the terraces of the ground floor apartments will be framed with pollinator friendly shrubs and herbaceous planting mix in SuDS biofiltration planting beds, giving filtrated views and providing privacy.

4.3.5 Screening Planting to High Retaining Wall

A retaining wall at the southern end of courtyards will be visually screened with Boston Ivy and Virginia creeper climbers, and low maintenance, pollinator friendly groundcover shrub and perennial planting, tolerating shaded conditions.

4.3.6 Courtyard Car Park

The proposed car park is situated between building 'B' and 'C', with access from the north. It comprises of 4 parking disable parking spaces. The car park is bookend with beech hedge planting and ornamental cherry *Prunus subhirtella 'Autumnalis Rosea'* tree planting, providing screening to the neighbouring pocket gardens, planted with SuDS biofiltration planting mixes and feature attractive trees for shaded conditions.

4.4 Boundary Treatments

The boundary treatment around the site is shown on drawing 6752-303

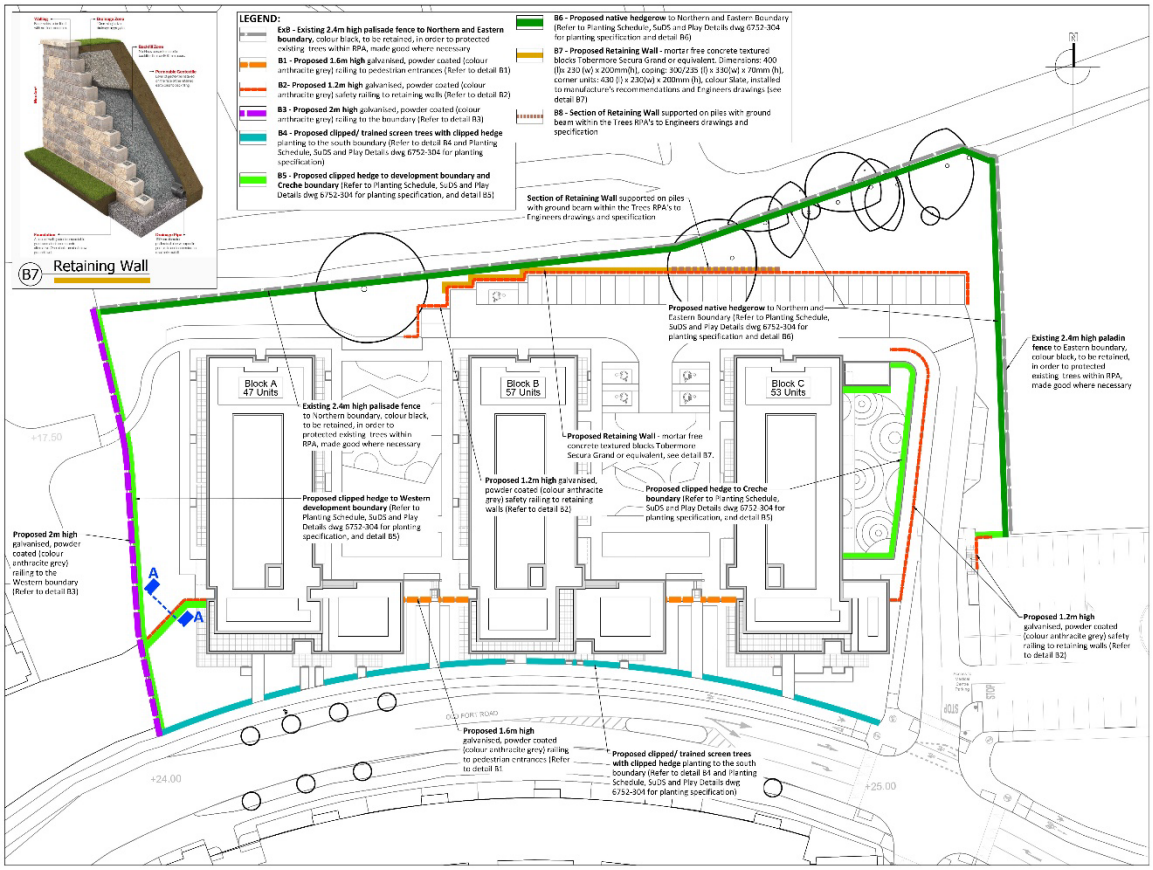


Figure 7 – Extract of Boundary Treatment drawing 6752-303.

The landscape treatment of western boundary of the site will remove the existing 2m high paladin wire mesh security fence and will be replaced with a 2m high anthracite grey (RAL 7016) galvanised steel railing and beech hedge (refer to drawing 303).

There is proposed a low mounding with dense tree planting with *Betula utilis jacquemontii, Pinus sylvestris* and sub-canopy woodland planting providing visual screening between Waltham Abbey and the proposed development, completed with low level woodland edge shrub and perennial planting, with low pollinator friendly, ornamental trees such as Sorbus aucuparia *'Sheerwater Seedling'* and *Prunus × yeodoensis.*

There will be a parkland landscape along the northern and eastern boundaries.
The existing 2.4m high palisade fence to Northern boundary, colour black, to be retained, in order to protected existing trees within RPA, and planted with a native hawthorn & holly hedgerow. The retained trees (predominantly Oak and Lawson cypress) along the northern boundary will be protected in accordance with *BS5837:2012, Trees in relation to design, demolition and construction.*

There is proposed retaining wall mortar free system (Tobermore Secura Grand, in slate colour) to deal with level differences between northern access road with car park and existing levels of retained and protected Oak Trees. Section of wall within existing oak tree Root Protection Area will be supported on piles with ground beam to Engineer's details.
Furthermore the 1.2m high security railing will be provided along the norther car park edge to prevent from falls. Groups of native tree planting of Oak, Pine, Birch and Rowan will be planted, along with the native sub-canopy woodland planting, on the embankment and lower ground level providing additional screening and boosting bio-diversity.

The existing boundary fence and planting to the eastern boundary to the community nursing centre will be retained and protected. Furthermore, a woodland edge planting comprised of evergreen low groundcover, perennials, ferns, grasses, will be providing to help pollinators using shade tolerant species. Additional groups of native trees of Oak (*Quercus* robur) and Pine (*Pinus sylvatica*) are proposed between the proposed road and boundary edge.

Throughout the site, the proposed fencing will be designed and finished in a consistent high quality finish, with 1.2m high railings to retaining walls and vegetated retaining walls, 1.6m high railing providing definition between the private courtyards and semi-private space to Old Fort Road, and 2m high railing to the western and northern boundaries.

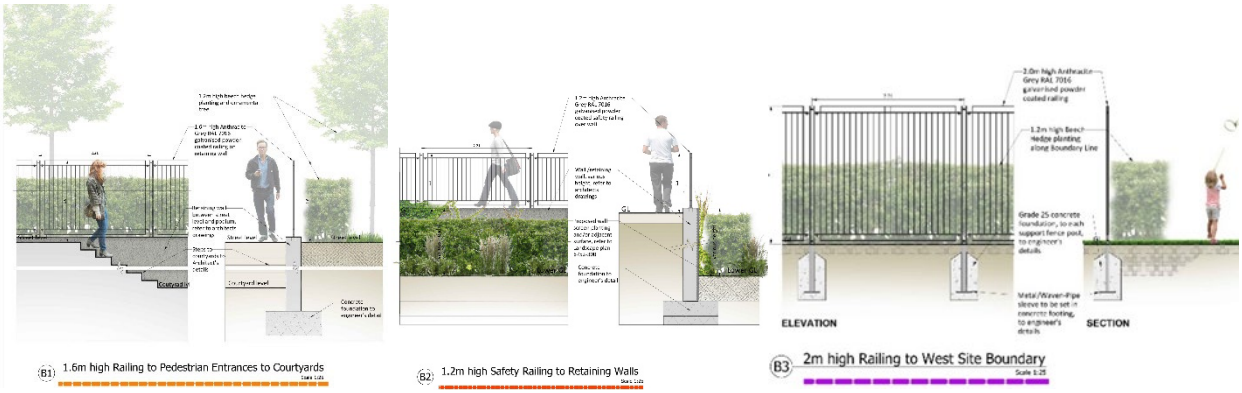


Figure 8 – Extract of Boundary Plan drawing 6752-303 with typical boundary fence and landscape details

4.4.1 Treatment and potential greening of retaining walls in the scheme

There is a significant change in level across the site, which will require retaining walls in two locations to the east and southwest corner of the site. Refer to Landscape Plan 6752-300, Landscape Section drawing 6752-301 and Boundary treatment drawing 6752-302 Section A-A through retaining wall. Details for the landscape treatment of the retaining walls to soften and integrate them into the development are outlined below:

- Retaining wall on the southwest corner of proposed development – there is a 6.5m change in level between the level at Old Fort Road and the ground floor level at this location. The retaining wall will have localised earth mounding at its base with semi-mature tree planting and self-clinging plants added to help screen the wall. The proposed wall will be painted anthracite grey with 1.2m high safety railing to top, screened with Boston Ivy climbers planting, native sub-canopy woodland shrub planting (WSP), woodland edge planting (WEP) and tree planting mix with semi-mature *Betula utilis var. jacquemontii* tree planting (5m high).



Figure 9 – Extract of dwg. 6752-303 - Typical landscape treatment to southwest retaining wall

- Retaining wall on the east side of development, along main vehicular access/pedestrian ramped path – at its highest point there is a 6.5m change in level between the level at Old Fort Road and the ground floor level at this location, requiring a concrete retaining wall. The retaining walls will be constructed to a high architectural quality finish and painted in an anthracite grey colour, with 1.2m safety railing to top. There will be a footpath leading to the building along the wall, with a planting bed at the south -east corner, where the wall will be heavily planted with self-clinging climbing plants such as Boston Ivy (*Parthenocissus tricuspidata*), and deep shade tolerant groundcover planting.

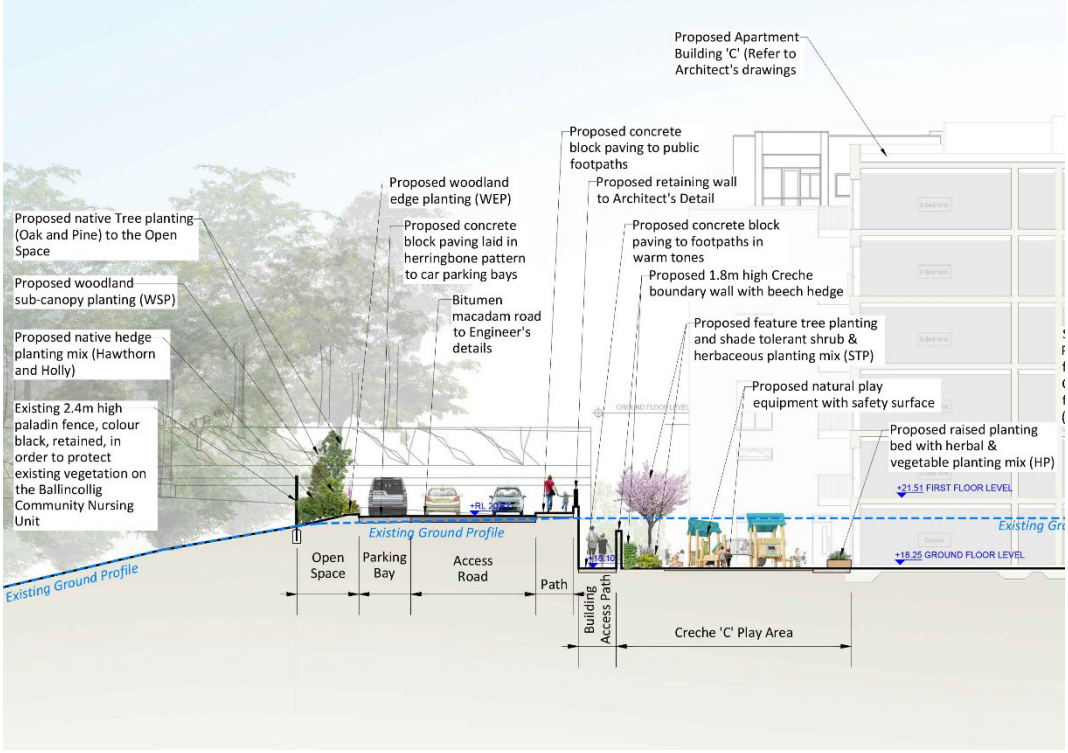


Figure 10 – Extract of Landscape Sections drawing 6752-301 with typical landscape treatment to east retaining wall

4.5 Soft Landscape/Planting Details

The planting mixes for the scheme have been designed to provide visual interest, variety and to be easily maintained. The general planting strategy is to establish visual permeability through the scheme whilst providing good connectivity to existing and new amenity zones containing both passive and active activities. Planting and landscape works will be carried out in accordance with BS4428. Trees will be advanced/semi-mature rootballed stock, in accordance with BS 8545.

The proposed tree planting will have a 2 metre clear stems to provide a leafy canopy layer, softening the proposed buildings and a base layer of low shrub/groundcover and hedge planting to create low level seasonal interest and colour softening the hard landscape areas. Eye level between the two planting types is kept clear to maintain sight lines throughout the scheme.

