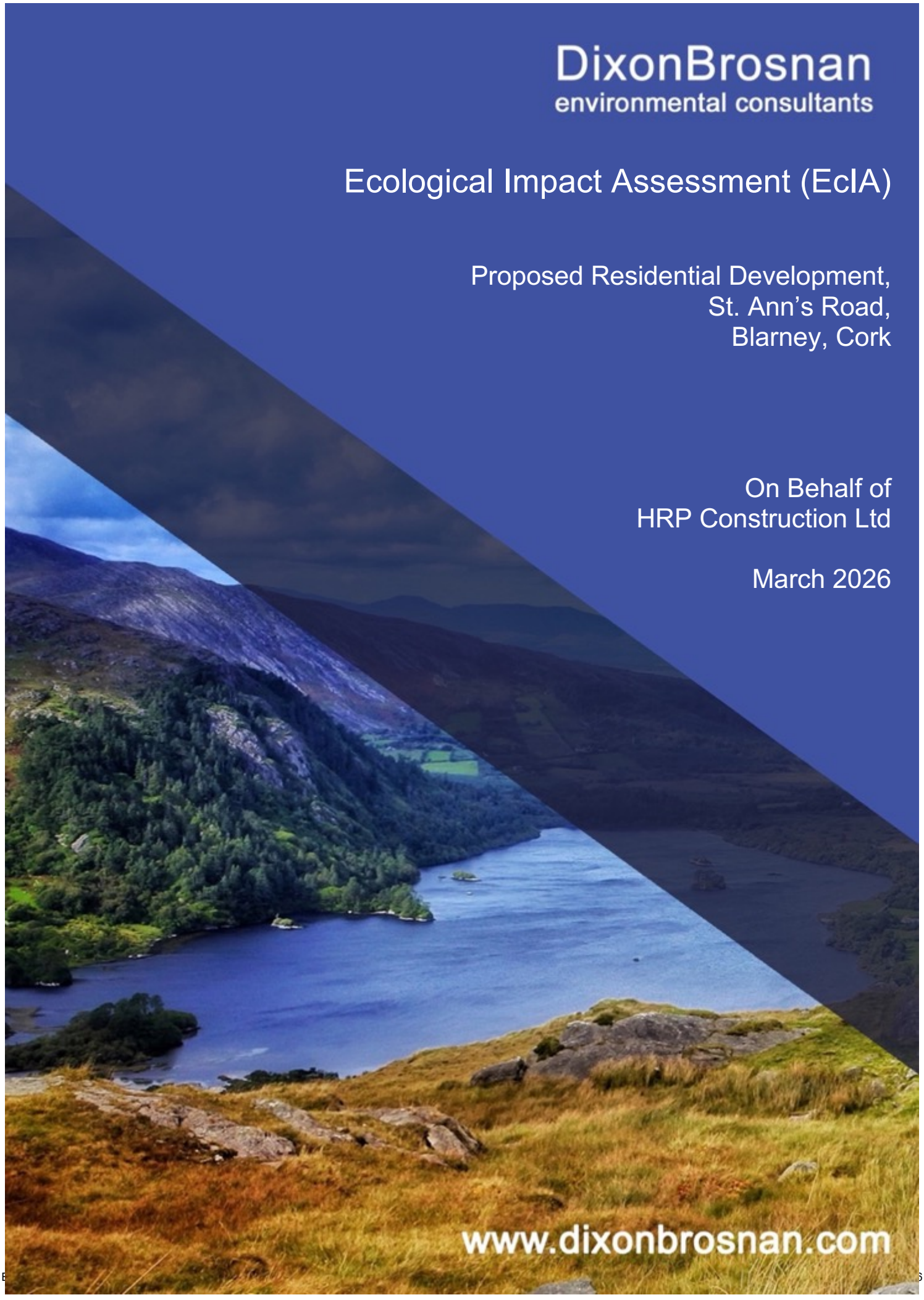
DixonBrosnan
environmental consultants

Ecological Impact Assessment (EcIA)

Proposed Residential Development,
St. Ann's Road,
Blarney, Cork

On Behalf of
HRP Construction Ltd

March 2026



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Project	Ecological impact assessment (EcIA) for Proposed Residential Development, St. Ann's Road Blarney, Cork	
Client	HRP Construction Ltd	
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Date	**Revision**	**Prepared By**
22/10/25	First Draft	Sorcha Sheehy BSc PhD
24/10/25	Issue to client	Carl Dixon BSc MSc
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1. Introduction

DixonBrosnan Environmental Consultants were commissioned to assess the potential impacts of the proposed residential development at St. Ann's Road, Blarney, Co. Cork, and all associated site works on terrestrial and aquatic flora and fauna. This report describes and evaluates the habitats with their representative flora and fauna and addresses the potential impacts of the development on the ecology of the site and the surrounding area.

2. Methodology

2.1 Introduction

This appraisal is based on surveys of the proposed development site and a review of desktop data. Although not part of an environmental impact assessment report (EIAR) this report follows the structure and protocols detailed in *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports'* (EPA 2022).

2.2 Desktop Review

A desktop study was carried out to identify features of ecological value occurring within the proposed development site and in close proximity to it. A desktop review also allows the key ecological issues to be identified early in the appraisal process and facilitates the planning of surveys. Sources of information utilised for this report include the following:

- National Parks & Wildlife Service (NPWS) - www.npws.ie
- Environmental Protection Agency (EPA) – www.epa.ie
- National Biodiversity Data Centre (NBDC)– www.biodiversityireland.ie
- *Cork City Biodiversity Action Plan* (Heritage Council 2009);
- *Cork City Development Plan 2022-2028;*
- Bat Conservation Ireland – http://www.batconservationireland.org;
- Birdwatch Ireland - http://www.birdwatchireland.ie/
- Invasive Species Ireland - http://www.invasivespeciesireland.com/
- Blarney D0043-01 Wastewater Treatment Plant (WWTP) Annual Environmental Report 2024 (EPA 2025).

This report follows the Environmental Protection Agency's *Guidelines on the information to be contained in Environmental Impact Assessment Reports* (EPA 2022). It also takes account of the *Draft Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment* (Department of Environment, Community and Local Government, August 2018), *Assessment of Ecological Impacts of National Road Schemes* (National Roads Authority, 2009) Chartered Institute of Ecology and Environmental Management *Guidelines on Ecological Impact Assessment in the UK and Ireland, Version 1.3* (CIEEM 2024).

Although not forming part of an EIAR, this report generally follows the Environmental Protection Agency's *Guidelines on the information to be contained in Environmental Impact Assessment Reports* (EPA 2022).

Reference was also made to the following key documents where relevant:

- *Best Practice Guidance for Habitat Survey and Mapping* (Heritage Council, 2011)
- *A Guide to Habitats in Ireland* (Fossitt, 2000)
- *Guidelines for the treatment of Badgers prior to the construction of National Road Schemes. National Roads Authority, Dublin* (National Roads Authority (NRA) 2005a)
- *Best Practice Guidelines for the Conservation of Bats in the Planning of National Road Schemes* (National Roads Authority (NRA) 2005b)
- *Guidelines for the treatment of bats during the construction of national road schemes* (National Roads Authority (NRA) 2005c)
- *Guidelines for the protection and preservation of trees, hedgerows and scrub prior to, during and post construction of national road schemes*. (National Roads Authority (NRA) 2006)
- *Guidelines for the treatment of Otters prior to the construction of National Road Schemes* (National Roads Authority (NRA) 2008)
- *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn)'* (Collins, J. (ed.), 2023)
- *Bat mitigation guidelines for Ireland v2. Marnell, F., Kelleher, C. & Mullen, E. (2022) Irish Wildlife Manuals, No. 134. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland*
- *Bird Census Techniques* Bibby, C.J., Burgess, N.D., Hill, D.A. & Mustoe, S.H. (2000)
- *Bird Monitoring Methods - a Manual of Techniques for Key UK Species.* Gilbert, G., Gibbons, D.W. & Evans, J. (1998)

2.3 Legislative Context

Flora and fauna in Ireland are protected at a national level by the Wildlife Act 1976, as amended, and the European Communities (Birds and Natural Habitats) Regulations 2011. They are also protected at a European level by the EU Habitats Directive (92/43/EEC) and the EU Birds Directive 2009/147/EC.

Under this legislation, sites of nature conservation importance are designated in order to legally protect faunal and floral species and important/vulnerable habitats. The relevant categories of designation are as follows:

- Special Areas of Conservation (SACs) are designated under the European Communities (Birds and Natural Habitats) Regulations 2011 to comply with the EU Habitats Directive (92/43/EEC);

- Special Protection Areas (SPAs) are designated under the EU Birds Directive (79/409/EEC) amended in 2009 as Directive 2009/147/EC; and

- Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs) are listed under the Wildlife (Amendment) Act, 2000, as amended. A NHA is designated for its wildlife value and receives statutory protection. A list of pNHAs was published on a non-statutory basis in 1995, but these have not since been statutorily designated. Consultation with the NPWS is still required if any development is likely to impact on a pNHA.

2.3.1 Relevant European Legislation

- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (The Habitats Directive);

- Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds (The Birds Directive);

- Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy (The Water Framework Directive);

- Directive 2006/44/EC of the European Parliament and of the Council of 6 September 2006 on the quality of fresh waters needing protection or improvement in order to support fish life (The Fish Directive (consolidated)).

2.3.2 Relevant Irish Legislation

- Wildlife Act 1976 as amended by Wildlife Act 1976 (Protection of Wild Animals) Regulations 1980, Wildlife (Amendment) Act 2000, Wildlife (Amendment) Act 2010, Wildlife (Amendment) Act 2012, European Communities (Wildlife Act, 1976) (Amendment) Regulations 2017 (The Wildlife Act);

- European Communities (Conservation of Wild Birds) Regulations 1985 (S.I. No. 291/1985) as amended by S.I. No. 31/1995 (The Wild Birds Regulations);

- European Communities (Natural Habitats) Regulations 1997 (S.I. No. 94/1997 as amended by S.I. No. 233/1998 and S.I. No 378/2005) (The Habitats Regulations);

- Fisheries (Consolidation) Act, 1959 (as amended) (The Fisheries Act);

- European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) (The Habitats Regulations); and

- The Flora (Protection) Order 2022 (S.I. No. 235 of 2022).

2.4 Survey Overview

This assessment is based on surveys at the proposed development site and surrounding lands. Site surveys were carried out on the 19th of September 2024, 20th of September, 21st of September 2024 and 13th of October, 20th of October 2025 and 21st of October 2025. It is noted that ecology surveys were carried out at the site in 2020 by Limosa Environmental and

O'Donnell Environmental as part of a previous planning application. These surveys are referred to where relevant.

Habitats

Habitats were mapped according to the classification scheme outlined in the Heritage Council publication *A Guide to Habitats in Ireland* (Fossitt, 2000) and following the guidelines contained in *Best Practice Guidance for Habitat Survey and Mapping* (Heritage Council, 2011). Habitats were cross referenced with Habitats Directive Annex I habitats. During these surveys, the site was also surveyed for invasive species and rare floral species (Wyse *et al*., 2016; Stace 2019).

Non-volant Mammals

A general mammal survey was carried out in conjunction with the habitat survey following NRA guidelines (NRA 2005a, NRA 2005c, NRA 2008). Potential habitat including grassland, scrub and woodland to a minimum of 150m from the site boundary were systematically checked for signs of mammal activity or habitation.

Bats

Bat activity surveys were conducted within the proposed development site under suitable weather conditions on 19th of September 2024, 20th of September, 21st of September 2024 and 13th of October 2025. The surveys were carried out 15 minutes before sunset (Collins 2023). Activity (transect) surveys used Elekon Batloggers and EchoMeter Touch 2 PRO bat detectors. An emergence survey using a Pulsar Helion 2 XP50 Pro Thermal Imaging Camera was also carried out to identify potential emergence points from trees within the survey area. The primary purpose of bat surveys was to assess usage of trees and habitats, located within or in close proximity to the site boundary. Activity surveys were also carried out to identify foraging and/or commuting routes within the proposed development site boundary (i.e., hedgerow, treelines, scrub, semi-natural grassland, etc.).

A preliminary roost assessment was carried at ground level on all mature and semi-mature trees within the proposed development site as per Collins (2023). These assessments followed the guidelines set out in '*Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th ed)*' (Collins, 2023).

Birds

General bird surveys were carried out in conjunction with habitat surveys during September 2024 and October 2025. Surveys were based on the BTO Common Bird Census (CBC) methodology (Bibby *et al.,* 2000 and Gilbert, 1998) which aims to capture a snapshot of breeding bird activity within the study area.