The trees planting which are to provide visual screening to the 6.5m high retaining wall and western boundary with Waltham Abbey will be mixture of evergreen feathered Scots Pine trees 2.5-3m high, and clear stem Birch trees 5-5.5m in height.

The proposed adaptive tree/shrub planting in the courtyard will be multi-stemmed with a clear stem of 1m. This will provide seasonal interest and visual permeability in a semi private atmosphere.

4.5.1 Biodiversity

The proposed planting mix will contain species that encourage pollinators increasing site biodiversity. The scheme will also include native tree planting in the open space along the western, northern and eastern boundary, and native hedgerow planting along the northern and eastern boundary. To help enhance biodiversity on the site bird and bat boxes will be installed on mature trees, and insect hotels in the open space in the locations recommended by ecologist.

4.5.2 Detail of tree planting

Details of tree planting such as proposed species, height, girth, stem size and type, and root type are specified in Softscape Legend on a Planting Schedule, SuDS and Playground Details drawing 6752-304.

Tree planting in the scheme we can divide into 4 main categories:

- Type 1- Pleached/trained screen trees between public footpath and front of proposed residential buildings, forming an attractive, filtered view between the street and apartment building.
- Type 2 – Proposed street trees planting (*Platanus orientalis 'Minaret*' *and Liquidambar styraciflua 'Worplesdon'*) at the main access junction providing continuity to the existing Lime avenue planting on Old Fort Road Road.
- Type 3 – Proposed small/medium sized ornamental trees at the front entrance areas to the apartment blocks and small, feature multistem trees / shrubs (*Acer palmatum, Magnolia kobus, Amelanchier x grandiflora 'Autumn brilliance', Prunus × subhirtella 'Autumnalis Rosea' (*small vars.), etc*.)* at courtyards.
- Type 4 – Irish native trees to the northern edge of the site (Oak, Pine, Birch and Rowan)

4.5.3 Quantity, type and location of all proposed soft landscaping

The types of proposed planting, height, spacing /density, and size of container are specified on a drawing Planting Schedule, SuDS and Playground Details 6752-304. The proposed planting is marked also with a symbol on a plan, to help identify type of planting mix. The planting will include:

- Clipped bay laurel (*Laurus nobilis)* hedging will be planted to the Old Fort Road public path under the pleached Lime trees, providing an attractive and clear definition to the street. There is an existing bay laurel hedge on the southern side of Old Fort Road to the curved Crescent apartment building. The mirrored landscape treatment on both sides of the street will provide an attractive buffer to the residential areas providing visual screening, sense of space and reduced air pollutants from vehicular traffic. The hedging will be maintained at two heights: 0.9m at the building entrance areas and 1.6m height in front of apartments to provide privacy to residents.
- Clipped beech hedge along the site's western boundary, courtyards, as well as the Creche external area.
- Perennial and shrub mix - privacy planting beds from apartments to Old Fort Road / courtyards (PS1 – for sun and semi-shade locations) and (PS3 for partial to deep shade in the courtyards), feature entrance planting beds to plaza planting (PS2).
- Shade tolerant structural planting to courtyard SuDS biofiltration beds (STP) - shrub, perennial, herbaceous planting mix, suitable for partial to deep shade. Species selected to provide all year round interests (evergreen, with white/ yellow/ pink flowers, white/ yellow margined/ speckled leaves).
- Groundcover shrub, grass and mixed perennial planting to embankment (GS1) and along retaining wall (GS2). The low-level shrub and groundcover planting will be in single species blocks taken from an overall palette of species throughout the scheme with flowers and fruits attractive to wildlife such as bees and butterflies. Species will be of maximum 1m height at maturity to maintain clear sight lines.

- Low groundcover planting *Sarcococca hookeriana var. humilis* (GS3) will be planted in the road median planters, with columnar trees, to act as traffic calming treatment.
- Edges of the northern car park will be planted with low groundcover *Hedera helix 'Hibernica'* (GS4), to provide low evergreen planted edge.
- The narrow space at the bottom of the northern car park retaining wall and the boundary hedgerow will be planted with low level shade tolerant groundcover mixture of evergreen shrubs, climbers, ferns and perennials, including native species (GS5).
- Areas under trees on the western side of the Development, and embankments along the northern boundary will be planted with woodland sub-canopy native shrub planting (WSP) for shaded conditions, with woodland edges planted with pollinator friendly, groundcover, perennials, ferns, grasses mix (WEP).




Reference images for planting to entrance areas

4.6 Sustainable Drainage

The proposed scheme will implement sustainable design features (see JODA engineering design drawings and report). The landscape design has been coordinated with this design. As part of the sustainable surface water management strategy a SuDS biofiltration beds are proposed along the building and in the courtyards to allow for water run off. The tree and low level planting species have been selected for their suitability in built environments. Their characteristics include the ability to tolerate a wider range of temperatures, air pollutants, periods of drought as well as wet weather. Refer to drawing 6752_304 Planting Schedule, SuDS & Playground Details.

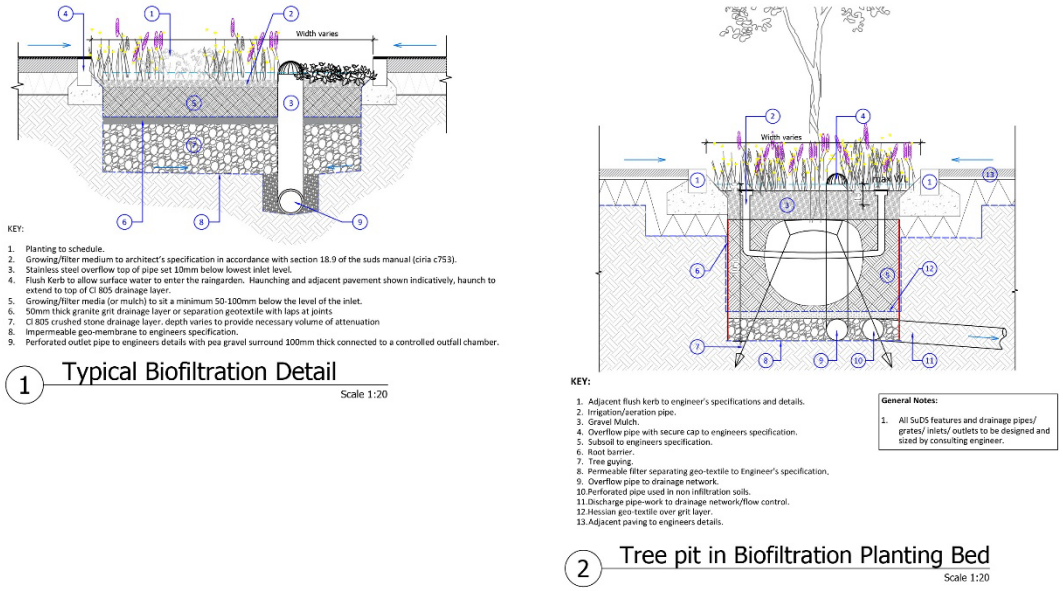


Figure 11 – Extract of Planting Schedule, SuDS and Playground Details dwg. 6752-304

4.7 Quantity, type and location of proposed hard landscaping

The proposed hard landscaping including paving, street furniture, and boundary treatments is outlined in the hardscape legend and plan on a Landscape Plan drawing 6752-300, with each of the components marked and labelled.

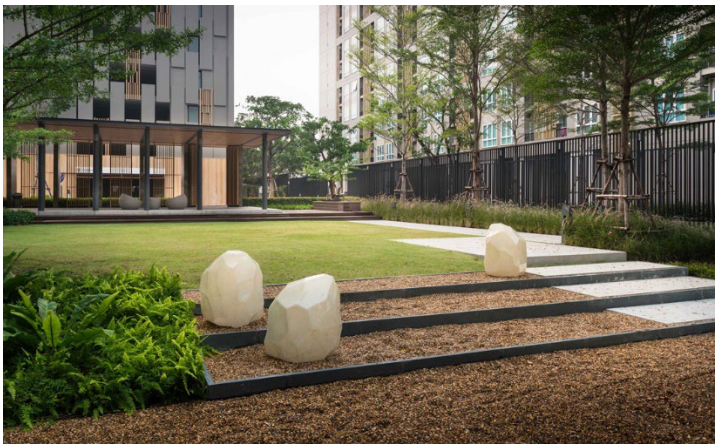
4.8 Details of play equipment

Refer to drawing 6752-304, Junior play features to podium.

There are three play areas, two of which are for the apartment residents and the other is for the crèche external play area (children 0-6years).

Planting beds (planted with perennial and lows shrubs and multisem feature trees) with seating and low level lighting complement play areas.





Reference photos illustrating typical landscape treatments to courtyard landscape

- Play area between buildings 'A' and 'B' (95sq.m.)
    - Double springer (Age 3-8) the rocking movement trains the senses of balance and space.
    - The Spider's Cottage (Age 4-10) trains the child's sense of balance and spatial awareness, as well as leg and core muscles
    - Stool seat for children to Play Areas - MMCité Radium Baby LRB410 or equivalent, galvanised and powder coated sheet steel, various colours e.g. Lemon Yellow RAL 1012, Bright Red Orange RAL 2008, Grass Green RAL 6010 (for Client approval). Perforated top finished with round ribbed caps (Citépin) in Dark Grey colour to provide better comfort of seating. Dimensions: 270 x 290 x 290mm high

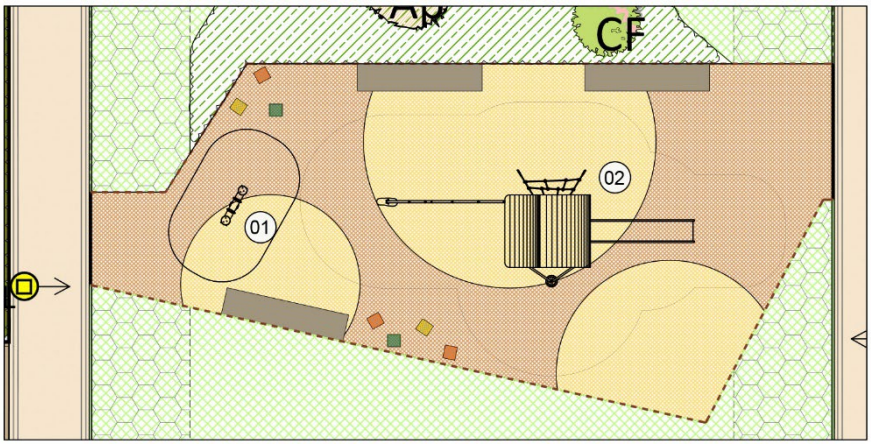


Figure 12–Play Area 'A' Plan Extract



Double Springer



The Spider's Cottage



Stool Seat for children MMCite Radium Baby

- Play area between buildings 'B' and 'C' (54 sq.m.)
    - Snail springer (Age 3-8) the soothing, rocking movement of the Snail trains the sense of balance and the spatial awareness
    - Balance Combination (Age 4-12) When walking or jumping from pole to pole, children train their proprioception and sense of balance, both skills are fundamental in confidently managing the body in its surroundings such as when navigating street traffic safely. Walking across the Balance Combination with friends also helps children to learn how to take it in turns and negotiate who is going first. These are important social-emotional skills that are basic to the ability to form friendship and relate to peers.
    - Stool seat for children to Play Areas - MMCité Radium Baby LRB410 or equivalent, galvanised and powder coated sheet steel, various colours e.g. Lemon Yellow RAL 1012, Bright Red Orange RAL 2008, Grass Green RAL 6010 (for Client approval). Perforated top finished with round ribbed caps

(Citépin) in Dark Grey colour to provide better comfort of seating. Dimensions: 270 x 290 x 290mm high

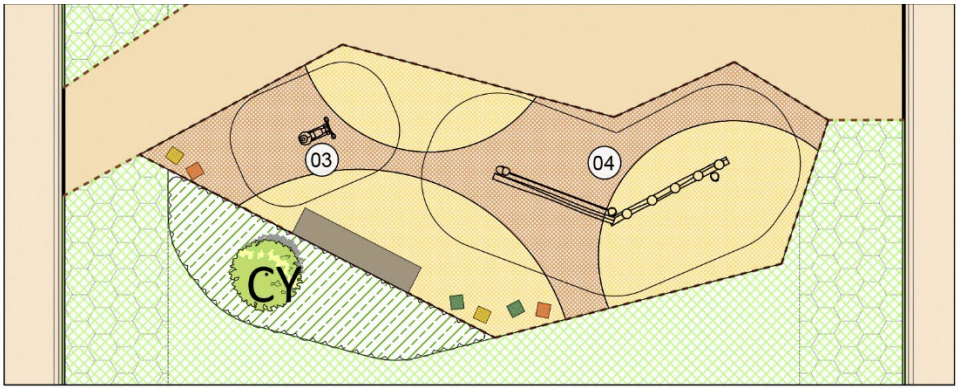


Figure 13 –Play Area 'B' Plan Extract



Snail Springer



Balance Combination



Stool Seat for children MMCite Radium Baby

- Creche Play Area (165sq.m.) is situated along eastern side of the Building 'C', and is surrounded by 1.8m high boundary wall and clipped beech hedge for privacy. The space will include safety surfacing and a range of features including:
    - Little Beaver's Stream (Age 1-4) The scale of the Little Beaver's Stream is perfectly shaped for toddlers. The desk adds to the overall playability and gives a quieter meeting point at the accessible stairway. The steering wheel and desk with rollers invite dramatic play and have high attraction as they can be shifted and touched, which stimulates language development and logical thinking skills. The curved bridge stimulates the sense of balance and space, when toddlers feel high up and balance the curved floor. The bridge additionally inspires numerous games of being above, below, over and under, which again informs a spatial awareness which builds the fundament for mathematical skills. The slide is looped greatly with the transfer platform, allowing for easy assistance for less mobile users.
    - Tick-tock (Age 1-4) The Tick-Tock appeals immensely to infants and toddlers with its whimsical shape and vibrant colours. The tactile elements of the Tick-Tock inspire exploration. Young children will discover that the Tick-Tock responds to their actions: when they handle the manipulative wheel, gear and play sphere, there is a possibility to alter positions. This supports cause-and-effect understanding and logical thinking in the infants.
    - Play Panel 3 – Learning (Age 1-6) The low bench counter in the middle invites meetings and sharing and makes a great point for playing workshop, a playground favourite. On the one side of the bench, gearing wheels and a funnel stimulate children's logical thinking skills. The wheels will turn each other's, and the funnel will transport materials through. To young children, this trains their understanding of object permanence: that

items can appear out of sight but still be there. The play panels can be played from both sides, which invites social play and communication.

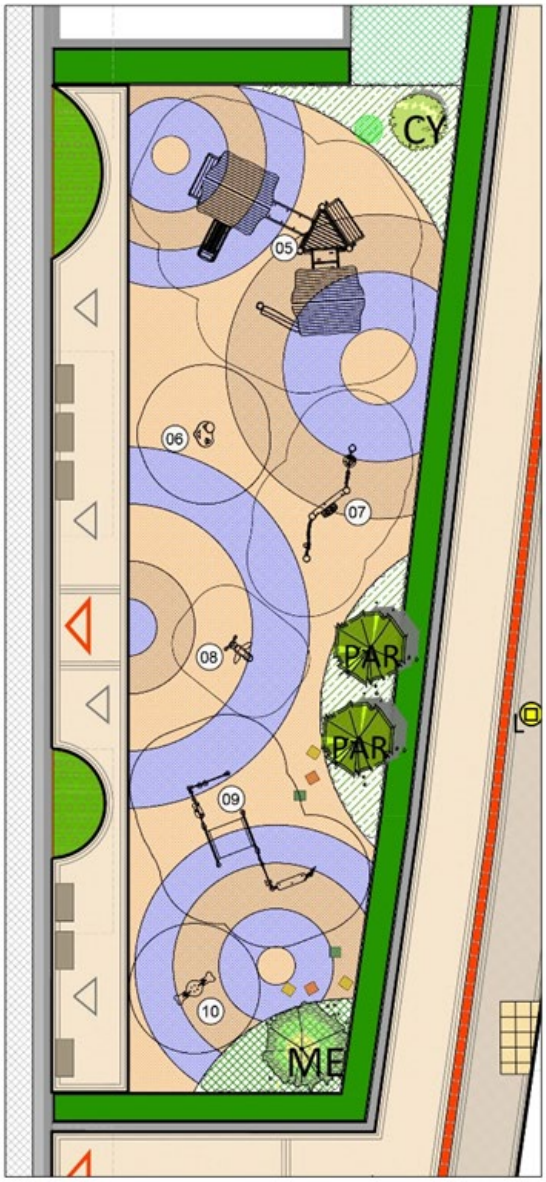


Figure 14–Creche Play Area 'B' Plan Extract

- Bee Springer (Age 3-8) The soothing, rocking movements of the bee teaches spatial awareness and sense of balance, both crucial for body confidence, e.g. in avoiding falls. Children can rock alone or two together.
- Talk and tumble with tunnel (Age 6m+ - 4) The scale is perfectly suited to early years children. The many climb or crawl through play experiences stimulate important motor skills such as cross-coordination. They support peek-a-boo and hiding games. These train an understanding that objects and people do not cease to exist just because you can't see them and that they will re-appear. With sand scoops, the bench with its apple tree offer nice points for social play and rest. The flower panel table and play spheres invites interaction from both sides. The spheres can be run from both sides of the panel. This stimulates taking turns skills and encourage social play.

- Zebra Seesaw (Age 1-4) The see-saw responds to children's movements, which helps to develop spatial awareness and a sense of balance. These are fundamental motor skills that help the child move confidently and for instance sit still on a chair.
- Raised planter with herbs and/or vegetables, fruits for children. Gardening is the perfect platform for providing recreation, adventure and education for children. Gardening is multi-sensory and observing plant growth and the seasons can teach children lots about science and nature. Children can explore texture, scent and taste edible plants.
- Children size benches MMCité Vera Baby LVB150 with backrest or equivalent, galvanised and powder coated steel structure with Jatoba FSC timber slats. Steel frame colours to Client approval: e.g. Lemon Yellow RAL 1012, Bright Red Orange RAL 2008, Grass Green RAL 6010, dimensions: 470mm (w) x 1000mm (l) x 553mm overall height, 300mm seat height
- Stool seat for children to Play Areas - MMCité Radium Baby LRB410 or equivalent, galvanised and powder coated sheet steel, various colours e.g. Lemon Yellow RAL 1012, Bright Red Orange RAL 2008, Grass Green RAL 6010 (for Client approval). Perforated top finished with round ribbed caps (Citépin) in Dark Grey colour to provide better comfort of seating. Dimensions: 270 x 290 x 290mm high



Little Beaver's Stream



Tick-Tock



Play Panel 3 – Learning



Bee Springer



Talk and tumble with tunnel



Zebra Seesaw



Raised planter with herbs and/or vegetables, fruits



Children size benches MMCité Vera Baby



Stool Seat for children MMCite Radium Baby

4.9 Details of Public Lighting

Lighting is as follows:

- Existing street lighting (ExLp) along Old Fort Road to be retained, retrofitted with LED, refer to Landscape Plan 6752-300 and Joda drawing 3866-02-JODA-ZZ-ZZ-DR-E-2000 and specification for more details.
- Proposed lighting - Refer to Joda Engineer's drawing 3866-02-JODA-ZZ-ZZ-DR-E-2000 and specification.

4.10 Pedestrian entrances

Refer Landscape Plan drawing 6752-300 and Sections C and D on a Landscape Section drawing 6752-301.

- Main entrances to the building are designed as semi-private, with clear boundary of clipped hedge, and clipped/trained screen trees between public footpath/cycle way along Old Fort Road and main entrances to the buildings.
- Universal access paths to the building, with accompanying vegetation (perennial/ groundcover mix with ornamental trees) make the entrances and surrounding area attractive for residents or visitors.

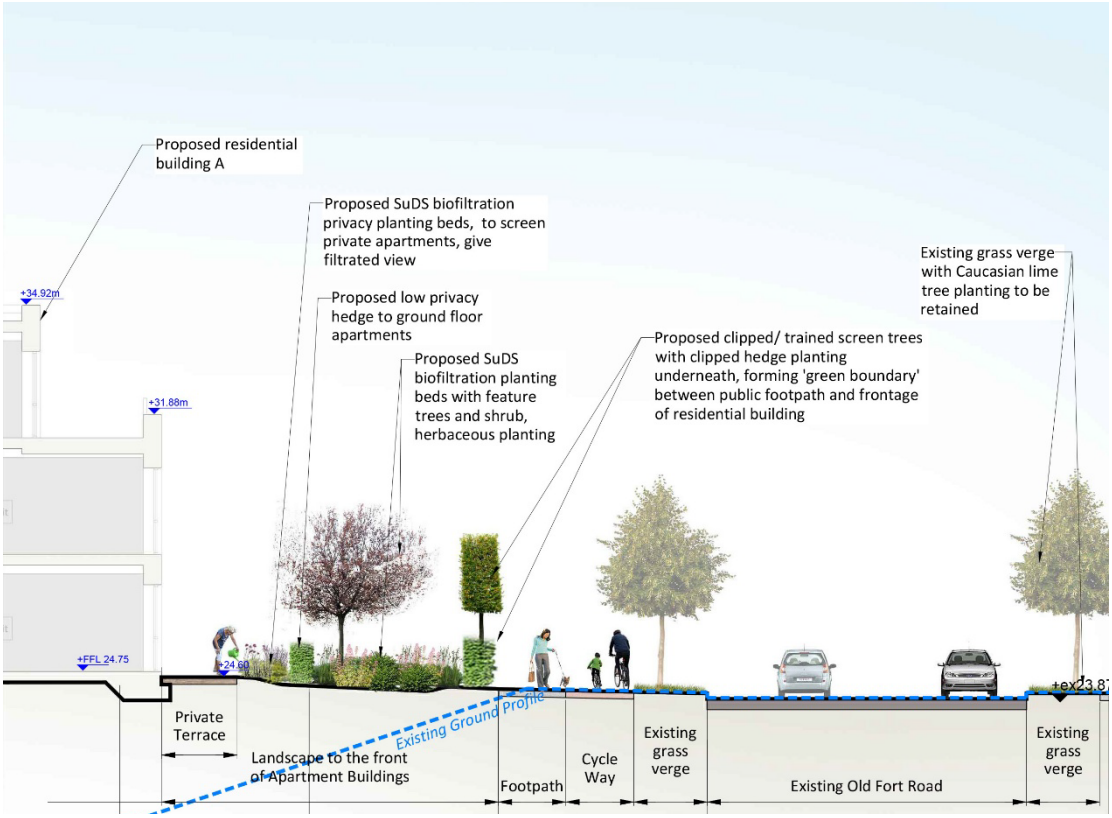


Figure 14 –Typical landscape treatment to entrance area to Old Fort Road

5 Play Equipment Maintenance Plan

5.1 Introduction

This outline maintenance plan outlines the procedures for the future care and safety of play equipment within the proposed Old Fort Road residential development in Ballincollig, which will be available within the public open space within the scheme for the use of residents. There is also an external play area within the proposed Creche, which will be subject of the same procedures and maintenance plan.

The play areas will be maintained by a management company for the apartment development

All equipment will be designed and installed in accordance with BS EN 1176 (Playground Equipment Standards) and BS EN 1177 (Impact Absorbing Playground Surfacing) and will be maintained to ensure continued compliance with these standards.

5.2 Equipment Description

The play area comprises low-risk, timber play equipment suitable for the development's residential setting. Prior to practical completion and handover, the play areas and equipment will be assessed and inspected by a specialist play area inspector, accredited with the Royal Society for the Prevention of Accidents (RoSPA).

5.3 Responsibility

The Management Company for the apartment development is responsible for all aspects of play equipment maintenance, inspection, and repair.

5.4 Inspection Schedule

An outline of the inspection regime will be:

Routine Visual Inspections (Weekly)

- Conducted by appointed Management Company representative or contractor
- Check for obvious hazards, vandalism, litter, and general cleanliness
- Inspect timber for splinters, cracks, or structural damage
- Check ground surfaces for debris, standing water, or surface displacement
- Ensure all equipment remains stable and properly anchored

Operational Inspections (Monthly)

- More detailed inspection including function checks
- Test moving parts (as applicable) for wear and proper operation
- Check all fixings, bolts, and connections for tightness
- Inspect timber for rot, insect damage, or weathering
- Assess impact absorbing surfaces for adequate depth and coverage
- Record findings in maintenance log

Annual Comprehensive Inspection (Yearly)

- Conducted by RoSPA-qualified inspector or equivalent competent person
- Complete assessment against BS EN 1176 and BS EN 1177

- Detailed structural integrity examination
- Full documented report with photographs
- Risk assessment review and update
- Recommendations for repairs or replacement

5.5 Maintenance Activities

An outline of the maintenance regime will include:

Routine Maintenance

- Remove litter, debris, and vegetation growth
- Clean equipment as needed
- Re-level and top-up impact absorbing surfaces
- Tighten loose fixings
- Sand down minor splinters or rough timber edges
- Touch-up timber treatment where required

Periodic Maintenance (As Required)

- Apply timber water-based, non-toxic, preservative treatment (typically every 2-3 years)
- Replace worn or damaged components
- Repair or replace impact absorbing surfaces
- Address findings from inspection reports

Reactive Maintenance

- Immediate response to reported hazards or equipment failure
- Temporary closure of equipment if unsafe conditions identified
- Emergency repairs within 48 hours or equipment decommissioned until safe

5.6 Record Keeping

The Management Company shall maintain comprehensive records including:

- Inspection logs and checklists (weekly, monthly, annual)
- Maintenance work orders and completion records
- Incident/accident reports
- RoSPA inspection certificates and reports
- Photographic records of equipment condition
- Warranty and supplier documentation
- Records should be retained for minimum of 12 years

5.7 Timber Equipment Specific Requirements

Given the timber construction, particular attention shall be paid to:

- Regular checks for rot, particularly at ground contact points
- Monitoring for insect infestation
- Splinter prevention through sanding and treatment
- Weathering effects on structural integrity
- Preservative treatment schedule maintenance

5.8 Safety Compliance

- All maintenance work shall be conducted in accordance with BS EN 1176 and BS EN 1177
- Equipment found to be non-compliant or unsafe shall be immediately taken out of service
- Warning signage shall be displayed during maintenance work
- Management Company shall maintain public liability insurance

5.9 Review

This maintenance plan shall be reviewed annually and updated as necessary to reflect changes in standards, equipment condition, or operational requirements.