The study area focused on terrestrial habitats within the proposed development site. The aim of the breeding bird surveys was to identify any valuable bird habitats within the site boundary and to identify birds present within the proposed development site and surrounding landscape.

2.5 Authors/surveyors

This report and survey work was completed by Dr. Sorcha Sheehy PhD (Ecology/ornithology) and Carl Dixon MSc (Ecological Monitoring). Field surveys were completed by Carl Dixon MSc.

Carl Dixon holds an Honours Degree (BSc) in Ecology and a Masters (MSc) in Ecological Monitoring from UCC. He is a senior ecologist who has over 25 years' experience in ecological assessment. Prior to setting up DixonBrosnan Environmental Consultants in 2000, Carl set up and ran Core Environmental Services which included REPS planning for landowners and ecological assessments. Carl has particular experience in freshwater ecology, including electrofishing fish stock assessments and water quality assessments. He also has considerable experience in habitat mapping and mammal ecology including survey work and reporting in relation to Badgers and bats.

We note that Carl Dixon has considerable experience in bat survey and bat mitigation measures/roost design. Carl was the primary coordinator and surveyor for a heritage council-funded project serving all the river bridges in County Waterford for bats. He has designed bat roosts for Lesser horseshoe in conjunction with the NPWS for sites in West Cork and is currently designing a dedicated bat roost for a large pharmaceutical plant in County Limerick. Carl has completed specialized training courses relating to bats in Ireland and the UK and has considerable experience in using a variety of bat survey equipment and subsequent software analysis of data.

Other competencies include surveys for invasive species and bird surveys. Carl has extensive experience with regards to EIAR and NIS mitigation and impact assessment. He has experience in large-scale industrial developments with extensive experience in complex assessments as part of multi-disciplinary teams. Such projects include gas pipelines, incinerators, electrical cable routes, oil refineries and quarries.

Sorcha Sheehy PhD (Ecology/ornithology) is an ecologist and ornithologist who has worked for 15 years in environmental consultancy. She has worked on Screening/NISs for a range of small and large-scale projects with expertise in assessing impacts on birds. Sorcha's PhD research focused on bird behaviour at airports, where she studied bird avoidance behaviour and collision risk to aircraft. Her research involved field observations, post-mortem analysis and radar surveys. Sorcha has worked on bird collision risk assessments at airports throughout Ireland including Dublin airport, Cork airport, Shannon airport and Kerry airport. During her consultancy work Sorcha carried out field-based surveys and environmental reports including NIS, AA screening and EIARs. Notable projects include the Arklow Bank Wind Park, Indaver Ireland Waste Management Facility at Ringaskiddy, Irving Oil Whitegate Refinery (IOWR), Shannon LNG and Greenlink Interconnector.

2.6 Limitations

Standard survey methods were followed to ensure that surveys were completed within the appropriate season. However, any biases or limitations associated with these methods could potentially affect the results collected. Although every effort was made to provide a full assessment and comprehensive description of the study area, natural fluctuations in populations may not be fully reflected due to the instantaneous nature of the field surveys. However, the field surveys together with the background knowledge provided by the desk

study, provides a robust representation of the baseline for the habitats and species within the zone of influence.

It is noted that breeding bird surveys were completed outside the peak breeding bird season i.e. March to mid-July. Ideally breeding bird surveys would be completed for all projects, however, time constraints did not allow dedicated breeding bird surveys for this project. It is noted that birds were still active within the site during the field surveys and these surveys give an indication of birds which use the site for breeding. With the exception of breeding bird surveys, all surveys were completed as per the recommended guidelines and seasons i.e. habitats, flora, invasive species, non-volant mammals and bats. However, given the location of the site, its highly modified nature, availability of recent high quality ecological data, the nature of the proposed development and the limited potential for ecological impacts, the authors are confident in the conclusions of this report in the absence of breeding bird surveys. However, noting the concerns of the City Council, we will carry out breeding bird surveys during summer of 2026 to aid in optimal locations on nest boxes within site boundary.

3. Receiving Environment

3.1 Existing site

The proposed development site is on the western edge of Blarney Village in the grounds of the former Blarney Park Hotel site in Blarney Town (**Figure 1**). The Blarney Park Hotel, which originally opened in 1969 closed in 2007. Following fire damage in 2008, the buildings onsite were demolished and there are currently no buildings within the proposed development site (with the exception of two small plant buildings).

The Blarney Castle and Gardens are located to the south of the site and the main square in Blarney village is located to the east. Lands north and west of the site are largely agricultural with pockets of woodland habitat. The overall site area is approximately 3.7 ha.

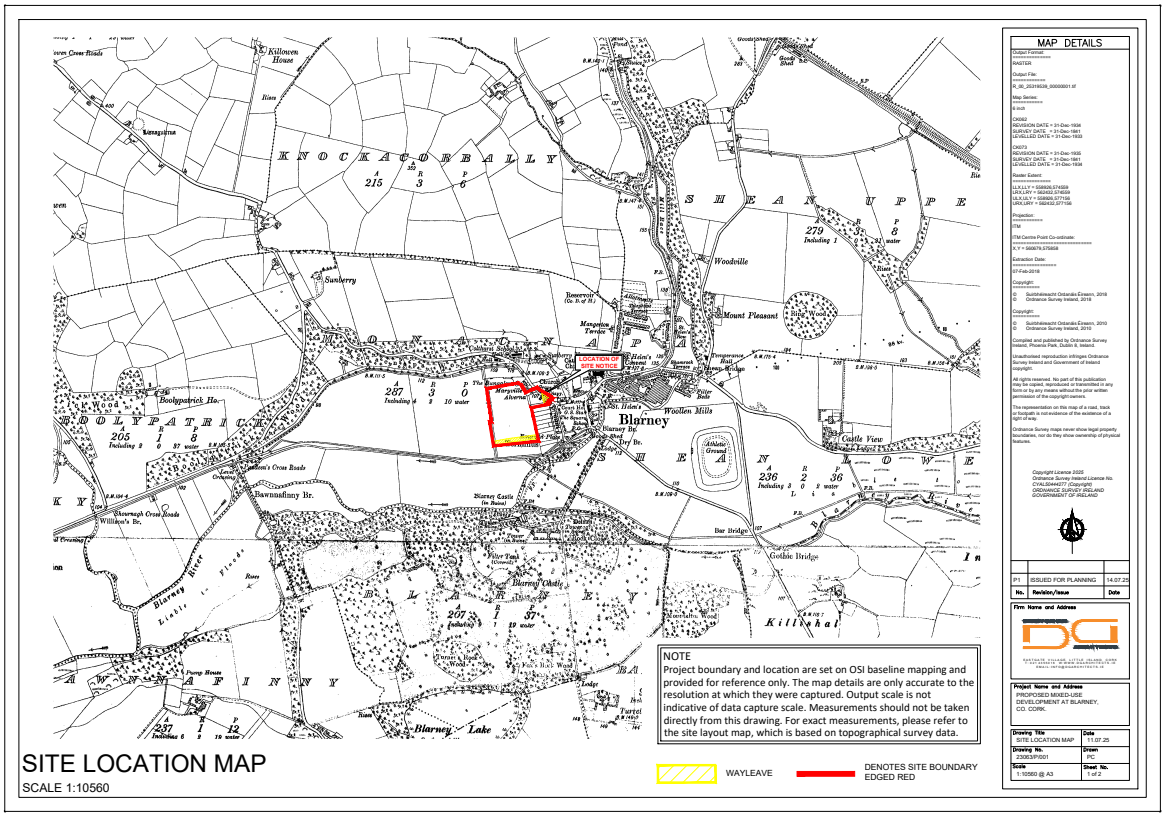


Figure 1. Site location | Source DG Architects

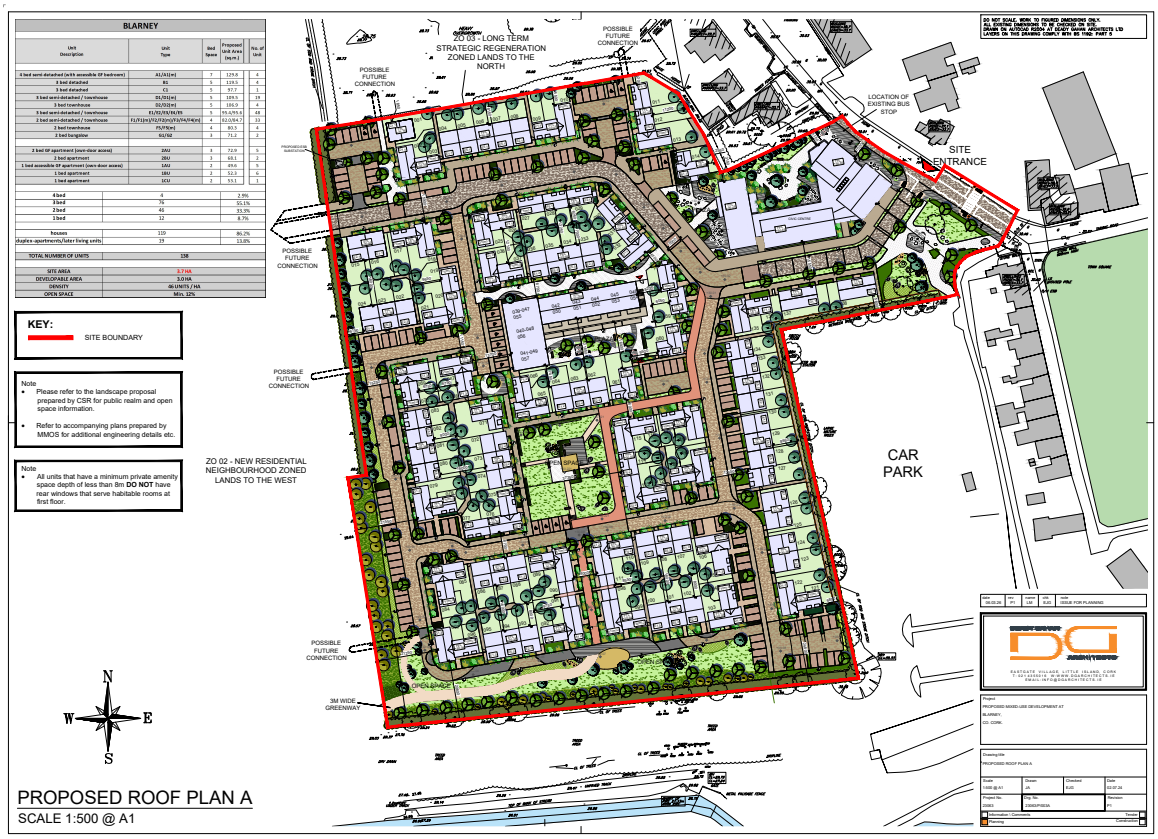


Figure 2. Site layout | Source DG Architects

3.2 Proposed Development

HRP Construction Limited are applying for planning permission the construction of 138 residential units, a civic centre and all ancillary works.

An overview of the proposed development site layout is shown in **Figure 2**.

3.3 Surface water

Through the incorporation of SuDS features including tree pits and permeable paving, surface water runoff will be temporarily stored and filtered within the development site.

Surface water from all roofed areas, terraced and hardstanding will be collected through a dedicated stormwater system using gullies, drainage channels, downpipes and rainwater outlets. The surface water will then be managed through a series of SuDS components and attenuated prior to discharge.

The proposed surface water outfall is to the existing open drain located along the western boundary of the site, as indicated on Drawing No. 23141-MMS-ZZ-ST-DR-C-10002 – Proposed Surface Water Drainage Layout.. This drain flows into the Knockacorbally Stream (a bypass channel for the River Martin) to the south of the proposed development site.

In accordance with Cork City Council recommendations, the allowable discharge rate from the site has been restricted to a reduced Qbar value of 2.0 l/s/ha. This corresponds to a total site discharge rate of 7.40 l/s which will be provided by a hydrobrake vortex control device installed on the last manhole prior to discharge offsite.

When allowance is made for a 1 in 100-year storm event plus a 20% climate change allowance, the required on-site attenuation storage volume is 2,090m³.

It should be noted that all surface water drainage works will be undertaken in accordance with the local authority requirements and Cork City Council standards.

3.4 Foul Drainage

The wastewater drainage for the proposed development has been designed as a separate system to the storm with the final discharge to the existing foul sewer traversing the southern portion of the site as detailed previously and indicated on MMOS Drawing ‘23141-MMS-ZZ-ST- DR-C-10001 – Proposed Foul Layout Plan’.