6 Outline Landscape Specification and Maintenance

6.1 Introduction

This outline landscape specification and maintenance plan outlines the procedures for the establishment and maintenance of the landscape within the proposed Old Fort Road residential development in Ballincollig. The Landscape works shall have full regard to guidance, recommendations and requirements of:

- This Landscape Design Report and associated Landscape Drawings;
- The Planning Authority

Landscape works are to be undertaken by an ALCI approved landscape contractor and in accordance with BS 4428:1989 Code of Practice for general landscape operations.

Existing trees/hedgerows to be retained will be protected in accordance with ***BS5837:2012, Trees in relation to design, demolition and construction***, as per drg. Tree Survey 6752-100

All planting works are to be carried out to **BS8545:2014** (Trees from nursery to independence in the landscape). Earthworks will be carried out in accordance with TII Cl 600 specifications with all topsoil to **BS3882:2015**. The proposed mixed woodlands planting will establish a closed canopy within five years.

The landscape will be implemented at the earliest opportunity compatible with construction phasing, and in any event will be completed within the overall construction programme. Soft landscaping is to be carried out within the first planting season (November-March) after construction, and the landscape contract will include a minimum 12 month Defect Liability clause post Practical Completion to be certified by the landscape consultant.

Thereafter, a detailed landscape maintenance schedule will be implemented by the Management Company for the schemen to ensure the ongoing establishment, vitality and upkeep of the landscape.

6.2 Earthworks / Soil Works / Cultivation Works

6.2.1 General

Works will also involve general site preparation and landscape reinstatement within landscape areas and open spaces.

6.2.2 Weather and Soil Conditions

Normally all work involving soil shall be carried out only when soil is dry and in dry weather. Soil shall not be stripped or moved when frozen or waterlogged.

6.2.3 Topsoil

Generally excavations, re-grading *etc*. shall only take once topsoil has been removed. Therefore topsoil shall be stripped initially and stored separately for re-use within gardens and open space.

6.2.4 Grading

The full extent of landscape areas shall be re-graded in a series of initial operations followed by decompaction, secondary grading and final grading.

Grading and re-profiling of the landscape shall leave a free-flowing and draining surface, free of humps and hollows.

6.3 Planting

6.3.1 Standards of Workmanship and Materials

All landscape works to be carried out to comply with BS 4428:1989 (General Landscape Operations). All plants to conform to BS 3936 (Nursery Stock) with planting of trees to BS8545:2014 (Trees from nursery to independence in the landscape).

6.3.2 Unsuitable Weather

Cultivation, planting and other works will be suspended in wet weather and when conditions are unsuitable.

6.3.3 Plants generally

All new plants shall be well grown, sturdy and bushy according to type and free from all diseases and defects.

6.3.4 Materials

All plant material shall be good quality nursery stock, free from fungal, bacterial or viral infection, Aphis, Red Spider or other insect pest, and physical damage. It shall comply with the requirements of the appropriate sections of BS 3936, 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.

6.3.5 Species

All plants supplied shall be exactly true to name.

6.3.6 Specimen Trees, Larger Trees and Standard Trees

Trees shall conform to appropriate standards for sizes as proposed. All trees shall have a well-balanced, branching head. Trees shall be well furnished with lateral and fibrous roots, and shall be lifted without severance of major

roots. Roots shall be of the habit normal for the species and size. Trees over 12-14cm girth will be supplied rootballed.

6.3.7 Whips

Whips shall have a well-defined, straight and upright leader and stout, straight stem and be well furnished with strong lateral branches of balanced, feathered habit. Plants shall have been twice transplanted and shall have an extensive fibrous root system. Roots shall be of the habit normal for the species. Whips shall have a minimum height of 1.2m.

6.3.8 Conifers

Conifers shall be supplied root balled or container grown, with a good fibrous root system. Plants shall conform to specified height with well-developed, uniform branching systems.

6.3.9 Hedging, Shrubs and Climbers

Hedge plants, climbers and shrubs shall be of the minimum size specified, with several stems originating from or near ground level and of reasonable bushiness, healthy, well grown, and with a good root system. Roots shall not be deformed or restricted.

6.3.10 Damage

All plants are to be adequately and carefully packed and protected to survive transport, by whatever means, to the site, without damage in loading, transit or unloading.

6.3.11 Planting Generally

All planting operations shall be carried out in accordance with BS 4428 and good horticultural practice. Particular attention must be paid to correct depth of planting ensuring the soil is firmed in around the roots.

6.3.12 Herbicides

Only used where essential, using approved herbicides in accordance with Sustainable Use of Pesticides Directive and Irish Action Plan (DAFM, 2019).

6.3.13 Tree Pits

Tree pits shall be excavated 150mm all round larger than the natural spread of the roots/rootball of the plant. The base of the pit shall be thoroughly forked to a depth of 300mm to allow roots to penetrate below the pits.

6.3.14 Planting of Trees

All trees shall be planted according to the general directions on planting given above.

6.3.15 Stakes

Stakes shall be turned and pointed at one end. Sizes shall be as follows:-

- For Specimen / larger trees: 2 x 2400mm long x 75mm dia.
- For Standard trees: 1800mm long x 50mm dia.
- For other trees/conifers generally: 1200mm long x 50mm dia.

Set stake(s) vertically in the pit, to the western side of the tree station. Drive stake(s) before planting to secure firmly and to leave between 600-900mm above ground. Drive stake(s) with a drive-all, wooden maul or cast iron headed mell, not with a sledge hammer. All stakes and rails will be painted in black opaque, water based paint (min. 2 coats).

6.3.16 Tree Ties

Tree ties shall be hessian 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 minimum 35mm wide for standard trees.

6.3.17 Soil Conditions

Planting shall not be carried out while the ground is frozen or waterlogged.

6.3.18 Watering

All root balled and pot grown plants shall be well-soaked before planting. All planting shall be watered after planting, to consolidate soil around the roots, unless ground is so wet as to make additional water unnecessary.

6.3.19 Planting Specimen, Larger and Standard Trees

Excavate tree pits to 150mm all round larger than the natural spread of the roots of the plant. The base of the pit shall be broken up to a depth of 150mm and glazed sides roughened. Supply and drive the stake(s) as scheduled.

Trees shall be planted at the same depth as in the nursery, as indicated by the soil mark on the stem of the trees. They shall be centred in the planting pit and planted upright. The roots shall be spread to take up their normal disposition. Clean a neat circle 500 mm dia. of all grass.

6.3.20 Whip and Transplant Planting

Excavate tree pits to 150mm all round larger than the natural spread of the roots of the plant.

Place tree in pocket at same depth as in the nursery, spreading out roots to their natural configuration. Backfill pocket carefully incorporating ameliorated soil mix from stockpile on site.

Firm soil around roots, and firm thoroughly on completion. Any surplus soil shall be spread evenly over the surrounding area.

6.3.21 Planting of Shrubs and Climbers

All shrubs and climbers to be planted in excavated pits to give 100mm minimum growth space to accommodate root spread. Climbers to be fixed with adjustable ties to walls.

6.3.22 Planting of Hedges

All hedge plants to be planted in an excavated pit or trench to give 100mm minimum growth space to accommodate root spread. Hedgerows to be established as double staggered row. Plants to be randomly dispersed within mixed species hedgerows.

6.3.23 Workmanship

Whips Transplants: Leave ground free of superficial debris including all stones and debris over 35mm diameter and grass / weed within 500mm of plant.

Shrubs and Mixed Transplants/Shrubs: Leave surface reasonably even, free of all stones and debris over

35mm diameter, free of grass / weed free within 500mm of plant.

6.3.24 Replacements

The planting will be inspected in spring and again in the September following planting. Any tree or shrub found to have died shall be replaced to the original specification.

6.4 Grass Seeding

6.4.1 Grass Requirements

Amenity Sward (verges, etc.): A closely knit, continuous ground cover of even density, height and colour.

6.4.2 Seed Mixture: Amenity Sward

The general high-quality, low-maintenance amenity seed mixture shall be used within the development site.

6.4.3 Weather

Work to soil shall be carried out in dry weather and when the soil can be reduced to a friable condition, avoiding smearing or panning, and rutting and compaction.

6.4.4 Final Grading

Where required, areas to be grassed will be graded during cultivation with a light blade grader to bring them to a uniform and even grade to tie into surrounding levels and to remove all minor hollows and ridges.

6.4.5 Cultivation and Stone Burying

Cultivate the surface using rotavators so as to break up the top 100mm of soil by two passes in transverse directions to provide a fine tilth up to 25mm suitable for grass seeding. All landscape areas shall be stone-buried to remove stones and debris over 35mm from the final seeding surface.

6.4.6 Seeding

Grass seed shall be sown at the rates appropriate to the seed mix (circa 30g/sqm for general amenity sward). Seeding shall only be carried out on areas where cultivation and preparatory work has been approved.

Seeding shall be carried out during suitable calm weather conditions using an efficient broadcast machine for large areas or by hand in small areas and confined spaces. The operation will be carried out in equal sowings in transverse directions. After sowing, the ground will be rolled with a light-weight roller.

6.4.7 Quality

Grass sward shall be even and consistent in terms of height, density and growth of each sward type. Re-cultivate and reseed any areas that fail to germinate or are of poor quality.

6.4.8 Defects / Making Good

All damaged / failed grass seeded areas to be reseeded in spring and late summer following seeding, in accordance with this specification.

6.5 Aftercare – Performance Standards

6.5.1 General

6.5.1.1 Period

All landscape works, including planting and seeded areas, shall be maintained for a minimum period of 12 months from practical completion.

6.5.1.2 Programme

The landscape shall be reviewed quarterly during the twelve months and any defects made good immediately thereafter.

6.5.1.3 Tidiness and Clearance

All landscape areas shall be maintained free from debris, including free from all aftercare debris.

6.5.1.4 Plants / Planting Areas

All plants shall be alive, healthy, free of minor defects and free of weedkiller or cultivation damage.

Planting areas shall be free of weeds and debris.

6.5.2 Amenity Grass

Amenity grassland describes all natural and semi-natural grassland used for amenity/recreation purposes, and will primarily relate to the courtyard area and along footpaths.

Grassed areas shall be managed for the visual amenity and enjoyment of residents and visitors and encourage biological diversity.

6.5.2.1 Maintenance Objectives

All grass areas on the site will be managed to follow the All-Ireland Pollinator Plan 2021-2025[1] which aims to that aims to help bees, other pollinating insects, our wider biodiversity and reduce resource consumption. All grass areas will be managed to enhance biodiversity as grassland meadows though the following measures:-

- Reduction in the frequency of mowing to provide short and long height meadows;
- For short grass areas, this will entail:-
- Delay cutting the grass until mid-April to allow the Dandelion flowers to bloom.
- Mowing the grass every six weeks to allow flowers like Clover to bloom;
- Removing all arisings from the grassland, after each cut reducing fertility and preventing nutrients building up.
- Non-use of pesticides (herbicides, fungicides, insecticides) and fertilisers in the grass meadow areas.

The mowing regime of the Abbott facility will allow common pollen-rich wildflowers such as Dandelions, Clovers, Knapweed, and Bird's-foot-trefoil naturally colonise and grow among longer grass, providing food for pollinators and other insects.

6.5.2.2 Maintenance Actions

Grass areas will be broken down into different maintenance zones with varying actions.

Zone A - Regular grass mowing with differential mowing height to edges; every 2 weeks.

Location:

2m wide perimeter buffer edge to paths and planting areas will be maintained as ornamental amenity grass with two differential grass cutting heights with regular cutting.

Specification:

- No use of fertilisers and weedkillers;

[1] https://pollinators.ie/aipp-2021-2025/

- First lower cut to border to edge, boundary, or path, or open area within though meadow. Height 30-35mm, minimum width 1.07m (42") wide;
- Second slightly higher cut/border to higher meadow (as per photo below). Height 40/75mm, width 0.5m (21") wide;
- Allow for yearly decompaction in areas of high pedestrian footfall.



Figure 15 - Differential grass maintenance

Zone B - Short flowering grass meadow; every 6 weeks.

Location:

Road verges/entrance sight line zones (min. 2m from the back of road verge)

Specification:

- No use of fertilisers and weedkillers;
- Cut grass meadows to 100mm height at six weeks intervals throughout the year, allowing more flowers to get a chance to grow and provide food source for pollinators amongst the grass, following outline mowing regime in Figure 14 below;
- Collect and dispose of arisings off-site.
  Install signage to communicate intent/raise public awareness (artwork available from National Biodiversity Data Centre or custom graphics/signage).

Task	Start	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avoid cutting			Dandelion Peak				Clover Peak						
Commence first cut	After 15th April				◆								
Commence second cut	End May						▼						
Commence third cut	Mid/late July							▼					
Commence fourth cut	End August									▼			
Commence fifth cut	Mid October										▼		
		Recommended start task			◆		Recommended growing time						
		Recommended milestone			▼		Avoid cutting/mowing						

Figure 16 - Typical grass cutting regime of short flowering grass meadow

6.5.3 New Tree Planting

Young trees need regular monitoring and attention in the first number of years to ensure establishment.

6.5.3.1 Maintenance Objectives

Establish a stable and healthily growing tree with a well-shaped framework for future growth.

Guards will be used to protect the plant against rabbits, etc. The most important operation is to keep the soil around the base of the tree free from weeds or grass and to ensure secure and correct staking.

6.5.3.2 Maintenance Actions

Protect foliage of all plants during applications of herbicides. No plant, foliage or stem, shall be directly sprayed, even in winter. Any plants affected by herbicide shall be replaced.

- Maintain a 1m diameter circle of plant-free soil around the base of each isolated tree by 75mm deep bark mulch and hoeing or the use of approved herbicide other than a residual. Avoid strimming around the base of standard trees to avoid damage to young bark.
- Allow for hoeing up of soil once every 4 weeks in the growing season (5 times per year). Allow for herbicide treatment once in the winter or spring and 3 additional treatments. Note: In some areas this operation may be replaced by the application of bark mulch as ground cover.
- Cut back any tall vegetation that is threatening to shade or smother the young tree (i.e. taller vegetation growing from outside the 1 m weed free area). Allow for cutting back regularly (3/4 times a year).
- If required, water the newly planted trees throughout the summer months (May to August) as required after any period of 4 weeks without significant rainfall (less than 5 mm). Apply sufficient water to thoroughly wet the top 150 mm of soil around the tree roots. This will normally require approximately 10 litres for a seedling or whip and 20 litres for a standard tree. Supply/transport of water will be the responsibility of the Landscape Contractor.
- Check stakes and ties for firmness and support and adjust as necessary. Allow for checking twice a year, preferably in late spring and late summer.
- Firm the soil around the roots to ensure that the plant is securely planted in the ground and upright. Allow for firming once in the spring after planting.
- Formative prune to remove any dead, diseased or damaged shoots and create a balanced form for future growth. Allow for pruning once in the season after planting.
- Where tree guards, stakes, ties, strimmer guards, rabbit guards and temporary fencing is no longer deemed necessary, the contractor shall allow for removing and discarding of these elements appropriately off site.

6.5.4 New Hedge Planting

The 1.2m high hawthorn/beech hedge to the site perimeter will be clipped to provide a neat ‘A’ shaped cross-sectional profile.

6.5.4.1 Maintenance Objectives

Regularly clip hedges to maintain a uniform and tidy appearance (according to the type of hedge and situation) and a well-developed cover of vegetation over the whole of the hedge surface. Control any weed or grass growth at the base of the hedge so that it does not detract from the overall appearance or adversely compete with the hedge.

As wildlife often relies on the berries and nesting spots provided by the Hawthorn, it is recommended that they are pruned during the summer and autumn months, after the plant has flowered. Pruning during these seasons will encourage a fuller growth of flowers the following year, although this will also reduce the volume of berries the hedge is able to produce that winter. Avoid cutting the Hawthorn hedge before it is established, typically this is around 2 years after planting when the hedge has reached around c. 1.2 to 1.5m tall.

During the second year of planting, between February and March, is the recommended time for hard pruning Hawthorn hedges. Cut back growth by half during these months to encourage new growth. Remove dead, diseased or broken branches first to keep your hedge looking neat and stimulate new growth. Be careful to avoid cutting these branches flush with the trunk as this can make the trunk susceptible to decay. Removing any cross branches from inside your Hawthorn hedge will also help to prevent diseases as this improves circulation within the

hedging. Pruning at this time of year while your hedge is dormant will also cause the least disruption to the wildlife that rely on your Hawthorn, as it will not interfere with the nesting season or the volume of berries.

6.5.4.2 Maintenance Actions

- Clip the top and sides of the hedge to maintain true and even levels and using suitable mechanical cutters to maintain the shape and height. Remove any cuttings lodged in the surface of the hedge and rake up and remove all arisings.
- Allow the operation to be carried out to suit the species and position of the hedge.
- Maintain weedfree 750mm wide band at the base of the hedge (weeds at a maximum height of 100mm and a maximum ground cover of 10%) by mulch, regular hand removal, hoeing or by the use of approved herbicide. Allow for control once every 6 weeks in the main growing season (4 times per year).

6.5.5 New Ornamental Shrub/Groundcover Planting

Ornamental planting areas shall be managed, where appropriate, to encourage biological diversity, to manage objectives of the individual planting and to provide for the safety and enjoyment of Users.

6.5.5.1 Maintenance Objective

Maintain shrub growth to cover as much as possible of the border area and allowing the individual plants to achieve as nearly as possible their natural form. Maintain the borders free of visible grasses and shape and prune the shrubs to avoid obstructing pathways or blocking light to, or adhering to windows.

6.5.5.2 Maintenance Operations

After planting, if appropriate and in season for the species involved, prune shrubs to remove dead or dying and diseased wood and suckers, to promote healthy growth and natural shape and to develop their desirable ornamental characteristics. At the same time remove intermediate plants that are restricting the natural and attractive development of their neighbours. Remove all arisings from site.

Lightly cultivate the surface soil, to a depth of approximately 50 mm, remove or bury all annual weed or natural litter and break any surface capping. Take special care to avoid unnecessary damage to the shrub plants and ensure that all the shrubs are firmly bedded in the soil. Leave the surface with a fine and even tilth with soil crumbs of less than 50 mm in diameter.

Note: This operation is only essential where the soil is compacted or as a means of incorporating mulch. Not required where the areas are mulched.

Maintain the soil surface substantially free of not planted grasses by hand removal Spot treatment at approximately four-weekly intervals throughout maintenance period.

Note: As an alternative the borders can be regularly hand-hoed at up to two-weekly intervals in the main growing season, to 6 times per year. This procedure is recommended for the first year after planting when the plants may be more sensitive to contact herbicide damage and residual herbicides may not be used.

Apply slow release fertiliser to all planted areas in Autumn (NPK 0:20:30) at 25g/sq.mm to encourage strong root structure and winter hardiness.

Water as necessary to ensure the establishment and continued thriving of all planting. Water using a fine rose or sprinkler until full depth of topsoil is saturated.

6.5.6 Herbaceous Planting

6.5.6.1 Maintenance Objective

Maintain a dense, grass free cover of healthy growth, clipped or pruned as necessary to give a neat and tidy finish and contained within the planted area.

6.5.6.2 Maintenance Operations

Maintain the soil surface substantially free of non planted grasses by hand removal. Spot treatment at approximately four-weekly intervals throughout maintenance period

Trim and tidy the plants once a year in the winter months, to remove dead vegetation or overgrowing branches. Remove all arisings from site. The amount of work will vary according to the species.

Apply slow release fertiliser to all planted areas in Autumn (NPK 0:20:30) at 25g/sq.m to encourage strong root structure and winter hardiness.

Water as necessary to ensure the establishment. Water using a fine rose or sprinkler until full depth of topsoil is saturated.

At the end of the defects liability period.

- Ensure that the soil is thoroughly moistened prior to remulching, applying water where necessary.
- Remulch the whole surface of planting beds as specified at 75mm depth.

6.5.7 SuDS Raingarden/Biofiltration Planting Areas

6.5.7.1 Maintenance Objectives

The maintenance strategy for a biofiltration system for the project is focussed on the following goals:

a. Maintain Hydraulic Function: Ensure the system continues to receive, temporarily store, and infiltrate rainfall runoff at the designed rate.
    - Operation Focus: Preventing sediment build-up and compaction of the filter media.

b. Ensure Water Quality Treatment (Filtration): Preserve the ability of the plants and filter media to remove pollutants (sediments, nutrients, hydrocarbons) from the runoff before it enters the groundwater or conventional drainage.
    - Operation Focus: Maintaining healthy vegetation and inspecting for signs of pollution/clogging.

c. Preserve Aesthetic and Ecological Value: Keep the area visually appealing, integrated with the landscape, and functioning as a green amenity and potential biodiversity habitat.
    - Operation Focus: Weed control, pruning, and replacement of dead/diseased vegetation.

d. Prevent Erosion and Structural Damage: Protect the embankment slopes, inlets, outlets, and edging from physical damage that could compromise the system's integrity.
    - Operation Focus: Timely repair of damaged areas, particularly where concentrated flow occurs.

6.5.7.2 Maintenance Operations

Maintenance tasks are categorised into Routine (e.g., Monthly/Quarterly) and Ad-Hoc/Event-Based (e.g., Annually or post-storm) operations.

Operation	Specific Tasks	Frequency & Notes
Vegetation Management	**Weeding and Invasive Species Control:** Remove weeds that compete with the design vegetation, especially in the filter media.	**Routine (Monthly/Quarterly):** Crucial during the establishment period (first 2-3 years). No chemical herbicides.
	Planting Bed Care: Prune dead/diseased plants, remove litter, and replace dead or severely stressed plants (less than 70% cover).	**Routine (Quarterly/Annually):** Ensure plant cover is maintained to prevent erosion and aid filtration.
Hydraulic/Filtration	**Inspect Inlets/Outlets:** Clear any debris (leaves, sediment, litter) blocking flow control structures, check the integrity of the overflow/underdrain.	**Routine (Quarterly) & Post-Storm:** Ensure unrestricted entry and exit of water.
	Sediment Removal (Pre-treatment): Clean out any pre-treatment features (e.g., sediment forebays or gravel trenches) when sediment depth reaches a pre-defined threshold level (ie. 50% of storage depth).	**Ad-Hoc (Annually/Bi-annually):** Disposal of any sediment responsibility at approved, licenced waste licence facility.
	Decompaction/Surface Scarification: If the filter media surface becomes clogged or ponding persists for too long (e.g., 48 hours), the top 25cm of media may need light raking or removal and replacement.	**Ad-Hoc (As Needed):** A sign of failure in infiltration.
Structural Integrity	**Erosion Repair:** Stabilise and repair any eroded areas, particularly adjacent to inlets and outlets, by re-sodding or adding stone.	**Ad-Hoc (As Needed):** Following heavy rainfall events.
	Litter and Debris Removal: Remove general waste, leaves, and large debris from the entire surface area.	**Routine (Monthly):** Maintains aesthetics and prevents clogging.

6.5.8 Sedum Green/Blue Roof

6.5.8.1 Maintenance Objective

The maintenance strategy for a Sedum Green/Blue Roof is focussed on three core areas:

a. **Maintain Vegetative Health and Coverage**: Ensure the Sedum plants remain dense and healthy (90% coverage) to provide UV protection to the membrane, aid cooling, and offer a positive aesthetic.
   - Operation Focus: Weeding, fertilisation, and supplemental watering during drought.

b. **Preserve Hydraulic Function (Blue Roof and Green Roof Drainage)**: Ensure the drainage layer is clear, the flow control device (for a Blue Roof) is unobstructed and functioning, and the roof is not overloaded with excess water or debris.
   - Operation Focus: Cleaning outlets, inspection chambers, and flow restrictors.

c. **Protect Structural Integrity**: Prevent plant roots from damaging the waterproofing and ensure the entire system's components (edging, fire breaks, access paths) remain intact.
   - Operation Focus: Membrane checks and control of aggressive vegetation (e.g. tree, weed seedlings).

6.5.8.2 Maintenance Operations

Maintenance should typically be performed twice yearly—once in Spring (March/April) to prepare for the growing season, and again in Autumn (September/October) to clear debris before winter dormancy. More frequent checks are required in the first year of establishment and after severe weather events.

Operation Category	Specific Tasks	Frequency & Notes
Vegetation Management	**Weeding and Invasive Species Control:** Hand-pull aggressive weeds, especially grasses, mosses, and tree seedlings, which compete with Sedum and can damage the waterproofing membrane.	**Routine (Twice Yearly/Quarterly in Year 1):** Avoid chemical herbicides. Remove roots completely.
	Fertilisation: Apply a specialised, slow-release green roof fertiliser. Sedum is low-nutrient, but annual feeding is required due to thin substrate and nutrient washout.	**Routine (Annually or Bi-annually):** Typically in Spring/Early Summer. Follow manufacturer's specific N:P:K guidance to avoid encouraging weeds.
	Bare Patch Repair: Apply Sedum cuttings or replant Sedum blankets/plugs to areas with sparse or failed coverage (ie <70% coverage).	**Ad-Hoc (As Needed/Annually):** Best done in Spring or late Summer/early Autumn.
	Litter and Debris Removal: Clear dead leaves, plant debris, and litter from the Sedum and the perimeter gravel border (fire break).	**Routine (Twice Yearly/Post-Storm):** Especially important if near overhanging trees.
Hydraulic/Drainage	**Clean Drainage Outlets:** Clear all debris (leaves, sediment, dead plant matter) from internal drains, gutters, and rainwater outlet chambers.	**Routine (Twice Yearly) & Post-Storm:** Crucial to prevent water build-up and structural load.
	Blue Roof Component Inspection: Check the inspection chamber and ensure the **flow control device** is free from obstruction and operating as designed to regulate discharge.	**Routine (Twice Yearly):** Confirm that the system is holding water temporarily and releasing it slowly.
	Watering: Provide supplemental irrigation during extended drought periods (e.g., $>3-4$ weeks of dry, hot weather) to prevent Sedum from shrivelling/dying.	**Ad-Hoc (During Drought/Establishment):** Water deeply but infrequently (e.g., once every 1-2 weeks).
Structural/Safety	**Perimeter & Edging Check:** Reinstate displaced pebble/gravel borders (fire breaks) and remove vegetation encroaching on them. Check metal flashing integrity.	**Routine (Twice Yearly):** The pebble strip acts as a fire break and physical barrier to encroachment.
	Membrane Inspection: Inspect the roof structure and waterproofing membrane for any signs of physical damage or leaks.	**Annually (By Professional):** Focus on areas around penetrations, outlets, and upstands.