All wastewater drainage stacks from the units are to be collected beneath the ground floor slab and directed to the proposed new wastewater network onsite, which is proposed to then discharge to the existing wastewater sewer traversing the southern portion of the site.

The proposed development is to comprise a total of no. 138 residential unit, a civic centre, and all ancillary works. The proposed wastewater flow for this development has been estimated as 0.779 l/s for the average Dry Weather Flow (DWF), and 4.571 l/s for the peak DWF. Uisce Éireann has issued a Confirmation of Feasibility (REF: CDS25004956) stating that a wastewater connection is feasible based on the existing Irish Water infrastructure within the vicinity for the proposed 138 units and civic centre.

Details of the proposed wastewater drainage layout are shown indicatively on MMOS Drawing '23141-MMS-ZZ-ST-DR-C-10001 – Proposed Foul Layout Plan'.

It should be noted that all wastewater drainage works will be undertaken in accordance with Uisce Éireann standard details and codes of practice for wastewater as required.

4. Designated Conservation Areas

4.1 European (Natura 2000) Sites

Special Areas of Conservation (SACs) and candidate SACs are protected under the Habitats Directive 92/43/EEC and the European Communities (Birds and Natural Habitats) Regulations 2011, as amended. Special Protection Areas (SPAs) are protected under the Birds Directive 2009/147/EC and European Communities (Birds and Natural Habitats) Regulations 2011, as amended. Collectively, these sites are referred to as Natura 2000 or European sites.

The proposed development site does not form part of any SPA or SAC (or cSAC). Determination of this project's likely Zone of Impact (ZoI) was achieved by assessing all elements of the proposed project against the ecological receptors within the project footprint, in addition to all ecological receptors that could be connected to and subsequently impacted by the proposed project through impact pathways. To this end, the ZoI extends outside of the proposed development footprint to include ecological receptors connected to the project through overlap /intersection, proximity and connectivity to features such as waterbodies. A potential pathway to one of these designated sites i.e. Cork Harbour SPA (**Table 1** and **Figure 3**) was identified. Given the distances involves and the absence of hydrological or other connections, no pathway for impact on any other European site has been identified.

Cork Harbour SPA is a large, sheltered bay system, with several river estuaries - principally those of the Rivers Lee, Douglas, Owenboy and Owennacurra. The SPA site comprises most of the main intertidal areas of Cork Harbour, including all of the North Channel, the Douglas River Estuary, inner Lough Mahon, Monkstown Creek, Lough Beg, the Owenboy River Estuary, Whitegate Bay, Ringabella Creek and the Rostellan and Poulnabibe inlets. Cork Harbour is of major ornithological significance, being of international importance both for the total numbers of wintering birds (i.e., > 20,000) and also for its populations of Black-tailed Godwit and Redshank. In addition, it supports nationally important wintering populations of 22 species, as well as a nationally important breeding colony of Common Tern. Several of the species which occur regularly are listed on Annex I of the E.U. Birds Directive.

Table 1. European sites and their location relative to the proposed development site

European sites name and code	Distance from site boundary (at closest point) and potential source-pathway-receptor link	Qualifying interests (QI)/ Special Conservation Interests (SCI)
Special Protection Area (SPA)		
Cork Harbour SPA (site code 004030)	10.1km southeast (19.8km downstream). A small drainage ditch runs along the western site boundary and connects to the Knockacorbally Stream to the south of the proposed development site. The Knockacorbally Stream is a 2nd order tributary	Birds A193 Common Tern (*Sterna hirundo*) A028 Grey Heron (*Ardea cinerea*)

European sites name and code	Distance from site boundary (at closest point) and potential source-pathway-receptor link	Qualifying interests (QI)/ Special Conservation Interests (SCI)
	of the River Shournagh (flowing into the River Shournagh via the River Martin). During operation, the proposed surface water drainage network will discharge the western drainage ditch. The River Shournagh/River Lee/Lee Estuary meets the Cork Harbour SPA c.19.8km downstream of the proposed development site. Therefore, although unlikely, surface water run-off/discharges during the construction or operational phases could potentially flow into the Cork Harbour SPA via the River Shournagh and its tributaries. Wastewater from the site will ultimately discharge into River Shournagh via the Blarney Wastewater treatment plant (WWTP) approximately 18.4km upstream of Cork Harbour SPA. This could potentially impact on water quality within the Cork Harbour SPA. Although unlikely given the distance involved, surface water run-off/discharges during the construction or operational phases as well as wastewater discharges from the proposed development could potentially impact on Cork Harbour SPA via the onsite drainage ditch (and River Shournagh). Habitats within or near the proposed development area could also potentially provide ex-situ foraging grounds for SCI species outside the Cork Harbour SPA.	A130 Oystercatcher (*Haematopus ostralegus*) A140 Golden Plover (*Pluvialis apricaria*) A157 Bar-tailed Godwit (*Limosa lapponica*) A056 Shoveler (*Anas clypeata*) A156 Black-tailed Godwit (*Limosa limosa*) A052 Teal (*Anas crecca)* A183 Lesser Black-backed Gull (*Larus fuscus)* A054 Pintail (*Anas acuta*) A149 Dunlin (*Calidris alpina*) A017 Cormorant (*Phalacrocorax carbo*) A162 Redshank (*Tringa totanus*) A004 Little Grebe (*Tachybaptus ruficollis*) A050 Wigeon (*Anas penelope*) A160 Curlew (*Numenius arquata*) A005 Great Crested Grebe (*Podiceps cristatus*) A069 Red-breasted Merganser (*Mergus serrator*) A048 Shelduck (*Tadorna tadorna*) A142 Lapwing (*Vanellus vanellus*) A179 Black-headed Gull (*Chroicocephalus ridibundus*) A182 Common Gull (*Larus canus*) A141 Grey Plover (*Pluvialis squatarol*a) Habitats Wetlands

European sites name and code	Distance from site boundary (at closest point) and potential source-pathway-receptor link	Qualifying interests (QI)/ Special Conservation Interests (SCI)
Special Area of Conservation (SAC)		
Blackwater River (Cork/Waterford) SAC	14.6km north. No hydrological or other pathway	**Habitats** 1130 Estuaries 1140 Mudflats and sandflats not covered by seawater at low tide 1220 Perennial vegetation of stony banks 1310 Salicornia and other annuals colonising mud and sand 1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) 1410 Mediterranean salt meadows (*Juncetalia maritimi*) 3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation 91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles 91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae)* **Species** 1029 Freshwater Pearl Mussel *(Margaritifera margaritifera)* 1092 White-clawed Crayfish *(Austropotamobius pallipes)* 1095 Sea Lamprey *(Petromyzon marinus)* 1096 Brook Lamprey *(Lampetra planeri)* 1099 River Lamprey *(Lampetra fluviatilis)* 1103 Twaite Shad *(Alosa fallax fallax)* 1106 Salmon *(Salmo salar)* 1355 Otter *(Lutra lutra)* 1421 Killarney Fern *(Trichomanes speciosum)*

Figure 3. Location of the proposed development boundary and Natura 2000 sites located within likely zone of impact of the site | Source: EPA Envision mapping https://gis.epa.ie/EPAMaps/) | Not to scale

4.2 Nationally Protected Sites

Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs) are national designations under the Wildlife Act 1976, as amended. A Natural Heritage Area (NHA) is designated for its wildlife value and receives statutory protection. These areas are considered nationally important for the habitats present or which holds species of plants and animals whose habitats needs protection. Under the Wildlife Amendment Act (2000), NHAs are legally protected from damage from the date they are formally proposed for designation.

Proposed Natural Heritage Areas (pNHA) were published on a non-statutory basis in 1995 and have not since been statutorily proposed or designated. These sites are also of significance for wildlife and habitats. Prior to statutory designation, pNHAs are still subject to limited protection, in the form of:

- Agri-environmental farm planning schemes support the objective of maintaining and enhancing the conservation status of pNHAs;
- There is a requirement for the Forest Service to gain NPWS approval before they will pay afforestation grants on pNHA lands; and,
- A recognition of the ecological value of pNHAs by Planning and Licensing Authorities.

The NHAs and pNHAs located in the vicinity of the proposed development site are listed in **Table 2** and are shown in **Figure 4**.

The closest pNHA are the Blarney Castle Woods pNHA, located 185m south. Increased lighting at the site could potentially create light spillage within this pNHA.

The proposed development site is hydrologically connected to the River Shournagh and River Lee via the local drainage ditch. Effluent from the proposed development will ultimately be conveyed to Blarney WWTP for treatment prior to discharging into the waters of the River Shournagh. Therefore, there is a potentially hydrological connection to this pNHAs via surface water/wastewater discharges.

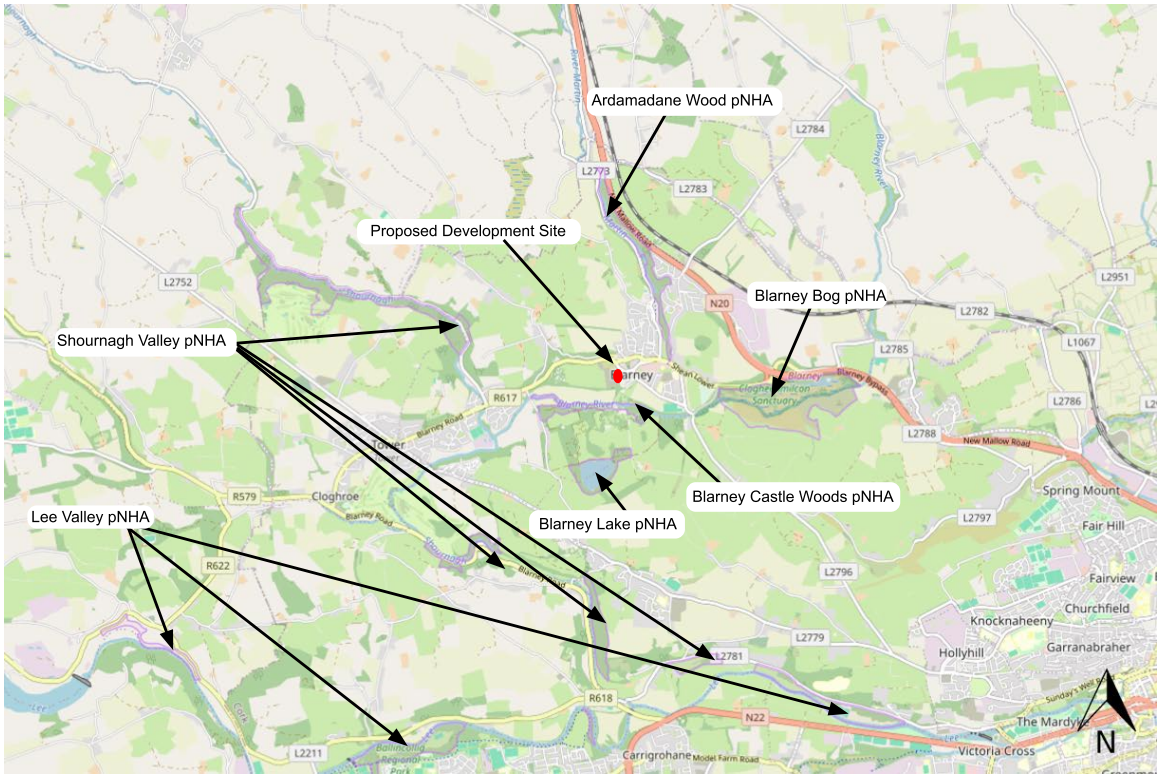


Figure 4. Proposed Natural Heritage Areas (pNHAs) in the vicinity of the proposed development site | Source: EPA Envision mapping https://gis.epa.ie/EPAMaps/) | Not to scale

Table 2. National sites and their location relative to the proposed development site

NHAs & NHAs/pNHAs	Site Code	Overlaps with European site	Site Description	Distance at closest point and potential source-pathway-receptor link
Blarney Castle Woods pNHA	001039	No	This site is situated 1km south-west of Blarney in the grounds of Blarney Castle. The wood is bounded to the north by the Blarney River and to the south by the parklands surrounding the castle.	185m south.
Ardamadane Wood pNHA	001799	No	Ardamadane Wood is located north of Blarney village, 6km north-west of Cork City. It is situated along the banks of the River Martin	535m northeast. Located upstream of the proposed development site.

NHAs & NHAs/pNHAs	Site Code	Overlaps with European site	Site Description	Distance at closest point and potential source-pathway-receptor link
				No hydrological or other connection
Blarney Lake pNHA	001798	No	Blarney lake is situated 1km south west of Blarney, close to Blarney Castle. The lake is of artificial origin and is surrounded by a narrow band of woodland predominantly oak (*Quercus* spp.), Beech (*Fagus sylvatica*) and fir (*Abies* spp.).	719m south Located upstream of the proposed development site. No hydrological or other connection
Shournagh Valley pNHA	000103	No	Shournagh Valley pNHA includes two sections of the River Shournagh and comprises areas of wet woodland, scrub, scrub woodland and old estate mixed woodland. Dippers (*Cinclus hibernicus*) and Grey wagtail (*Motacilla cinerea*) are known to feed along and around the river channel.	1.6km west-northwest. 3.8km downstream A potential source-pathway-receptor link has been identified between the source (proposed development) and the receptor (Shournagh Valley pNHA) via a potential pathway (surface and wastewater discharges)
Blarney Bog pNHA	001857	No	Blarney Bog is a small area of Reed Canary-grass (*Phalaris arundinacea*) fen, situated in the flat valley floor of the River Blarney. It is located 0.5km west of Blarney Town and 4.5km north-west of Cork City.	1.2km east Located upstream of the proposed development site. No hydrological or other connection

NHAs & NHAs/pNHAs	Site Code	Overlaps with European site	Site Description	Distance at closest point and potential source-pathway-receptor link
Lee Valley pNHA	000094	No	The Lee Valley pNHA occupies five different sections of the River Lee valley and is of regional conservation importance for the diverse range of semi-natural habitats that occur. The site supports wet broadleaved woodland, wet grassland, dry broadleaved woodland, unimproved dry grassland, freshwater marsh. A number of wetland bird species are known to breed in the site including Mallard, Heron, Sedge and Grasshopper warblers and Reed bunting. Small blue and White wood butterfly, both locally distributed species also occur	3.3km south. 9.6km downstream A source-pathway-receptor link has been identified between the source (proposed development) and the receptor (Lee Valley pNHA) via a potential pathway (surface and wastewater discharges)

4.3 Ramsar Sites

The Convention on Wetlands, called the Ramsar Convention, is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. A key commitment of Ramsar Contracting Parties is to identify and place suitable wetlands onto the List of Wetlands of International Importance. Cork Harbour is listed as a Ramsar site, which is a non-statutory designation.

4.4 Important Bird Areas – Cork Harbour

Important Bird and Biodiversity Areas (IBAs) are sites selected as important for bird conservation because they regularly hold significant populations of one or more globally or regionally threatened, endemic or congregator bird species or highly representative bird assemblages. The European IBA programme aims to identify, monitor and protect key sites for birds all over the continent. It aims to ensure that the conservation value of IBAs in Europe (now numbering more than 5,000 sites or about 40% of all IBAs identified globally to date) is maintained, and where possible enhanced. The programme aims to guide the implementation of national conservation strategies, through the promotion and development of national protected-area programmes. Through their designation they aim to form a network of sites ensuring that migratory species find suitable breeding, stop-over and wintering places along their respective flyways.

The function of the Important Bird Area (IBA) Programme is to identify, protect and manage a network of sites that are important for the long-term viability of naturally occurring bird

populations, across the geographical range of those bird species for which a site-based approach is appropriate. The proposed development site has a potential hydrological connection via the River Lee and Lee Estuary to the Cork Harbour IBA (Site Code: IE088).

The site qualifies for designation under the IBA Criteria (2000) listed in **Table 3**:

- A4iii - The site is known or thought to hold, on a regular basis, ≥ 20,000 waterbirds or ≥ 10,000 pairs of seabird of one or more species.
- B1i - The site is known or thought to hold ≥ 1% of a flyway or other distinct population of a waterbird species
- B2 - The site is one of the most important in the country for a species with an unfavourable conservation status in Europe and for which the site-protection approach is thought to be appropriate.
- C3 - The site is known to regularly hold at least 1% of a flyway population or of the EU population of a species threatened at the EU level (not listed on Annex 1 of The Birds Directive).
- C4 - The site is known to regularly hold at least 20,000 migratory waterbirds and/or 10,000 pairs of migratory species of one or more species.
- C6 - The site is one of the five most important in the European region in question for a species or subspecies considered threatened in the European Union.

Table 3. Provides a summary of the Cork Harbour IBA trigger species.

Species	Current IUCN Red List Category	Season	Year(s) of estimate	Population estimate	IBA Criteria Triggered
Eurasian Curlew (*Numenius arquata*)	NT	winter	1995	1,669 individuals	B2
Bar-tailed Godwit (*Limosa lapponica*)	NT	winter	1996	456 individuals	B2
Black-tailed Godwit (*Limosa limosa*)	NT	winter	1996	1,399 individuals	B1i, C3
Dunlin (*Calidris alpine*)	LC	winter	1995	12,050 individuals	B1i, B2, C3
Common Redshank (*Tringa tetanus*)	LC	winter	1996	1,344 individuals	B1i, C3
Common Tern (*Sterna hirundo*)	LC	breeding	1995	102 breeding pairs	C6
A4iii Species group - waterbirds	n/a	winter	-	20,000 individuals	A4iii, C4

4.5 Salmonid Waters – River Lee

The River Lee main channel from source to Cork City waterworks at Lee Road is a designated salmonid fishery under the EC (Quality of Salmonid Waters) Regulations of 1988 (SI 84 of 1988), implementing the Freshwater Fish Directive (78/659/EEC). The section of the River Lee downstream of the confluence with the River Shournagh forms part of this designation. The River Lee and its larger tributaries are known to support Atlantic Salmon *Salmo salar* as well as other Annex II species such as Lamprey. The River Lee is known to contain populations of Brown Trout *Salmo trutta* and European Eel *Anguilla anguilla*.

5. Habitats and Flora

5.1 Habitats

Habitat surveys were carried out on the 19th of September 2024 and 20th of October 2025. Habitat mapping was carried out in line with the methodology outlined in the Heritage Council Publication, *Best Practice Guidance for Habitat Survey and Mapping* (Heritage Council, 2011). The terrestrial and aquatic habitats within or adjacent to the proposed development site was classified using the classification scheme outlined in the Heritage council publication *A Guide to Habitats in Ireland* (Fossitt, 2000) and cross referenced with Annex I Habitats where required.

As described in **Section 3.1**, the proposed development site was formerly home to hotel which closed in 2007. A review of aerial photography between 2012 and 2025, illustrates how the site has become colonised by vegetation over time. Large areas of the site were covered by buildings and hard standing areas with planted/managed vegetation up until 2012, with vegetation largely confined to planted treelines and flower beds **(Figure 5**). After demolition of site's buildings (between 2012 and 2015), vegetation at the site was unmanaged and began to extend outside planted boundaries (**Figure 6**). By 2018, much of the northern area of the site had become recolonised by scrub vegetation (**Figure 7**), however the original linear planting is still distinguishable. Aerial photography from 2025 indicates that large areas of the site have succeeded to scrub and self-seeded vegetation, resulting is a complex mosaic of habitats with indistinct boundaries (**Figure 8**).

A current overview of habitats recorded within the site is shown in **Figure 9** and the habitats recorded on site are described in **Table 4.** Photographs of the site are also included below. The ecological value of habitats has been defined using the classification scheme outlined in the *Guidelines for Assessment of Ecological Impacts of National Road Schemes* (National Roads Authority, 2009) which is included in **Appendix 1**. It should be noted that the value of a habitat is site specific and will be partially related to the amount of that habitat in the surrounding landscape. Habitats that are considered to be good examples of Annex I and Priority habitats are classed as being of International or National Importance. Semi-natural habitats with high biodiversity in a county context and that are vulnerable, are considered to be of County Importance. Habitats that are semi-natural, or locally important for wildlife, are considered to be of Local Importance (higher value) and sites containing small areas of semi-natural habitat or maintain connectivity between habitats are considered to be of Local Importance (lower value).

No Annex I habitats were recorded within the proposed development site. No protected species were recorded during the site visits. The Arboricultural (Holly Arboricultural)

assessment which accompanies this application has been cross referenced where relevant, but the nomenclature and classification of habitats at the site differs as these assessment are based on different criteria.

Figure 5. Proposed Site Layout

Figure 6. Aerial view of proposed development site in 2015. | Source Google Earth

Figure 7. Aerial view of proposed development site in 2018. | Source Google Earth

Figure 8. Aerial view of proposed development site in 2025. | Source Google Earth

Table 4. Habitats present within proposed development site and their relative value

Habitats	Comments	Ecological value (NRA guidelines)
Scrub WS1/Dry meadows and grassy verge GS2/ Spoil and bare ground ED2	The proposed development site, in particular the former car parking areas and areas where the buildings have been demolished, consists of an untidy mixture of planted and self-seeded species. Depending on the substrate early, successional species have also become established. The result is a complex mosaic of native naturalised and exotic species with areas of bare ground/spoil, remnants of stone walls and the remnants of planted trees and flower beds. There are large areas of tarmac and concrete that are gradually breaking down as plants become established. Exotic species include Cypress, Cotoneaster, Wisteria, Eucalyptus, Poplar, Buddleia, Sweet chestnut, ornamental Heather, Non-native Oak (Red oak), Cherry, Lime and Norway maple. Due to the variety of ground conditions, drainage patterns and light/shade a diverse mixture of native species have become established in some areas. Although none are considered particularly rare there are large areas dominated by immature Willow with saplings of Pedunculate Oak, , Ash, Hawthorn, Downy birch, Silver birch, Hazel and Gorse becoming established. Ground floor species include St. John's wort, Yarrow, Hawkweed, Dandelion, Cocksfoot, False oat grass, Greater plantain, Red fescue, Red clover, Canadian fleabane, Ribwort plantain, Wild Rose, Wild strawberry, Scarlet pimpernel, Harte's tongue fern, Ladies fern, Prickly sow thistle, Horsetail, Meadowgrass, Field woundwort, Germander speedwell, Polypody, Broadleaved dock, Sun spurge, Knapweed, Ivy, Nettle, Spear thistle, Hogweed, Nipplewort and Herb Robert. GS2 habitat has links with the Annex I habitat 'lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*) (6510)'. The habitat mosaic within the proposed development site is not a good example of this habitat type.  Plate 1. Areas of former carpark colonised with scrub vegetation	Local importance (Higher value)

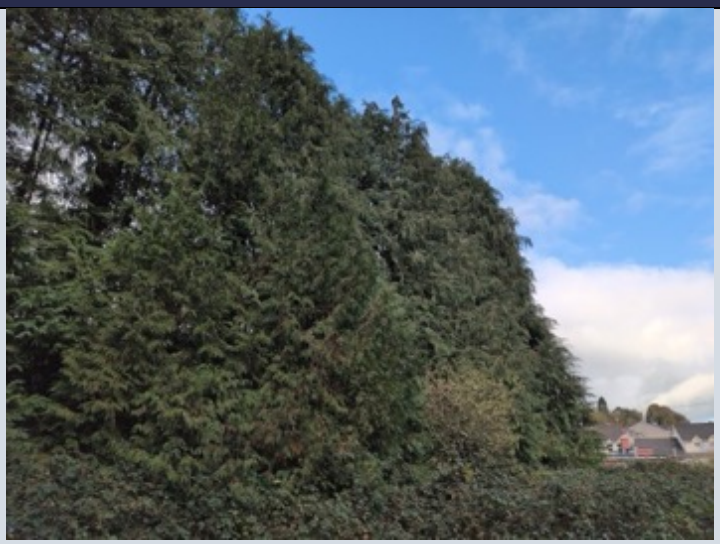
Habitats	Comments	Ecological value (NRA guidelines)
	 Plate 2. Scrub and grassland areas	
Hedgerow WL1/Treeline WL2 HR1	This hedgerow runs along the eastern boundary of the site alongside an area of fencing. In the absence of management, it is becoming quite gappy with a high percentage of mature, multi-stemmed Hawthorn, which have developed into trees. Ivy covering on trees is moderate. Other tree species include immature to semi mature Ash and Sycamore as well as immature Holly. One mature Ash is present at the northern edge of the boundary. Understorey species include Nettle, Bramble, Gorse, Cocksfoot, Broadleaved dock and Ivy. There is a low stonewall at the base of part of this hedgerow, however it is overgrown with dense Ivy.  Plate 3. Eastern hedgerow dominated by Hawthorn	Local importance (Higher value)
Hedgerow WL1/Treeline WL2 HR2	Running along the eastern boundary is a mature hedgerow/treeline dominated by Beech. Ash and occasional mature Hawthorn are also present. Understory species include immature Hazel, Holly, Elm and Snowberry (which is commonly distributed along this entire boundary)	Local importance (Higher value)