6.5.9 Existing Retained Mature Trees

6.5.9.1 Maintenance Objective

The strategy for maintaining the existing mature trees along the northern boundary of the site is focused on four key areas:

a. **Safety and Risk Mitigation:** The paramount objective is to reduce the risk of tree failure (whole tree collapse or branch breakage) that could impact people, property, or infrastructure.
   - Operation Focus: Identifying and removing deadwood, decayed limbs, and addressing structural defects.

b. **Health Preservation and Vigor:** Sustain the tree's health against environmental stresses, pests, and diseases to maximise its lifespan and natural function.
   - Operation Focus: Monitoring for signs of pests/disease, ensuring adequate soil health and root zone protection.

c. **Structural Integrity:** Retain a strong, balanced structure that can withstand wind and storm events.
   - Operation Focus: Selective pruning (thinning, reduction, raising) to improve crown architecture without excessive removal.

d. **Clearance and Amenity:** Ensure the tree co-exists safely with its surroundings, providing adequate clearance over buildings, pathways, and roads.
   - Operation Focus: Crown lifting and clearance pruning.

6.5.9.2 Maintenance Operations

Maintenance tasks for mature trees are largely periodic or reactive (performed on condition). They shall be carried out by a qualified, insured Arborist (Tree Surgeon). All tree works will be carried out in accordance with BS3998:2010 – Tree Work Recommendations.

Operation Category	Specific Tasks	Frequency & Notes
Assessment & Inspection	**Visual Tree Assessment (VTA):** A detailed inspection of the roots, stem (trunk), and crown for structural defects, decay, pests, and disease. Look for *conks/fungi*, *heaving soil*, *cracks*, and *excessive deadwood*.	**Periodic (Every 3-5 Years):** Or immediately following severe storms or visible change in tree health.
	Root Collar and Root Zone Check: Ensure the root flare is visible and not buried by soil or mulch; check for root damage from construction or paving.	**Periodic (As per VTA):** Maintain a wide, clear mulched area around the trunk (do not *volcano mulch*).
Pruning (Arboricultural Works)	**Deadwood Removal (Crown Cleaning):** Remove all dead, dying, and diseased branches, especially those overhanging dwellings or public areas.	**Periodic (As per VTA):** Essential for safety and reducing disease entry points.
	Clearance Pruning (Crown Lifting/Reduction): Prune to provide vertical clearance over paths, roads, and buildings. **Reduction** is used to reduce weight and size, always cutting back to a lateral branch (*drop crotch pruning*).	**As Needed:** Pruning should be carried out during the dormant season (late autumn to early spring) to minimise stress, but **avoid March to August,** due to the Wildlife Act (nesting birds), unless emergency.
	Structural Pruning (Thinning): Selective removal of crossing, rubbing, or poorly attached branches (narrow angles) to improve air flow and light penetration, reducing sail area and stress.	**Periodic:** Never remove more than **20-25%** of the live canopy in a single year. **Avoid topping** as it severely damages the tree.

Ground & Soil Care	**Mulching:** Apply an organic wood chip mulch (5-10 cm deep) around the base of the tree (but kept away from the trunk) to conserve moisture, regulate temperature, and discourage turf competition.	**Routine (Annually/Bi-annually):** Re-apply as necessary.
	Soil Decompaction: If the root zone has been subject to heavy pedestrian or vehicle traffic, consult an arborist regarding specialist decompaction/airspade techniques.	**Ad-Hoc (As Needed):** Compaction starves roots of oxygen and water.
Emergency & Remedial	**Pest/Disease Treatment:** Apply targeted treatment (e.g., fungal or insecticide) only if a serious threat is identified by the arborist.	**Ad-Hoc (As Needed):** Based on arborist's diagnosis.
	Bracing or Cabling: Install hardware (dynamic or rigid) to support structurally weak limbs or co-dominant stems at high risk of failure.	**Ad-Hoc (As per VTA):** Requires specialist installation and subsequent regular inspection.

6.5.10 Paved Areas And Bound Gravel Areas – General Maintenance

6.5.10.1 Maintenance Objective

Regularly sweep or clean paved surfaces to keep it clear of litter or other debris that will detract from the appearance of the site. Keep the surface free from weed (including moss & grass) growth and all associated drainage gulleys in working order.

6.5.10.2 Maintenance Operations

Sweep all paved areas at regular intervals and remove all arisings from the site. Frequency may vary according to time of year or other maintenance operations. Hand or mechanical - sweeping may be used.

Clear silt and extraneous matter from the drainage gulleys, including the lifting and replacement of the drain cover. Inspect and clear any leaves and other litter from drain gulley covers. Collect and remove from site all leaf litter in Autumn (allow two visits monthly in October, November and December).

Safeguard and make good any damage to paving on an ongoing basis (no defect is to be left longer than one week). Damage that might have a bearing on safety is to have an immediate response.

6.5.11 Litter Clearance - General

6.5.11.1 Maintenance Objective

Collect and remove from the site, all extraneous litter and rubbish on a regular basis so that its presence is not detrimental to the appearance of the site. (This means that the site should be free from litter after each visit to site).

6.5.11.2 Maintenance Operations

Collect and remove all extraneous rubbish, and material arising from maintenance works, which is detrimental to the appearance of the site, offsite to an approved waste management site. This rubbish to include stones, bricks, debris, paper, confectionery and other wrappings, bottles, cans and plastic containers and all other rubbish.

This operation will be carried out at regular intervals organised in conjunction with other maintenance visits and operations.

7 Appendix 1 – RFI Response

LRD25-16 CCC Opinion **6752 Old Fort Road, Ballincollig**		**BSM Opinion Response** **18/06/2026**
Item	**Description**	**BSM Opinion Response**
Appendix B	***Appendix B- meeting held on 05/02/2026***	
	Archit If the drop off area for the creche is being removed, please give consideration to increasing the boulevard of tree on the verge	**The following response should be read with the accompanying drawings: *Landscape Plan 6752-300* and *Planting Schedule, SuDS & Playground Details 6752-304.*** The existing tree boulevard consisting of 4no of small-leaved lime trees has been increased by additional 7 no of narrow form of Oriental Plane *(Platanus orientalis 'Minaret').* The tree species has been selected to corespond with Park and Recreation comments (Appendix A, 06/11/2025) to substitute Lime tree in the scheme.
Appendix C	***Appendix C***	
	Biodiversity	
	In relation to the boundary treatment drawing - a 2m high galvanised safety railing is to be installed along the northern and western perimeter. More details are needed to highlight that the retained tree root system will not be compromised by the perimeter fencing, especially along the northern boundary. Detailed drawings of the fencing and root protection zones on one drawing - highlighting the root protection zones along with the perimeter fencing.	**The following response should be read with the accompanying drawing: Boundary Treatment 6752-303, *Tree Survey and Tree Protection Measures 6752-100, Landscape Plan 6752-300*** The existing 2.4m high palisade fence to northern boundary has been left in place in order to protect existing mature trees within Root Protection Areas, refer to Boundary Treatment 6752-303, Tree Survey and Protection Measures 6752-100 and Landscape Plan 6752-300. The proposed 2m high galvanised railing to western boundary is shown on the Boundary Treatment drawing detail B3. There are no exisitng mature trees in proximity of the proposed railing. There are 3no. young trees planted on the Waltham Abbey residential estate set back from the boundary approximately 4-5m.
	EcIA report. I recommend that a breeding bird survey is conducted and this information can help with enhancing the site for bird species from installing bird nest boxes within the buildings as well on suitable mature trees.	***The response will be prepared by Ecologists.*** To support Ecologist respose BSM has been added bird & bat boxes, and insect hotels to the Landscape Plan (see drawing 6752-300) to enhance biodiversity on the development site. Type of suitable boxes and their location to be recommended by Ecologist.

	City Architects Department Planning Report	
	Appraisal "..." In comparison with the SHD scheme however the lowering of the courtyards by a full storey height results in a less well-lit space, which in turn compromises the quality of light to apartments that are located within that shaded area. One item to note is that placing the courtyards at ground rather than undercroft level means that the landscaping will have direct contact with the ground, which should lead to far greater success in terms of achieving good quality mature planting over time. There is a marked difference however in the landscaping quality of the two courtyards, and we see no reasonable argument as to why a certain section of residents should have a significantly lesser quality amenity. Ideally the parking and any associated turning bay should be removed from the east courtyard, or, if absolutely necessary, any parking kept to the very northern edge. I would consider accessible parking bays located directly off the access road to be within a reasonable distance of the apartments.	***The following response should be read with the accompanying drawing: Landscape Plan 6752-300, Planting Schedule, SuDS & Playground Details 6752-304.*** The east courtyard car park has been rearranged by architects, and the Landscape Plan has been amended on those basis. In the centre of the Courtyard there is proposed resin bound gravel path in warm colours, with adjoining small natural play area 'B' to provide fun and enjoyment for children. The paving colour in the Courtyards and Creche has been changed to warm tones to brighten the space. Similar benches frame colour has been changed from Antracite Grey to warm tones Imitating Corten. New benches and stools have been inroduced in bright colours. The planting species have been amended to suit semi-shade and deep shade conditions in the Courtyards and Creche. They were specified to be suitable for SuDS, biofiltration beds as well, and to provide all year round interest (mixture of evergreen shrubs, perennials, herbaceous, ferns, white/yellow/ bright flowers, white/yellow marigined/speckled leaves).
	Drainage	
	Storm Water **Chapter 5 - Climate Change and Environment** Objective 5.23 Rainwater harvesting - to encourage all development proposals to include rainwater harvesting measures Section 5.45 SuDS	**The response will be prepared by Engineers.** The proposed scheme will implement sustainable design features (see JODA engineering design drawings and report). The landscape design has been coordinated with this design, refer to Landscape Plan 6752-300. As part of the sustainable surface water management strategy a SuDS biofiltration beds are proposed along the building and in the courtyards to allow for water run off. The tree and low level planting species have been selected for their suitability in built environments. Their characteristics include the ability to tolerate a wider range of temperatures, air pollutants, periods of drought as well as wet weather. Refer to drawing 6752-304 Planting Schedule, SuDS & Playground Details.

	Parks & Recreation	
	Further consideration and amendment of the proposed development in terms of the matters/issues raised in the reports from the Parks and Recreation section (reports of the Senior Parks & Landscape Officer and Biodiversity Officer-See reports in Appendix C). ***Further to a review of the submitted documents for Landscaping and open space provision, please note the following:***	***The following response should be read with the accompanying drawings: Landscape Plan 6752-300, Landscape Sections 6752-301 & 302, Boundary Treatment 6752-303, Planting Schedule, SuDS & Playground Details 6752-304, and Landscape Design Report 6752-RP02.***
	A comprehensive Landscape Master plan and Landscape Design Report has been submitted by Brady Shipman Martin, including a Tree Survey and Tree protection measures.	The Landscape set of drawings and Landscape Design Report have been amended to the latest Architect site layout plan and CCC comments.
	The management and maintenance of play equipment will be the responsibility of the developer.	The additional sections have been added to the Landscape Package, see drawing 6752-302 showing:
	The management and maintenance of the proposed landscape plan is to be the responsibility of the developer/ management company.	- Section E-E: Section through Courtyard between building A&B - Section F-F: North Site Bundary
	Cross Sections for all landscape areas will be required.	
	Wildflower seed for meadows is to be sourced within a 50km radius of the site.	There is no proposed wildflower meadows in the scheme. A hardwearing grass, drought and shade tolerant is proposed in the scheme, suitable for cellular paving system (cherry picker access routes).

Brady Shipman Martin

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APPENDIX D

TREE SURVEY

OWEN O'CALLAGHAN
SOUTH OF IRELAND TREE SURVEYS
1 WESTBOURNE TERRACE
THE LOUGH
CORK

(MOBILE): 086 – 3470487

09/10/2025

CONTENTS:

Summary

1. Introduction.
2. Description of existing Trees.
3. Arboricultural Impact Assessment.
4. Recommendations – AMS.
5. Photographs x 4

Limitations and References.

Appendix 1: Tree Survey Schedule.

1. INTRODUCTION

Terms of Reference:

South of Ireland Tree Surveys have been instructed by O'Flynn Construction to conduct an updated tree survey of those trees identified by the site survey drawing provided prior to the master planning of the site for a proposed development.

South of Ireland Tree Surveys considered those tree and tree groups that might potentially be impacted upon by a proposed development and produced a subsequent Tree Survey Report presenting our findings in accordance with BS 5837:2012, together with recommendations for their best practice management in relation to the proposed development.

South of Ireland Tree Surveys carried out an assessment of the arboricultural implications of the proposed development, giving recommendations for the protection of retained trees and highlighting where the removal of other trees will be necessary. This involved a survey of the principle trees and tree groups concerned, together with an assessment of the arboricultural impact of the proposed development in accordance with BS 5837:2012.

Documents supplied to South of Ireland Tree Surveys for the purpose of conducting a Tree Survey included:

- Precise Control Ltd. Surveyors Dwg
- Con Sheehan Surveys Dwg. No. 893_IV.
- Wilson Architecture Dwg. No. 1921-103.

Site Inspection and Methodology:

The site was originally surveyed on 16th November 2019 by a qualified Arborist. The site has been resurveyed on October 7th, 2025, with a view to retaining as many trees as possible for screening purposes.

A visual inspection from the ground was performed on all existing trees on site. Measurements were then taken and observations made.

A description was recorded of each tagged tree, group of trees, their species, age class, all relevant measured dimensions (height, stem diameter, crown spread, radii and crown clearance height) and an assessment of the tree health / vitality, structural form, life expectancy and quality categorisation. Recommended remedial works required were outlined in this Report.

The findings of the survey are recorded and presented in:

- Tree Schedule (Appendix 1).

This report is subject to the scope and limitations as given at the end of the report.

Accompanying Drawings:

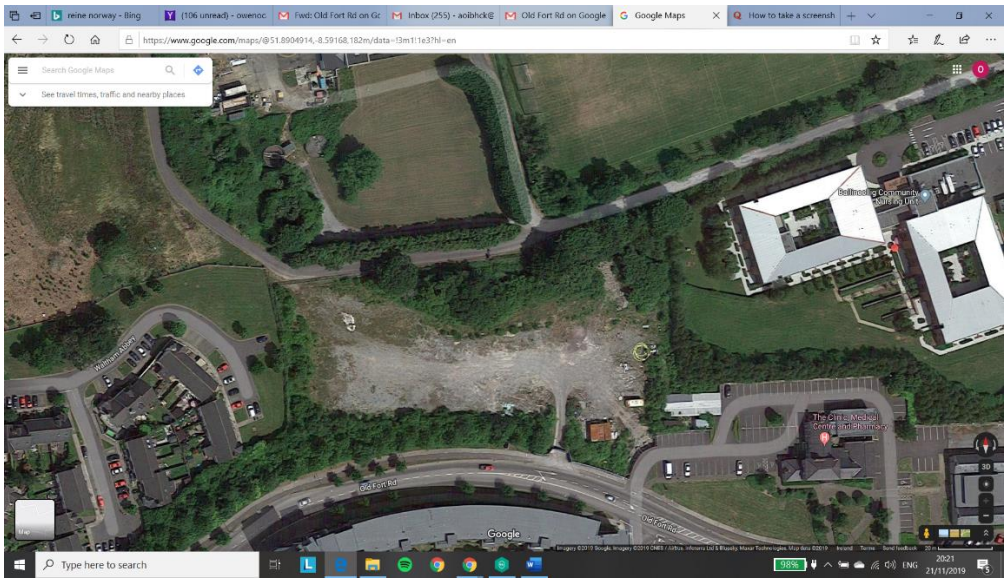
The Tree Survey report should be read in conjunction with:

- Tree Survey (Dwg No. 893_IV.

Site Location:

The site is an open site located to the north of Ballincollig and adjacent to the west of the former Officers' Mess.

1. **DESCRIPTION OF EXISTING TREES.**



Aerial photograph of site

The site area is currently an undeveloped site, located to the north of Ballincollig. Site levels appear to have been raised by 3m approximately over the years.

Fig. 1:

2.1 A total of seventeen trees, predominantly Lawson Cypress and Oak were inspected. See Con Sheehan Surveys Dwg No. 893_IV.

2.2 The quality of trees on the site may be described as a mixture of Oak and Lawson Cypress (6 Oak, 6 Lawson Cypress) with self-seeded Pussy Willow, Hawthorn x 1, Birch x 1. (See Legend).

2.3 It is immediately apparent that while the Oak and Lawson Cypress are providing a screen to the north at this section of the site, the Lawson Cypress are impeding the development of the high value Oak trees. However, these Lawson Cypress trees provide screening.

2.4 The Lawson Cypress are also highly prone to wind throw.

2.5 The Pussy Willow are self-seeded varieties and are not high value trees. However, they also provide screening at this site.

2.6 The Hawthorn, similarly, is a self-seeded variety.

2.7 One multi-stemmed Birch appears out of place and may have been planted in an incorrect position.

2.8 Accordingly, it is recommended that the Lawson Cypress be retained for the purpose of screening at this site.

2.8 One Oak tree (0629) has an internal cavity so post remedial works as recommended in the Legend need to be carried out. Biannual inspection is recommended going forward.

Further Information:

A large Lawson Cypress is present on the eastern edge of the boundary and it is not clear if it is within the boundary of the site.

The southern boundary adjacent to the roadway has been planted with mixed variety deciduous trees.

A mature Lawson Cypress hedgerow is present and screens the water treatment plant at this location. These trees are approximately 40 years old. Whilst the owners of the proposed development site O'Flynn Construction benefit from these trees, it is to be recognised that they have no control over their retention long-term.

3. ARBORICULTURAL IMPACT ASSESSMENT

3.1 Category U trees (2) are recommended for immediate removal. Category B1 trees (10) are recommended for remedial works.

4. RECOMMENDATIONS – Arboricultural Method Statement

4.1 Removal of the Lawson Cypress trees (0623) and (0632) should be undertaken in accordance with BS39982010 by a reputable and insured tree surgery company.

4.2 All remedial works as recommended in the Legend should also be carried out by a reputable and insured tree surgery company.

4.3 Compaction of the ground adjacent to the trees must be avoided. Accordingly, heavy equipment should not encroach on the root plates.

Protection should be afforded the remaining trees with fit for purpose barriers in accordance with the root protection areas.

NOTE:

The report covers those trees individually inspected and reflects the condition of the trees at the time of inspection.
Inspection is limited to visual examination only.
The trees were not climbed.
There is no warranty implied that deficiencies may not arise in the future.
The currency of this survey and recommendations is one year.



1. **Photograph of (0620) Oak**

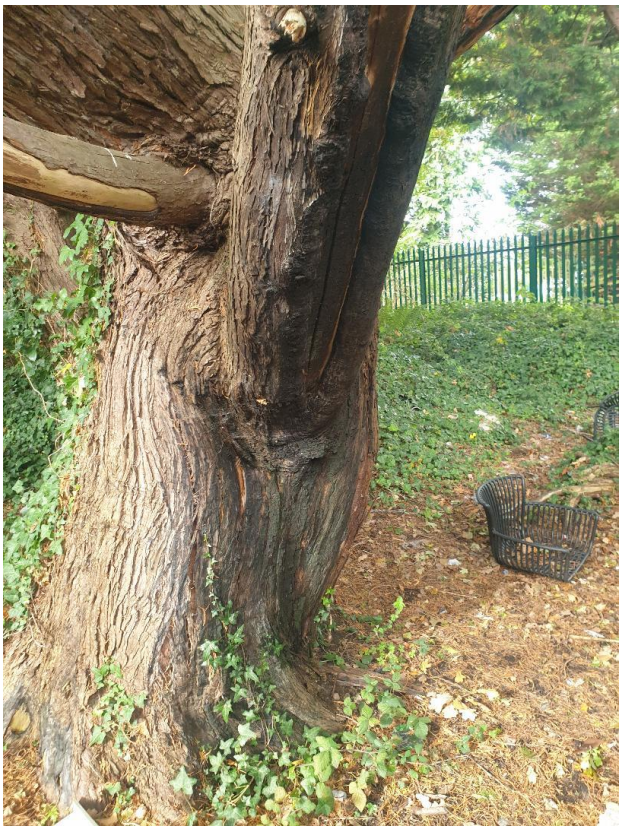


2. **Photograph of (0615) Oak**

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3. Photograph of (0623) Lawson Cypress with extensive decay



4. Photograph of (0622) Lawson Cypress showing fire damage at base

4

Tree No.	Species	Ht (m)	Crown spread ((m)	Trunk Dia @ 1.5m (mm) RPA circle radius (m) RPA sqm.	Ht of lowest branch (m) & direction of growth	Life stage (years)	Estimated remaining contribution (years)	General Observations: (Physical Condition)	Preliminary management recommendations	Category of retention + sub-category
0615	Oak Quercus. Robar	18m	9m N 9m S 10.5m E 8m W	850mm 10m 314m	3.5m N	M	40	Broad Crown No decay visible Good	Thin upper crown x 1/3	B1
0616	Pussy Willow Salix	10m	6m N 6m S 5m E 4m W	Multi-stemmed @ G/L	_	M	10+	Self-seeded. Extensive ivy Water pocket at base Fair	Retain for screening purposes	B
0617 0618 0619	Pussy Willow x 3	9m	3mN 3mS 3mE 2mW	Multi-stemmed @G/L	_	Y	40+	Self- seeded Sparse crowns forming one canopy Fair	Retain for screening purposes	B
0620	Oak	17m	7m N 10m S 7m E 9m W	900mm 10.8 366m	0.5m W	M	40+	Limb loss to east Twin-stemmed Good	Retain for screening purposes	B
0621	Oak	18m	6m N 5m S 4m E 10.5m W	70mm0 8.4 222m	0.5 W	M	40+	Raised bank position Extensive ivy	Remove lower limbs and flush cut stumps Remove ivy	B1
0622	Lawson Cypress Cupressus Leylandii	16m	3m N 9m S 8m E 8m W	1400mm 17m	All @ G/L	M	20+	Encroaching on Oak, southern side (0621) Fire damage @ base Fair	Thin crown Retain for screening purposes	B1
0623	Lawson	15m	3m N 4m S 5m E 5.5m W	800mm	1.2m S/W	M	<5	Extensive decay Poor	Remove	U
0624	Lawson	17m	4.5m N 0 S 3m E 7m W	700mm 8.4m	Twin-stemmed @ 1.4 from G/L	M	30+	Crown liable to split Fair	Thin crown Retain for screening purposes	B1

Tree No.		Ht (m)	Crown spread ((m)	Trunk Dia @ 1.5m (mm) RPA circle radius (m) RPA sqm.	Ht of lowest branch (m) & direction of growth	Life stage (years)	Estimated remaining contribution (years)	General Observations: (Physical Condition)	Preliminary management recommendations	Category of retention + sub-category
0625	Lawson	17m	5m N 7.5m S 3m E 3.5m W	650mm 9m	2m S	M	30+	Liable to wind throw Understory of Hawthorn (0626) on eastern side Fair	Retain for screening purposes	B
0626	Hawthorn	5m	1.5m N 1.5m S 1.5m E 1.5m W	M/S	All @ G/L	Y	20+	Multi-stemmed Extensive ivy Good	Remove ivy	B1
0627	Oak	17m	8m N 0m S 7m E 5m W	T/S @ 1m g/l. 700mm 8.4m	2.5m 5	M	40+	Deadwood and broken limbs Good	Remove deadwood and broken limbs Thin crown	B1
0628	Lawson	15m	5m N 7.8m S 5m E 3.5m W	700mm 8.4m	1m W	M	30+	Exposed root plate liable to wind throw Fair	Thin crown Retain for screening purposes	B1
0629	Oak	14m	2m N 7.5m S 0m E 4m W	T/S @ 1.3m from ground level.	1.8 S/W	E/M	40+	Internal cavity on western side Fair	Drain cavity Remove ivy Thin crown	B1
0630	Oak	15m	6m N 9m S 4m E 6m W	530mm 6.4m	2.3 N/W	E/M	40+	Small broken limbs Good	Lift lower growth Remove ivy to facilitate inspection Flush cut broken limbs	B1
0631	Birch Betula pendula	7m	1.5m N 1.5m S 1.5m E 1.5m W	200mm x 2 150mm x 2	M/S x 4 All @ G/L	Y	20+	Insignificant tree Self-seeded Fair	Retain in medium term	B1
0632	Lawson Cypress	16m	7m N 9.5m S 7m E 4m W	800mm	1m S	M	<10	Extreme lean to the south Damaged crown Poor	Remove	U

559150e 559200e 559250e 559300e 559350e

571100n 571050n 571000n

GRID NORTH

ROOT PROTECTION FENCING

METAL PALISADE FENCE 2m HIGH

MH STORM Ø=414.42

BOTTOM OF BANK

TOP OF BANK

CONCRETE POST & CHAINLINK FENCE

800x

BOTTOM OF BANK

800x APPROX

MH STORM Ø=417.37

METRES OF TOP OF BANK

SO-WE CHAMBER

16.50 of 800x

ORDNAC DRP

METAL PALISADE FENCE 2m HIGH

TOP OF BANK

BOTTOM OF BANK

KERB

MH Ø=23.09

MH Ø=23.51 E=17.21 APPROX

PORTACABIN

IC Ø=23.69

TARMAC

RG

KERB

EXPO=27.27

RIDGE=24.84

DWELLING

TOP OF BANK

BOTTOM OF BANK

TIMBER FENCE

FOOTPATH/CYCLE LANE

EDGE OF GRASS

POST BOX

TARMAC ROAD

BOTTOM OF KERB

MH Ø=24.24

MH Ø=24.52

MH Ø=24.57

LS

SV

PARAPET =39.02

PARAPET =44.95

PARAPET =50.57

STATION 3
X:559325.526
Y:571020.826
Z:25.052

MH Ø=25.00

MH Ø=24.95

PARAPET =38.99

PARAPET =38.83

FFL =25.64

APPARTMENT

MH Ø=25.15

EAVES=35.23

FFL =25.69

RIDGE=37.38

DWELLING

KERB

EAVES=23.01

RIDGE=25.72

FFL =23.82

OFFICES

PARAPET =23.59

TREE PROTECTIVE FENCING TO BE 1.8m HIGH.
STEEL HERAS FENCING FIXED IN PLACE BY
MEANS OF DRIVEN TIMBER STAKES DURING
THE CONSTRUCTION PERIOD IN ACCORDANCE
WITH THE ROOT PROTECTION AREAS OF THE
OF THE ACCOMPANYING RPA DRAWING NAME 19074d-1.dwg

Survey Notes:

GRID:
THIS SURVEY IS RELATED TO ORDNANCE SURVEY GRID. IRISH TRANSVERSE MERCATOR (OSGM02).