Habitats	Comments	Ecological value (NRA guidelines)
	Trees within the boundary are quite widely spaced with some patches of scrub including Hedge woundwort, Nettle, Bramble, Dandelion, Wood avens, Dock and Willowherb distributed along this boundary.  Plate 4. Section of hedgerow/treeline along eastern boundary	
Hedgerow WL1/Treeline WL2 HR3	This hedgerow runs along both sides of the site entrance. This hedgerow is characterized by very densely planted semi-mature Beech which cast a heavy shade. Occasional Elder. There is virtually no understory apart from occasional Ivy and Bramble.  Plate 5. Beech hedge/treeline at site entrance	Local importance (higher value)
Scrub WS1	At the north-east corner of the site there is an area of dense scrub which is largely impenetrable and is contiguous with the treeline/hedgerow boundary along the external boundary. This is developing into immature woodland with Ash, Oak and Willow. There is a large stand of Dogwood presumably derived from previous landscape associated with the hotel. Immature Beech and Hawthorn are also present. A group of Lime are also present within this area.	Local importance (Higher value)

Habitats	Comments	Ecological value (NRA guidelines)
	 Plate 6. Dense scrub at northeast of site	
Scrub WS1/Dry meadows and grassy verge GS2	Adjacent to the area of dense scrub described above, the area is dominated by dry meadows and grassy verge grassland which is overgrown and rank. It is being invaded by scrub with some individual trees. Species noted, include Knapweed, False oat grass, Cocksfoot, Field thistle, Nettle, Yorkshire fog, Creeping buttercup, Self-heal, Ribwort plantain, Red fescue, Ragweed, Clover. Scrub species include dense tickets of Bramble with some areas of Snowberry becoming established. There are immature trees becoming established including Ash, Sycamore, Elm and Oak saplings. GS2 habitat has links with the Annex I habitat 'lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*) (6510)'. The habitat mosaic within the proposed development site is not a good example of this habitat type.  Plate 7. Semi-natural grassland with establishing scrub	Local importance (Lower value)

Habitats	Comments	Ecological value (NRA guidelines)
Scrub WS1/Immature woodland WD2	At the northeast of the site, near the site entrance an area of scrub and immature woodland has developed in the absence of disturbance. Two mature Pedunculate Oak are also present. This area has been colonised by a mixture of dense Bramble scrub, with a large number of immature trees becoming established, particularly Oak, Willow, Ash, Cherry and Sycamore are also present. Immature Holly alongside Bramble and Dogwood from dense scrub. There is still some evidence of planted trees including a Weeping willow, Norway maple and Beech along the boundary with the road. Crab apple was also noted. Ground flora is limited by the dense scrub but includes common species such as Willowherb, Cleavers, Cocksfoot, Ragweed, Herb Robert, Red fescue, Woody nightshade and Ivy.  Plate 8. Immature woodland/scrub has developed near entrance to the site	Local importance (Higher value)
Treeline WL2 TL1	This treeline is loosely connected from east to west, with the western side dominated by planted conifers and the eastern section dominated by planted broadleaved. Along the eastern section, is an untidy planted treeline with semi-mature Horse chestnut and non-native Oak (Red Oak) and Maple. The understory includes self-seeded Ash, Oak and Hawthorn with Bramble and Wild rose. The western section is a line of densely planted, mature Lawson's Cypress. These trees cast a heavy shade with little understory vegetation.	Local importance (Lower to Higher value)

Habitats	Comments	Ecological value (NRA guidelines)
	 Plate 9. Broadleaved trees at eastern extent  Plate 10. Lawson's cypress treeline at western extent	
Treeline WL2 TL2	This treeline is created by densely planted, mature Lawson's Cypress. These trees cast a heavy shade with little understory vegetation. This treeline is contiguous with TL1 described above	Local importance (Lower value)

Habitats	Comments	Ecological value (NRA guidelines)
	 Plate 11. Lawson's cypress treeline	
Buildings and artificial structures BL3	Two small concrete buildings are located within the HR1 hedgerow/treeline. These buildings are of concrete/brick construction and have been badly affected by fire internally.  Plate 12. Two small concrete structures along HR1 hedgerow	Local importance (Lower value)
Dry meadows and grassy verges GS2	This area of partially open grassland at the south of the site has an indistinct boundary where scrub encroachment is actively invading this habitat. Species noted include Red fescue, False oat grass, Yorkshire fog, Cocksfoot, Common bent, Lesser stitchwort, Dandelion, Buttercup, Field thistle, Ragweed, Germander speedwell, Marsh woundwort. Occasional immature Oak and Willow are present on the periphery. GS2 habitat has links with the Annex I habitat 'lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*) (6510)'. The low diversity	Local importance (Lower value)

Habitats	Comments	Ecological value (NRA guidelines)
	habitat mosaic within the proposed development site is not a good example of this habitat type.  Plate 13. Semi-natural grassland at south of the site	
Treeline WL2 TL3	A poorly defined treeline runs along the western boundary with a mixture of planted and self-seeded species. Hawthorn is dominant with occasional Cypress. Large areas of Bramble in the understory. Wild rose and Hawkweed also noted. A dry drainage ditch runs along part of the this boundary. No water was recorded in this drain during the site surveys. This drain connects to the Knockacorbally Stream to the south of the proposed development site. Due the stop start nature of this project, surveys were not completed during the summer months. However, surveys in October (typically one of Ireland's wettest months) found the drain onsite was dry. Therefore, it is fair to extrapolate that the drainage ditch is dry during the summer months.	Local importance (Higher value)

Habitats	Comments	Ecological value (NRA guidelines)
	 Plate 14. Hedgerow along western boundary	
Treeline WL2 TL4	This treeline is formed a line of planted Griselinia, formerly a hedge which has developed into a treeline in the absence of management.  Plate 15. Understorey of Griselinia	Local importance (Lower value)
Scrub WS1/Treeline WL2	A poorly defined band of scrub/ treeline runs through the centre of the site. A distinguishing feature is a number of large semi-mature Eucalyptus and mature Cherry (*Prunus amanagowa*), otherwise dominated by a patchy mixture of immature Willow and Wild Rose. Most of the trees within this area are immature and consist primarily of scrub. Gorse and hazel also present as well as non-native species such as planted heathers and Cotoneaster are also present.	Local importance (Higher value)

Habitats	Comments	Ecological value (NRA guidelines)
	 Plate 16. Loose scrub/treeline at centre of the site	
Scrub WS1	Along the southern boundary of the site, there is an area of developing scrub which forms a boundary along a chain link fence. Dominant species are Bramble and Wild rose. To the south of the proposed development site, this area is connected to semi-mature woodland, most likely associated with the Blarney Castle Estate.  Plate 17. Scrub along southern boundary	Local importance (Higher value)
Scrub WS1/Immature woodland WS2	At the north of the site, contiguous with the northern areas of treelines, TL1, TL2 and TL4), an areas of dense scrub and immature woodland has developed. This areas includes high number of semi-mature Willow with dense thickets of Bramble alongside occasional self-seeded Beech and Cypress. There are no large or mature trees within habitat.	Local importance (Higher value)

Habitats	Comments	Ecological value (NRA guidelines)
	 Plate 18. Scrub/immature woodland at north-west of the site	
Depositing lowland river FW1 Knockacorbally Stream (IE_SW_19S010300) **Outside proposed development site**	In general, this is a relatively large watercourse with large areas of glide habitat interspersed with small sections of riffle immediately downstream of the proposed development site boundary. It has high Banks up to 8ft on both sides is quite heavily shaded. Light substrate stable banks. No signs of excessive erosion. Overshading vegetation includes Sycamore growing alongside Beech and Ash on the boundaries. More open areas support intermittent stands of Water crowfoot. Other species noted include Woodrush, Woody nightshade, Harte's tongue fern, Watercress and Duckweed. Brown trout were recorded within the river. An Otter holt was recorded c.100m southwest of the proposed development site along this stream.  Plate 19. Knockacorbally Stream to the south of the proposed development site	Local importance (higher value)

Habitats	Comments	Ecological value (NRA guidelines)
	 Plate 20. Otter holt along Knockacorbally Stream	

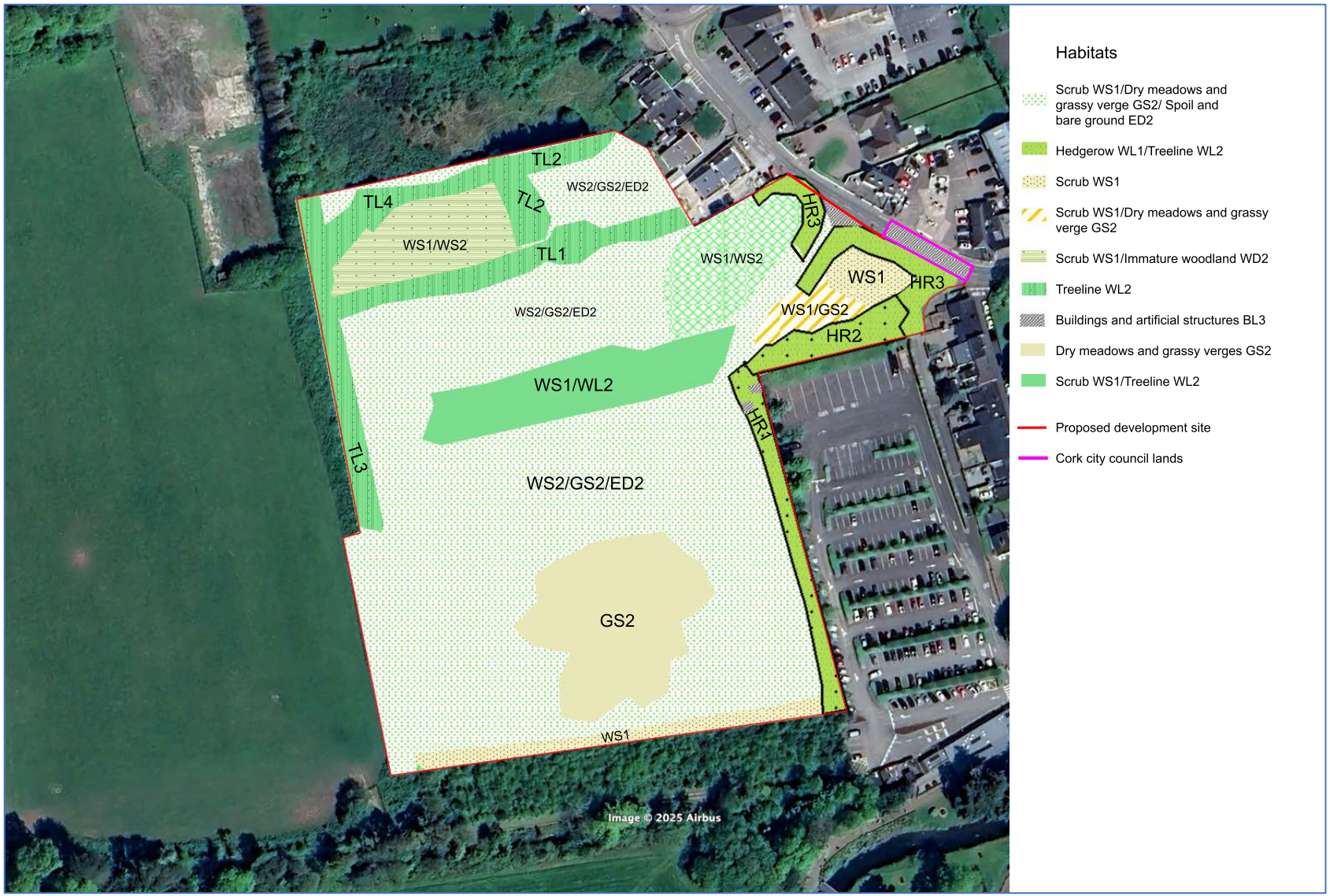


Figure 9. Habitat map of proposed development site

5.2 Flora

The National Biodiversity Data Centre's (NBDC) online database provides data on the distribution of species within 10km grid squares. The site of the proposed development lies within 10km square W67 of Ordnance Survey Ireland's National Grid System. The NBDC lists some 506 flora species as being present within grid square W67. Endangered and protected species recorded by the NBDC are listed in **Table 5**. One species recorded within W67 is listed under the Flora (Protection) Order 2022 (S.I. No. 235 of 2022). No rare, notable or protected plant species were recorded during the site surveys.