DATUM:
LEVELS ARE RELATED TO ORDNANCE SURVEY DATUM. (MALIN HEAD, OSGM02 ADJUSTMENT).

SURVEY ABBREVIATION LIST.

AV : WATER MAIN AIR VALVE
BH : BENCH
BL : BOLLARD
BS : BUS STOP
CL : COVER LEVEL
C/L : CENTRE LINE
DP : DOWN PIPE
EIC : ESB INSPECTION COVER
EM : ESB MARKER
EP : ESB POLE
EPL : ESB PILLAR
ER : EARTH ROD
ESB : ELECTRICITY SUPPLY BOARD
FFL : FINISHED FLOOR LEVEL
FH : FIRE HYDRANT
FHR : FIRE HYDRANT RISER
FP : FLAG POLE
GM : GAS MARKER
GUY : GUY WIRE TO POLE
GV : GAS VALVE
IC : INSPECTION COVER
IL : INVERT LEVEL
LP : LIGHT POST
LS : LIGHT STANDARD
LT : LIGHT TOWER
MH : MANHOLE
O/H : OVERHEAD
OSBM : O.S. BENCH MARK
PB : POST BOX
RG : ROAD GULLY
SAP : TREE SAPLING
SC : WATER MAIN STOP COCK
SH : SHORE
SN : SIGN
STN : SURVEY STATION
SV : WATER MAIN SLUICE VALVE
TBM : TEMPORARY BENCH MARK
TFL : LEVEL AT DOOR THRESHOLD
TIC : TELECOM INSPECTION COVER
TK : TELEPHONE KIOSK
TL : TRAFFIC LIGHT
TM : TELECOM MARKER
TOF : TOP OF FENCE LEVEL
TOT : TOP OF TREE LEVEL
TOW : TOP OF WALL LEVEL
TP : TELECOM POLE
TPL : TELECOM PILLAR
TRIC : TRAFFIC INSPECTION COVER
U/G : UNDERGROUND
UM : UTILITY MARKER
UP : UTILITY PILLAR
VL : VALVE
VP : VENT PIPE
WM : WATER MAIN METER
WV : WATER MAIN VALVE

NOTES:
FURTHER LEVELS ARE SHOWN ON FROZEN LAYERS WITHIN THE AUTOCAD DRAWING. ((LAYERS PRECEDED WITH 'Z')

EVERY EFFORT HAS BEEN MADE TO OBTAIN ALL DETAIL, HOWEVER SOME DETAIL MAY HAVE BEEN HIDDEN AT THE TIME OF THE SURVEY DUE TO PARKED CARS OR OTHER OBSTRUCTIONS.

TREE PROTECTIVE FENCING TO BE 1.8m HIGH.
STEEL HERAS FENCING FIXED IN PLACE BY
MEANS OF DRIVEN TIMBER STAKES DURING
THE CONSTRUCTION PERIOD IN ACCORDANCE
WITH THE ROOT PROTECTION AREAS OF THE
OF THE ACCOMPANYING RPA DRAWING NAME 19074d-1.dwg

Rev.	Drn.	Date.	Description.
1	md	04-12-25	Tree Tags & Tree Protection areas

PRECISE CONTROL
LAND AND ENGINEERING SURVEYORS
Unit 11, Eastgate Way, Eastgate, Little Island, T45 TD77, Co. Cork.
t: 021 4351050 – e: info@precisecontrol.com – w: www.precisecontrol.com

Job Title:
Old Fort Road, Ballincollig. Cork.

Survey:
2d Topographic Survey

For:
O' Flynn Group

Plot Scale: 1:250	Surveyed by : md
Date : 24-06-19	Drawn by : md
Job Nr. : 19074/25127	Checked by : hme
Drg. Nr.: 19074d-1.dwg	Rev.: 1

APPENDIX E

LEGEND:

CATEGORY SYSTEM (BS5837:2012 TREES IN RELATION TO CONSTRUCTION)

NOTE:
THE CATEGORY SYSTEM IS INTENDED TO PROVIDE A RAPID REFERENCE AS TO THE PARTICULAR TREE(S) SUITABILITY FOR RETENTION AND CAN BE DEFINED AS FOLLOWS.

CATEGORY A TREES
TREES OF A HIGH QUALITY AND VALUE, THESE ARE TREES THAT ARE PARTICULARLY GOOD EXAMPLES OF THEIR SPECIES WHICH ALSO PROVIDE LANDSCAPE VALUE.

CATEGORY B TREES
TREE OF A MODERATE QUALITY AND VALUE, TREES THAT MIGHT BE INCLUDED IN THE HIGH CATEGORY BUT ARE DOWNGRADED BECAUSE OF IMPARED CONDITION. THESE TREES ARE IN SUCH A CONDITION TO MAKE A SIGNIFICANT CONTRIBUTION

CATEGORY C TREES
TREES OF LOW QUALITY AND VALUE, TREES THAT ARE IN ADEQUATE CONDITION TO REMAIN UNTIL NEW PLANTING COULD BE ESTABLISHED.

CATEGORY U TREES
TREES OF SUCH A CONDITION THAT ANY EXISTING VALUE WOULD BE LOST WITHIN 10 YEARS AND WHICH SHOULD IN THE CONTEXT BE REMOVED FOR THE REASONS OF SOUNDS ARBORICULTURAL MANAGEMENT.

TREES TO BE RETAINED

ROOT PROTECTION AREA (RPA)
CONSTRUCTION EXCLUSION ZONE

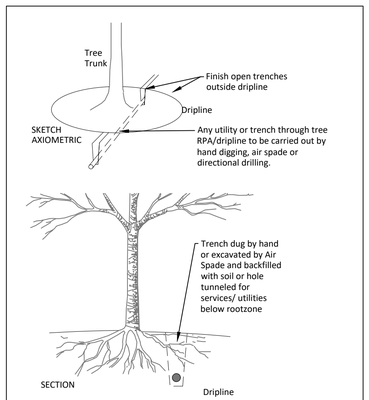
TREES TO BE REMOVED DUE TO THEIR CONDITION AS RECOMMENDED BY THE TREE SURVEYOR

TREES TO BE REMOVED DUE TO DEVELOPMENT PROPOSALS

TREE PROTECTION FENCE TO BE ERECTED PRIOR TO ANY CONSTRUCTION WORKS COMMENCING ON SITE. REFER TO DETAIL A.

PRECAUTIONARY ZONE
CONSTRUCTION EXCLUSION ZONE ('NO DIG'). WHERE EXCAVATIONS MUST BE UNDERTAKEN WITHIN THIS ZONE THE USE OF MECHANICAL EXCAVATION PLANT SHOULD BE PROHIBITED. PRECAUTIONS SHOULD BE UNDERTAKEN TO PROTECT ANY EXPOSED ROOTS. MATERIALS, PLANT AND SPOIL SHOULD NOT BE STORED WITHIN THIS ZONE.

NOTE:
THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE TREE SURVEY REPORT PREPARED BY SOUTH OF IRELAND TREE SURVEYS, 09/10/2025



DETAIL B - TREE ROOT PROTECTION
Scale 1:50

General notes tree protection fencing

- Tree protection fencing to be erected prior to commencement of main site works.
- Fence must remain, and be maintained for duration of construction period.
- Any damage to Tree Protection Fencing to be communicated to Project Arborist immediately.
- No works to be carried out within Tree Protection Zone without prior consultation and permission of project arborist.
- Tree Protection to BS5837-2012

TEMPORARY FENCING DETAILS

DETAIL A - TREE PROTECTION FENCING

NOTES

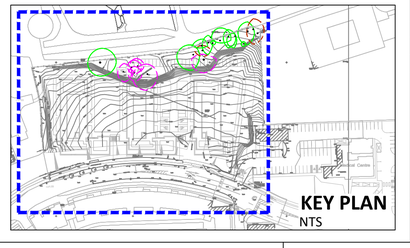
1. PRIOR TO THE COMMENCEMENT OF ANY WORK, OR ANY MATERIALS BEING BROUGHT ON SITE, EXISTING TREES TO BE RETAINED ARE TO BE PROTECTED FROM DAMAGE BY A 2.0M HIGH WELD MESH/HERAS FENCE OR SIMILAR APPROVED. THIS SHALL BE MAINTAINED IN GOOD AND EFFECTIVE CONDITION UNTIL THE WORK IS COMPLETED. ALLOW FOR STABILISER STRUTS TO SECURE FENCE FOR DURATION OF CONSTRUCTION.

2. THE PROTECTIVE FENCING IS TO COINCIDE, AS FAR AS IS PRACTICAL, WITH THE ROOT PROTECTION AREA (RPA), UNLESS OTHERWISE AGREED. ALL WEATHER NOTICES SHALL BE SECURELY FIXED TO THE FENCE WORDS SUCH AS 'CONSTRUCTION EXCLUSION ZONE - NO ACCESS'.

3. THE FOLLOWING MEASURES ARE PARTICULARLY IMPORTANT:
   A) MATERIALS ARE NEVER TO BE STACKED WITHIN THE ROOT SPREAD OF THE TREE;
   B) NO OIL, TAR, BITUMEN, CEMENT OR OTHER MATERIAL IS TO BE ALLOWED TO CONTAMINATE THE GROUND;
   C) NO FIRES SHALL BE LIT BENEATH OR IN CLOSE PROXIMITY TO THE TREE CANOPY;
   D) TREES TO BE RETAINED SHOULD NOT BE USED AS ANCHORAGES FOR EQUIPMENT OR FOR REMOVING STUMPS, ROOTS OR OTHER TREES, OR FOR OTHER PURPOSES;
   E) NO NOTICES, TELEPHONE CABLES OR OTHER SERVICES SHOULD BE ATTACHED TO ANY PART OF THE TREE;
   F) CEMENT MIXING SHOULD NOT BE CARRIED OUT WITHIN THE CANOPY/PROTECTED AREA OF THE TREE;
   G) SOIL LEVELS ARE TO BE MAINTAINED AS EXISTING WITHIN THE ROOT SPREAD OF THE TREE. ANY ALTERATION TO SOIL LEVELS IN AN AREA UP TO ONE AND A HALF TIMES THE DIAMETER OF THE TREE CANOPY MUST BE AGREED WITH THE LANDSCAPE ARCHITECT.

CONSTRUCTION NOTES

MESH WIRE TO BE GALVANISED CHAIN LINK FENCE, MESH TO BE 50MM, WIRE TO BE3.15/2.24MM GAUGE.
SCAFFOLD POSTS TO BE MACHINE DRIVEN TO A MINIMUM DEPTH OF 1METRE, AT A MAXIMUM OF 4 METRE CENTRES.
C SCAFFOLD RAILS TO BE CLAMPED SECURELY TO POSTS.
CHAIN LINK WIRE TO BE TIED TO POSTS AND RAILS USING 200MM LENGHTS OF FLEXIBLE WIRE.



Category B1 trees in good condition to be protected.
Category B trees to remove for proposed development.
NORTHERN BOUNDARY
Category B1 Birch tree retained in medium term.
Category U tree advised for removal by Arborist. Refer to Tree survey schedule
Category B1 tree to remove for proposed development.
Tree Protective Fence (Refer to Detail A)
EASTERN BOUNDARY
Category B1 Oak*(Quercus robur)* tree in good condition to be protected.
Tree Protective Fence (Refer to Detail A)
Precautionary Zone: Construction Exclusion Zone ('No Dig'). where excavations must be undertaken within this zone the use of mechanical excavation plant should be prohibited. Precautions should be undertaken to protect any exposed roots. materials, plant and spoil should not be stored within this zone.
DEVELOPMENT SITE
Precautionary Zone: Construction Exclusion Zone ('No Dig'). where excavations must be undertaken within this zone the use of mechanical excavation plant should be prohibited. Precautions should be undertaken to protect any exposed roots. materials, plant and spoil should not be stored within this zone.
WESTERN BOUNDARY
OLD FORT ROAD
SITE ENTRANCE
STATION 3
X:559325.526
Y:574020.826
Z:25.052
615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632

					Notes
00	17/12/2025	AK	DBos	Planning	
Rev	Date	Drawn	Checked	Description	

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THIS DRAWING TO BE READ IN CONJUNCTION WITH RELEVANT CONSULTANT'S DRAWINGS.

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Project	Apartment Development, Ballincollig O'Flynn Construction	Project No.	6752
Drg.	Tree Survey and Tree Protection Measures	Drawing No.	100
		Rev.	00
Scales	1:250@A1	Status	PLANNING
		Date	17/12/2025
Drn.	AK	Chd	DB
Passed			

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