Table 5. NBDC listed endangered and protected flowering species for hectad W67

Species name	Title of dataset	Designation
Allseed (*Radiola linoides*)	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Near threatened
Bur Chervil (*Anthriscus caucalis*)	BSBI tetrad data for Ireland	Threatened Species: Near threatened
Corn Marigold (*Glebionis segetum*)	Irish Vascular Plant Data - Paul Green	Threatened Species: Near threatened
Little-robin (*Geranium purpureum*)	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Near threatened
Pale Flax (*Linum bienne*)	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Near threatened

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5.3 Invasive Species

Non-native plants are defined as those plants which have been introduced outside of their native range by humans and their activities, either purposefully or accidentally. Invasive non-native species are so-called as they typically display one or more of the following characteristics or features: (1) prolific reproduction through seed dispersal and/or re-growth from plant fragments; (2) rapid growth patterns; and, (3) resistance to standard weed control methods.

Where a non-native species displays invasive qualities and is not managed it can potentially: (1) out compete native vegetation, affecting plant community structure and habitat for wildlife; (2) cause damage to infrastructure including road carriageways, footpaths, walls and foundations; and, (3) have an adverse effect on landscape quality. The NBDC lists a number of high impact invasive species which have been recorded within grid square W67 (**Table 6**).

Table 6. NBDC list of high impact invasive species recorded in W67

Species group	**Species name**
Bird	Canada Goose (*Branta canadensis*)
Flowering plant	Canadian Waterweed (*Elodea canadensis*)
Flowering plant	*Fallopia japonica x sachalinensis = F. x bohemica*
Flowering plant	Giant Hogweed (*Heracleum mantegazzianum*)

Species group	Species name
Flowering plant	Japanese Knotweed (*Fallopia japonica*)
Flowering plant	Nuttall's Waterweed (*Elodea nuttallii*)
Flowering plant	*Rhododendron ponticum*
Insect - beetle (Coleoptera)	Harlequin Ladybird (*Harmonia axyridis*)
Terrestrial mammal	American Mink (*Neovison vison*)
Terrestrial mammal	Coypu (*Myocastor coypus*)
Terrestrial mammal	Sika Deer (*Cervus nippon*)

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The Birds and Natural Habitats Regulations 2011 (SI 477 of 2011), Section 49(2) prohibits the introduction and dispersal of species listed in the Third Schedule, which includes Himalayan Knotweed and Himalayan Balsam, as follows: “any person who plants, disperses, allows or causes to disperse, spreads or otherwise causes to grow [….] shall be guilty of an offence.”

No third schedule invasive species were recorded during the site surveys.

A number of other invasive species were recorded during the site surveys including the Cotoneaster, Buddleia, Red Oak, Snowberry and Dogwood. These species are classified as medium impact species by the NBDC. Although their impacts are not fully understood/assessed, they are fast growing species which can outcompete native species and suppress ground flora.

These species have a scattered distribution within the site. These species are not listed in SI 477 of 2011 and therefore there is no statutory obligation to remove them. However, they have may have an adverse impact on landscape quality, native biodiversity or infrastructure.

6. Fauna

6.1 Otter

Otters, along with their breeding and resting places are protected under the provisions of the Wildlife Act 1976, as amended by the Wildlife (Amendment) Act, 2000, 2010 and 2012. Otters have additional protection because of their inclusion in Annex II and Annex IV of the Habitats Direct which is transposed into Irish law in the European Communities (Natural Habitats) Regulations (S.I 94 of 1997), as amended. Otters are also listed as requiring strict protection in Appendix II of the Berne Convention on the Conservation of European Wildlife and Natural Habitats and are included in the Convention on International Trade of Endangered species (CITES).

Although rare in parts of Europe they are widely distributed in the Irish countryside in both marine and freshwater habitats. Otters are solitary and nocturnal and as such are rarely seen. Thus, surveys for Otters rely on detecting signs of their presence. These include spraints (faeces), anal gland secretions, paths, slides, footprints and remains of prey items. Spraints are of particular value as they are used as territorial markers and are often found on prominent

locations such as grass tussocks, stream junctions and under bridges. In addition, they are relatively straightforward to identify.

Otters occasionally dig out their own burrows but generally they make use of existing cavities as resting placing or for breeding sites. Suitable locations include eroded riverbanks, under trees along rivers, under fallen trees, within rock piles or in dry drainage pipes or culverts etc. If ground conditions are suitable the holt may consist of a complex tunnel and chamber system. Otters often lie out above ground especially within reed beds where depressions in the vegetation called “couches” are formed (NRA, 2008). Generally, holts or resting areas can be located by detecting signs such as spraints or tracks.

In contrast natal holts which are used by breeding females can be extremely difficult to locate. They are often located a considerable distance from any aquatic habitats and Otters may also use habitats adjoining small streams with minimal or no fish populations. In addition, natal holts are usually carefully hidden and without obvious sprainting sites. Otters do not have a well-defined breeding season. It is noted that Otters are largely nocturnal, particularly in areas subject to high levels of disturbance as evidenced by the presence of Otters in the centre of Cork City (Sleeman and Moore 2005).

A review of existing records showed that Otter or signs of Otter have been recorded on 217 occasions in W67, the most recent being November 2023 (Source NBDC). Otters are known to use the River Shournagh and its tributaries. The internal drain at the west of the site was dry during site surveys and there are no wetland habitats or waterbodies within the proposed development site which could support foraging Otter.

An Otter holt was recorded c.100m southwest of the proposed development site along the Knockacorbally Stream (downstream of proposed development). Otter spraints and slide were also recorded at this location suggesting that this is an active holt. It is noted that this holt was also recorded during the 2020 surveys of the site (Limosa Environmental). Brown trout were recorded within the Knockacorbally Stream during the site surveys and this stream, as well as the River Shournagh and River Martin downstream, are likely to provide valuable foraging habitat for Otters.

6.2 Bats

6.2.1 Bat Background Data

In Ireland, nine species of bat are currently known to be resident. These are classified into two Families: *Rhinolophidae* (Horseshoe bats) and *Vespertilionidae* (Common bats). The Lesser Horseshoe Bat *Rhinolophus hipposideros* is the only representative of the former Family in Ireland. All the other Irish bat species are of the latter Family and these include three pipistrelle species: Common *Pipistrellus pipistrellus*, Soprano *Pipistrellus pygmaeus* and Nathusius’ *Pipistrellus nathusii*, four *Myotids*: Natterer’s *Myotis nattereri*, Daubenton’s *Myotis daubentonii*, Whiskered *Myotis mystacinus*, Brandt’s *Myotis brandtii*, the Brown Long-eared *Plecotus auritus* and Leisler’s *Nyctalus leisleri* bats.

Whiskered and Natterer’s bats are listed as ‘Threatened in Ireland’, while the other species are listed as ‘Internationally Important’ in the Irish Red Data Book 2: Vertebrates (Whilde, 1993). The population status of both Whiskered and Natterer’s bats was considered ‘indeterminate’ because of the small numbers known of each, a few hundred and

approximately a thousand respectively. Ireland is considered to be an international stronghold for Leisler's bat, whose global status is described as being at 'low risk, near threatened' (LR; nt) by the IUCN (Hutson, *et al*., 2001).

Near threatened status is applied to those taxa that are close to being listed as vulnerable (facing a high risk of extinction in the wild in the medium-term future on the basis of a range of criteria defined by the IUCN). The Irish population of the Lesser Horseshoe Bat is estimated at 14,000 individuals and is considered of International Importance because it has declined dramatically and become extinct in many other parts of Europe. Data collected shows that the species increased significantly between from the early 1990's to present.

All bat species are protected under the Wildlife Acts (1976 & 2000) which make it an offence to wilfully interfere with or destroy the breeding or resting place of all species; however, the Acts permit limited exemptions for certain kinds of development. All species of bats in Ireland are listed in Schedule 5 of the 1976 Act and are therefore subject to the provisions of Section 23 which make it an offence to:

- Intentionally kill, injure or take a bat
- Possess or control any live or dead specimen or anything derived from a bat
- Wilfully interfere with any structure or place used for breeding or resting by a bat
- Wilfully interfere with a bat while it is occupying a structure or place which it uses for that purpose.

In addition to domestic legislation bats are also protected under the EU Habitats Directive (92/43/EEC) with all bat species are listed in Annex IV of the Directive. The Irish government is also a signatory to the 1979 Bonn convention (Convention on the conservation of migratory species of wild animals) and the 1982 Bern convention (The convention on the conservation of European wildlife and natural habitats) and has a commitment to the 1991 Eurobats agreement (Agreement on the conservation of bats in Europe).

A review of existing bat records within grid squares W67 (sourced NBDC) showed that seven of the nine Irish bat species have been recorded locally (**Table 7)**.

Table 7. Presence of Irish bat species within W67

Common name	Scientific name	Presence
Brown Long Eared Bat	*Plecotus auritus*	Present
Daubenton's Bat	*Myotis daubentonii*	Present
Leisler's Bat/ Lesser Noctule	*Nyctalus leisleri*	Present
Lesser Horseshoe Bat	*Rhinolophus hipposideros*	Absent
Nathusius' Pipistrelle	*Pipistrellus nathusii*	Absent
Natterer's Bat	*Myotis nattereri*	Present
Pipistrelle	*Pipistrellus pipistrellus sensu lato*	Present
Soprano Pipistrelle	*Pipistrellus pygmaeus*	Present
Whiskered Bat	*Myotis mystacinus*	Present

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It is noted that other species which have not been included within this database could potentially occur. The Lesser Horseshoe Bat is the only species of bat listed on Annex II of the Habitats Directive (Directive 92/43/EEC). A Lesser Horseshoe Bat roost has been recorded at Ovens, approximately 7.2km southwest of the proposed development site (undisclosed location). However, a personal communication from Tom O'Donnell of O'Donnell Environmental has confirmed that signs of roosting Lesser Horseshoe have previously been recorded in the Blarney Castle Grounds.

Lesser Horseshoe Bats normally forage in woodlands/scrub within 2.5km of their roosts (Bontadina *et al.* 2002); Consequently, in order to link roosting and foraging sites, linear features such as hedgerows, treelines and stone walls provide vital connectivity for this species, most importantly within 2.5km around each roost (Schofield, 2008). Although Lesser horseshoe were not recorded within the proposed development site during 2020, 2024 or 2025 surveys, linear features in this area may provide connectivity for this Annex II species.

A study by Lundy *et al.* (2011) examined the relative importance of landscape and habitat associations across Ireland. Maximum Entropy Models (MEM) were constructed for each bat species using records from the National Bat Database from 2000-2009. This method allows species' records that have not been collected in a systematic survey to be analysed. The results help explain patterns of species' occurrence and predict where species might occur. Landcover (CORINE), topography, climate, soil pH, riparian habitat and human bias factors were incorporated into the models. The analyses provide a picture of the broad scale geographic patterns of occurrence and local roosting habitat requirements for Irish bat species. This also provides a 'habitat suitability' index. The index ranges from 0 to 100, with 0 being least favourable and 100 most favourable for bats. The habitat indices for all Irish bats for the landscape around the proposed development site is shown in **Table 8**.

Table 8. Model Predicted Habitat suitability indices for All Irish bat species

Bat species	Common Name	Habitat indices
All Bats		33.67
Pipistrellus pygmaeus	Soprano pipistrelle	44
Plecotus auritus	Brown long-eared bat	46
Pipistrellus pipistrellus	Common pipistrelle	42
Rhinolophus hipposideros	Lesser horseshoe	1
Nyctalus leisleri	Leisler's bat	43
Myotis mystacinus	Whiskered bat	42
Myotis daubentonii	Daubenton's bat	31
Pipistrellus nathusii	Nathusius' pipistrelle	12
Myotis nattereri	Natterer's bat	42

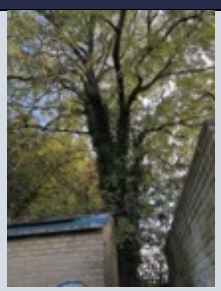
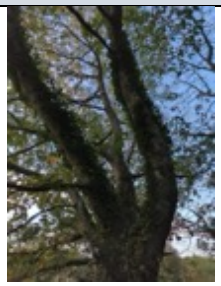
Source: NBDC 09/09/25

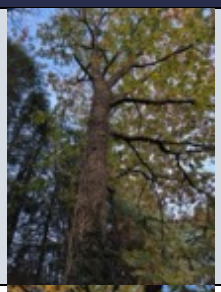
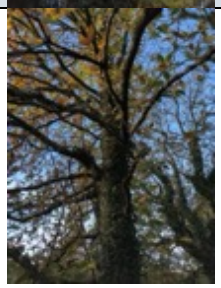
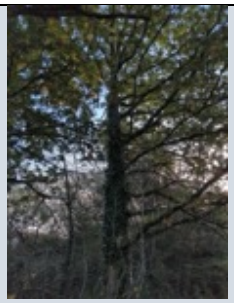
6.2.2 Tree Survey/Roost Assessment

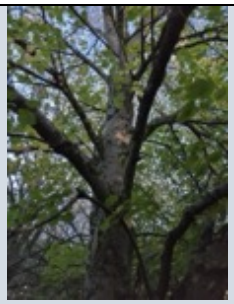
A description of trees earmarked for removal and/or trees with potential to support roosting bats is included in **Table 9**. Although foraging activity was observed, no activity indicative of emergence or direct emergence of bats was recorded during the site surveys. However, bats can use trees as temporary roosts and therefore the presence of occasional bats cannot be altogether excluded. It is notoriously difficult to find bats roosting in trees, and few tree roosts have been recorded in Ireland to date. All of the Irish bat species have however been confirmed to roost in trees, and it is likely that bat tree roosts are very under-recorded in Ireland (Roche *et al.* 2014). Bats breed, rear young, hibernate, rest and take shelter in tree roosts. Bats may use tree roosts at a particular time of the year and not at other times, and may regularly move from one roost to another. Small roosts within mature trees with dense ivy can be difficult to detect and may be used sporadically. Roost features in trees are created through fungal decay or physical damage of tree tissues which form hollows, cavities or fissures where bats may hide. Bats can crawl into very tight spaces of only 1-2 cm width, and may also roost between boughs and old-growth ivy cover, or beneath loose bark. Bat roost features are more often associated with larger, older tree specimens, but bats may also roost in small/young trees where suitable physical roost features have formed (Andrews 2016).

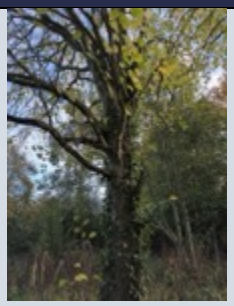
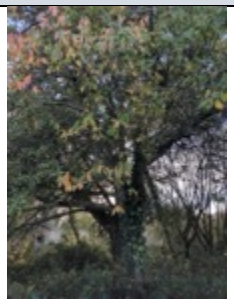
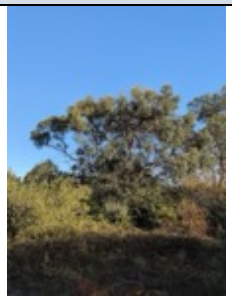
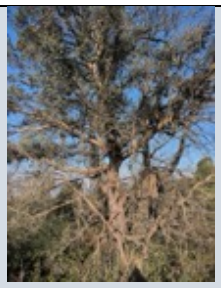
Two trees with moderate potential to support roosting bats were recorded i.e. a large mature Ash (363) and a large mature Eucalyptus (380). A semi-mature Sweet Chestnut (375) is of low to moderate potential. All other trees onsite are classified as no, negligible or low potential for roosting bats. It is noted that trees 380 and 375 are earmarked for removal to facilitate development.

Table 9. Preliminary ground roost assessment of trees within the proposed development site

Tree number (Cross ref with arboricultural report)	Photograph	Description
363		Large mature Ash. Ivy covering is moderate, although most of the stem diameters are low. Dead branches with cracks/crevices. Moderate roost potential
377		Mature red Oak multi-stemmed from approximately 5ft. Ivy coverage light. No significant cracks or crevices Low potential for bats

Tree number (Cross ref with arboricultural report)	Photograph	Description
378		Mature Red Oak. Dominated by central trunk with side branches. Ivy coverage light. No significant cracks or crevices Low potential for bats
373		Sweet chestnut. Semi-mature. One large central trunk. Branching at top. Ivy coverage light. No significant cracks or crevices Low roost potential
374		Sweet chestnut. Semi-mature. Branching from approximately 6 ft. Some ivy coverage particularly in the upper reaches but generally quite light growth and low diameter stems. No significant cracks or crevices. Low potential for bats
375		Sweet Chestnut. Semi-mature. One large Central trunk. Ivy dense. No obvious cracks or crevices. Low to moderate potential for bats.
371		Pedunculate Oak. Semi-mature. Main trunk branching from 4 ft to top of canopy. Light ivy coverage Low to negligible potential

Tree number (Cross ref with arboricultural report)	Photograph	Description
372		Pedunculate Oak. Semi mature. Some loose bark on lower sections. Ivy extends from base to nearly the top of the canopy, but low coverage and low diameter stems. Some dead branches but no significant cracks or crevices. Low potential for bats
368		Small leaved lime. Mature. No Ivy covering. Tree branching from 4 ft. No significant cracks or crevices Low potential for roosting bats.
367		Small leaved lime. Semi-mature. Ivy covering from base to top of the main trunk. Generally ivy is not particularly dense. No significant cracks or crevices. Low potential for bats
366		Small leaved lime. Semi-mature. One large central trunk. Ivy covering extends from base to top of canopy but coverage generally light. Low to negligible potential for bats.
365		Small leaved lime. Semi-mature. One large central trunk with some dead branches in the top. Ivy coverage is low to moderate. Low potential for roosting bats.

Tree number (Cross ref with arboricultural report)	Photograph	Description
364		Small leaved lime. Semi-mature. No significant ivy coverage or cracks or crevices. Negligible potential.
369		Cherry. Mature. Strongly branching from approximately 4 ft. No significant cracks or crevices. Low potential for bats
370		Cherry. Branching from 6 ft. No significant cracks or crevices. No significant ivy coverage Low to negligible potential
380		Large mature eucalyptus with relatively dense ivy. Damaged bough. Loose bark characteristic of this tree. Moderate potential.
379		Mature eucalyptus. Loose bark characteristic of this tree. No significant cracks/crevices. No ivy coverage. Low potential

6.2.3 Bat Activity Surveys

It is noted that bat activity surveys were previously carried out at the site in 2020 (O'Donnell Environmental). These surveys recorded Common and Soprano Pipistrelle, Leisler's Bat, Brown Long-eared bat, Daubenton's Bat, Whiskered bat and Myotis bat.

2024 Emergence/activity surveys

Bat activity surveys commenced on the 19th of September 2024. Transect walkovers surveys were carried out using a handheld EchoMeter Touch 2 PRO bat detectors (See **Figure 10**). The emergence survey focused on the northeast of the site near two small buildings (which are the only significant structures present within the site) and a large mature Ash tree immediately to the rear of these buildings. The buildings were assessed as being of low to negligible potential for bats and the mature Ash was assessed as being of moderate potential for bats.

Leisler's activity was sporadic throughout the survey and were the earliest recorded species with signals recorded from 19.57 onward. The sporadic signals were indicative of a small number of bats sporadically commuting or foraging over the site and in the wider landscape. No significant, prolonged periods of activity were recorded.

No bats were recorded emerging from either of the small modern buildings on site and no emergence from the mature trees on site was recorded. Subsequently, transects were walked through the site to assess for activity.

Common and Soprano Pipistrelle were both recorded throughout the survey with activity commencing at for Soprano Pipistrelle at 19.58 and for Common Pipistrelle at 20.00. Sporadic activity was recorded throughout the survey period however the signals were generally not indicative of high numbers. Foraging was recorded along the southern boundary with brief foraging/commuting also recorded along the treeline/hedgerow along the western boundary. Foraging by both species was also recorded at the around northern section of the site. This area is characterised by a mix of treeline, recolonising scrub and sections of grassland. Signals were indicative of a small number of bats, estimated at 1-2 of each species.

Two Brown Long-eared bat were recorded overflying the site from south to north and subsequently this species was recorded foraging in the northern section of the site from 9.00. The overgrown habitats in this area of the site are likely to provide foraging habitat for a small number of bats.

2024 Passive Detector Surveys

Two Elekon Batloggers were deployed on the 20th of September 2024 in static mode as indicated below. Detectors were retrieved on 21st of September 2024.

Batlogger K1 was located on the southern periphery of the site where it adjoins an area of woodland. This was to assess potential commuting/foraging along this boundary and within the woodland adjoining the proposed development site. Batlogger L1 was located in the northern section of the site to assess activity patterns.

Assessment of the data from static detector K1 indicated moderate levels of bat activity with Common Pipistrelle, Soprano Pipistrelle and Leisler's Bat the most common species. One

brief signal was recorded for Brown Long-eared bat. The data was indicative of relatively consistent foraging activity by a small number of each species with activity recorded between 20.40 and 05.10.

A similar pattern of activity was recorded in detector L1 located in the northern section of the site with activity commencing at 20.45 but ceasing later at 07.35. The highest level of activity was recorded for Soprano Pipistrelle and to a lesser extent Common Pipistrelle with 103 and 43 recordings respectively. Leisler's activity was relatively low with most activity recorded early in the survey period. A small number of signals were recorded for Brown Long-eared bat which is probably indicative of one bat foraging in the dense foliage in the northern section of the site. A small number of signals were also recorded for a myotis bat (probably Natterers) which is probably indicative of foraging activity.

2025 bat surveys

An activity survey was carried out on October 13th 2025. Although this is late in the activity season for bats, the survey was carried out during a settled dry spell of weather with suitable temperature. The same transects as those used in 2024 were utilised.

Activity patterns were generally similar to those obtained in 2024 with sporadic activity by Soprano Pipistrelle and Common Pipistrelle. No signals for Leisler's bat were recorded which may be due in part to seasonal factors. A signal for an unidentified myotis bat was recorded early in the survey period close to the woodland along the southern boundary and one signal for Brown long-eared was also recorded in the southern section of the site which was probably indicative of commuting bats. Activity levels dropped off later in the survey with only sporadic activity by pipistrelle bats in the more sheltered areas of the site recorded later in the survey period.

Conclusions

There are no trees or buildings considered of high potential value for roasting bats and no roosting bats were detected during surveys in 2024 and 2025.

The site supports a mosaic of habitats which have developed naturally on a unused site. The result is a poorly defined mixture of native and non-native scrub trees, grassland, disturbed areas and hard surfaces. There are also dense thickets of scrub developing along planted treelines/hedgerows.

Although the habitats in themselves are not considered of high value for bats, the mosaic of habitats, including dark sheltered areas with grassland scrub and trees, does provide foraging habitat and a number of bat species.

As expected, the most common species were Common and Soprano Pipistrelle followed by Leisler's. Low levels of activity were detected for Brown long-eared and Myotis bats. The woodland which adjoins the southern boundary is also likely to be of value for foraging bats.

Overall, the site is considered of moderate value at a local level as it supports a relatively broad range of bats, although the number of individual bats recorded within the overall site is relatively low.

Figure 10. Bat activity survey

6.3 Other terrestrial mammals

Nineteen other species of terrestrial mammal have been recorded within hectad W67. Seven of these are protected under the Irish Wildlife Act; namely Badger (*Meles meles*), Hedgehog (*Erinaceus europaeus*), Irish Hare (*Lepus timidus subsp. hibernicus*), Irish Stoat (*Mustela erminea subsp. hibernica*), Pygmy Shrew (Sorex minutus), Red Squirrel (*Sciurus vulgaris*) and Sika Deer (*Cervus nippon*).

6.3.1 Badger

Badgers and their setts are protected under the provisions of the Wildlife Act 1976, as amended, and it is an offence to intentionally, knowingly or unknowingly kill or injure a protected species, or to willfully interfere with or destroy the breeding site or resting place of a protected wild animal. Badger setts are formed by a complex group of interlinked tunnels and therefore works in proximity to setts can potentially cause damage a protected species. Badgers are also protected under Appendix III of the Berne. The NBDC has 64 records of Badger in W67, the most recent sighting in September 2016. Agricultural grassland provides primary foraging habitat for Badger, as this type of grassland is enriched, which easy access to a high-density of earthworms. Broadleaved woodland is also a high value habitat for Badger. No signs of Badger were recorded within the proposed development site. The scrub mosaic habitat onsite is sub-optimal for Badger and this habitat is of lower value than areas of woodland and improved grassland in the vicinity.

6.3.2 Irish Hare

Irish Hare is one of three lagomorphs found on the Island of Ireland and the only native lagomorph. It is listed on Appendix III of the Berne Convention, Annex V(a) of the EC Habitats Directive (92/43/EEC) and as an internationally important species in the Irish Red Data Book. The overgrown nature of the site means this is largely unsuitable for Irish Hare, which prefer open semi-natural grassland and heathland habitats. No signs of Irish Hare were recorded onsite.

6.3.3 Irish Stoat

Irish Stoat is one of the species protected under regulations (Protection of Wild Animals) in 1980 which enabled Ireland to comply with the provisions of the Bern Convention of European Wildlife and Natural Habitats, which was ratified by Ireland in April 1982. Given its broad habitat use, Irish Stoat could potentially occur in the proposed development site. Given their broad range of habitat use, Irish Stoat could potentially occur at the site. No signs of Irish Stoat were recorded onsite.

6.3.4 Red Squirrel

Red Squirrel is also listed on Appendix III of the Berne Convention can be found throughout Ireland. Red squirrels feed mainly on tree seeds, although they can utilise fungi, fruit and buds as they become available in the woodland. This species has been recorded on 41 occasions in W67. Red Squirrel are known to use Blarney Castle and Woodlands to the south of the proposed development site and the wider Blarney area. No signs of Red Squirrel were recorded during the site surveys. While Red Squirrel could potentially use this site, their preference for more mature woodland means that this is not critical habitat for this species. Red squirrels show a preference for forest over 35 years of age, falling to over 25 years of age in Norway spruce (Andrén and Delin, 1994). However, the site may provide some connectivity to the wider environment.

6.3.5 Sika Deer

Sika Deer is a non-native species to Ireland. They prefer forest with dense understorey, thickets, natural woodlands and commercial plantations, but will also forage in open grassy areas with dense cover nearby. Sika Deer are highly opportunistic feeders, foraging on grasses to a range of shrubs and tree species. Sika Deer could potentially use the site. No signs of Sika Deer were recorded during site surveys.

6.3.6 Hedgehog

Hedgehog is also listed on Appendix III of the Berne Convention can be found throughout Ireland, with male hedgehogs having an annual range of around 56 hectares. Generally, hedgehogs prefer edge habitat and pasture but in recent years have begun to colonize urban areas. The hedgerow and scrub habitats at the site is likely to provide habitat for Hedgehog. No signs of Hedgehog were recorded onsite.

6.3.7 Pygmy Shrew

Pygmy Shrew is common throughout mainland Ireland and has a preference for habitats such as hedgerows and grasslands. The hedgerow and scrub habitats at the site are likely to provide habitat for Pygmy Shrew. No signs of Pygmy Shrew were recorded onsite. c

6.4 Reptiles and Amphibians

According to records held by the NBDC, Common Frog has been recorded within W67.

Common Frog (*Rana temporaria*) is listed on Annex V of the EU Habitats Directive and is protected under the Wildlife Acts. The Smooth Newt is the only member of the Urodela (the tailed amphibians) found in Ireland. While commonly encountered near water bodies, adult newts are actually terrestrial, only returning to water bodies to breed. There is no suitable habitat for amphibians within the site boundary. Due the stop start nature of this project, surveys were not completed during the summer months. However, surveys in October (typically one of Ireland's wettest months) found the drain onsite was dry. Therefore, it is fair to extrapolate that the drainage ditch is dry during the summer months and would be suitable for breeding amphibians.

Common Lizard (*Zootoca vivipara*) is Ireland's only native terrestrial reptile and is so protected under the Wildlife Act. Ideal habitats for the species are south-facing, damp tussocky grassland, scrub covered hillsides, dunes or banks, and woodland tracks, and it also resides in peat bogs, dry grasslands and heathlands. The species has not been recorded in the surrounding landscape (NBDC) and it is unlikely that the species occurs within or in proximity to the proposed development site. The site of negligible value for reptiles.

6.5 Birds

A general bird survey was carried out in conjunction with habitat surveys. During the survey, all birds seen or heard within the development site were recorded. Certain bird species are listed by BirdWatch Ireland as Birds of Conservation Concern in Ireland (BOCCI). These are bird species suffering declines in population size. BirdWatch Ireland and the Royal Society for the Protection of Birds have identified and classified these species by the rate of decline into Red and Amber lists (Gilbert *et al.* 2021). Red List bird species are of high conservation concern and the Amber List species are of medium conservation. Green listed species are regularly occurring bird species whose conservation status is currently considered favourable. Species recorded during the site visits are shown in **Table 10**.

No evidence of rare birds such as Kingfisher and Hen harrier (Annex I species) were recorded or would be expected to occur.

Table 10. Bird Species recorded during site survey

Species		Birds Directive Annex	BOCCI	
		I	Red List	Amber List
Turdus merula	Blackbird			
Sylvia atricapilla	Blackcap			
Cyanistes caeruleus	Blue Tit			
Pyrrhula pyrrhula	Bullfinch			
Buteo buteo	Buzzard			
Fringilla coelebs	Chaffinch			
Cinclus cinclus	Dipper			
Prunella modularis	Dunnock			
Regulus regulus	Goldcrest			x
Carduelis carduelis	Goldfinch			
Parus major	Great Tit			
Chloris chloris	Greenfinch			x
Passer domesticus	House sparrow			x
Corvus mondedula	Jackdaw			
Pica pica	Magpie			
Anas platyrhynchos	Mallard			x
Erithacus rubecula	Robin			
Corvus frugilegus	Rook			
Turdus philomelos	Song thrush			
Sturnus vulgaris	Starling			x
Certhia familiaris	Treecreeper			
Columba palumbus	Woodpigeon			
Troglodytes troglodytes	Wren			

The proposed development site supports a range of common bird species. The mixture of immature woodland, scrub and grassland habitats onsite provide a range of foraging and nesting opportunities for birds. Fiver amber list species were recorded during the site surveys i.e. Goldcrest, House sparrow, Starling, Mallard and Greenfinch. It is noted that Mallard and

Dipper were recorded on the Knockacorbally Stream to the south of the proposed development site. While there are no specialised habitats for birds within the site, such as wetlands, buildings etc, the density of colonising vegetation creates locally valuable habitat for common bird species. There is no suitable habitat for nesting Barn Owl, although the species are known to occur locally (Carl Dixon pers. obs.).

The proposed development site contains suitable nesting and foraging habitat for a range of common bird species. The scrub, semi-natural grassland and mature trees within the site provide moderately valuable nesting and feeding resources for local bird species.

As noted above bird surveys were completed outside the peak breeding bird season i.e. March to mid-July. However, birds were still active within the site during the field surveys and these surveys give an indication of birds which use the site for breeding.

The site is largely devoid of any buildings, except for two small modern structures in poor condition. There are no significant old mature, native, trees and the habitats located within the site boundary have been highly modified with a preponderance of non-native species. There are no specialist habitats or significant potential nesting sites for rare or uncommon birds within the proposed development site.

In general, the assemblage of birds expected to use the site is predictable and includes a range of common bird species that typically occur in suburban gardens, farms, industrial sites etc.

Overall, there is no evidence to indicate that the site is a particular value for breeding birds, and it is considered highly improbable that it would support any rare or uncommon bird species. Therefore, the absence of breeding bird surveys does not have significant implications for the design of the project, the proposed mitigation or the assessment of potential impacts.

6.6 Other species

A search of the NBDC database was carried out to determine if any protected, rare or notable species of invertebrates within 2km of the proposed development site (W67C).

A number of threatened invertebrate species have been recorded within W67C i.e. *Donacia marginata,* Red-tailed Bumblebee (*Bombus lapidarius*), Brown Snail (*Zenobiellina subrufescens*), Ear Shelled Slug (*Testacella (Testacella) haliotidea*), Prickly Snail (*Acanthinula aculeata*), Silky Snail (*Ashfordia granulata*) and Spotted Keeled Slug (*Tandonia rustica*). Non-marine molluscs including Spotted Keeled Slug (*Tandonia rustica*) and Ear Shelled Slug (*Testacella (Testacella) haliotidea*), has been recorded in woodland in the vicinity of Blarney village. However, the scrub/immature woodland is not valuable habitat for these species, which prefer more mature woodland.

The dominance of non-native species means this site is likely to be less valuable than a natural, native scrub area, however, the recolonizing habitats are likely to provide locally valuable habitat for common invertebrate species.

There are no habitats suitable for fish or aquatic invertebrates within the proposed development site. However, the site is hydrologically connected to the River Shournagh (and River Martin) via the proposed surface water discharge (to the Knockacorbally Stream).

The Knockacorbally Stream, a 2nd order tributary of the River Shournagh, runs along the southern boundary of the proposed development site. Brown trout were recorded along this stream as well as an Otter holt. The River Shournagh and its tributaries support salmonid species and other fisheries but is not designated as a salmonid river under the WFD. A catchment-wide electro-fishing survey was conducted in 2018 by Inland Fisheries Ireland along the River Martin and River Shournagh. The results showed that these two rivers together had a mean catch of 17.97 salmon fry/5min in 2018. High abundances of salmon fry were observed at sites along all the main rivers.

7. Water Quality

7.1 River Basin Management Plan for Ireland 2022-2027 (3rd Cycle)

The Water Framework Directive (WFD) sets out the environmental objectives which are required to be met through the process of river basin planning and implementation of those plans. Specific objectives are set out for surface water, groundwater and protected areas. The challenges that must be overcome in order to achieve those objectives are very significant. Therefore, a key purpose of the River Basin Management Plan (RBMP) is to set out priorities and ensure that implementation is guided by these priorities.

The third-cycle RBMP aims to build on the progress made during the first cycle. Key measures during the first cycle included the licensing of urban waste-water discharges (with an associated investment in urban waste-water treatment) and the implementation of the Nitrates Action Programme (Good Agricultural Practice Regulations). The former measure has resulted in significant progress in terms both of compliance levels and of the impact of urban waste-water on water quality. The latter provides a considerable environmental baseline which all Irish farmers must achieve and has resulted in improving trends in the level of nitrates and phosphates in rivers and groundwater. It is acknowledged, however, that sufficient progress has not been made in developing and implementing supporting measures during the first and second cycles.

Overall, RBMP assesses the quality of water in Ireland and presents detailed scientific characterisation of our water bodies. The characterisation process also takes into account wider water quality considerations, such as the special water-quality requirements of protected areas. The characterisation process identifies those water bodies that are At Risk of not meeting the objectives of the WFD, and the process also identifies the significant pressures causing this risk. Based on an assessment of risk and pressures, a programme of measures has been developed to address the identified pressures and work towards achieving the required objectives for water quality and protected areas. Data relating to the waterbodies is included in **Table 11**. The location of WFD monitoring locations relative to the proposed development site are illustrated in **Figure 11**.

Table 11. Water Framework Directive Data 3rd Cycle – Relevant data

Catchment: Lee, Cork Harbour and Youghal Bay (Code 19)
This catchment includes the area drained by the River Lee and all streams entering tidal water in Cork Harbour and Youghal Bay and between Knockaverry and Templebreedy Battery, Co. Cork, draining a total area of 2,153km². The largest urban centre in the catchment is Cork City. The other main urban centres in this catchment are Ballincollig, Macroom, Carrigaline, Crosshaven, Blarney, Glanmire, Midleton, Carrigtohill, Cobh, Passage

Catchment: Lee, Cork Harbour and Youghal Bay (Code 19)

West and Belvelly. The total population of the catchment is approximately 328,854 with a population density of 153 people per km².

Several small coastal rivers drain the area to the southeast of Cork Harbour and the area at the eastern extreme of the catchment is drained by the Womanagh River which flows into the sea on the western side of Youghal Bay.

The Lee-Cork Harbour catchment comprises 18 sub-catchments with 92 river water bodies, three lakes, 13 transitional, six coastal water bodies and 16 groundwater bodies. There are five heavily modified and no artificial water bodies in the catchment.

2nd Cycle data summary

The proposed development site is located within the Manin_SC_10 sub-catchment. Two out of five river water bodies within this sub-catchment are AT RISK: Martin_010 due to Poor biological status; Martin_040 due to elevated phosphate concentrations. Blarney_010 is under REVIEW due to elevated nutrients.

Damage to the riparian habitat and dumping of plant debris have impacted ecological conditions within Martin_010. Urban runoff was highlighted as the likely significant pressure within Martin_040. Waste water treatment may be impacting nutrient conditions within Blarney_010.

Waterbodies relevant to the proposed project 3rd Cycle data

Waterbody	WFD Risk	WFD Status (2019-2024)	Pressure Category
Martin_040	At risk	Moderate	Diffuse source run-off
Shournagh_030	At risk	Good	None
Shournagh_040	At risk	Good	None
Lee (Cork)_090	Not at risk	Moderate	None
Lee (Cork) Estuary Upper	At risk	Moderate	Diffuse Sources Run-Off, combined sewer overflows.

Source: EPA envision mapping and www.catchments.ie

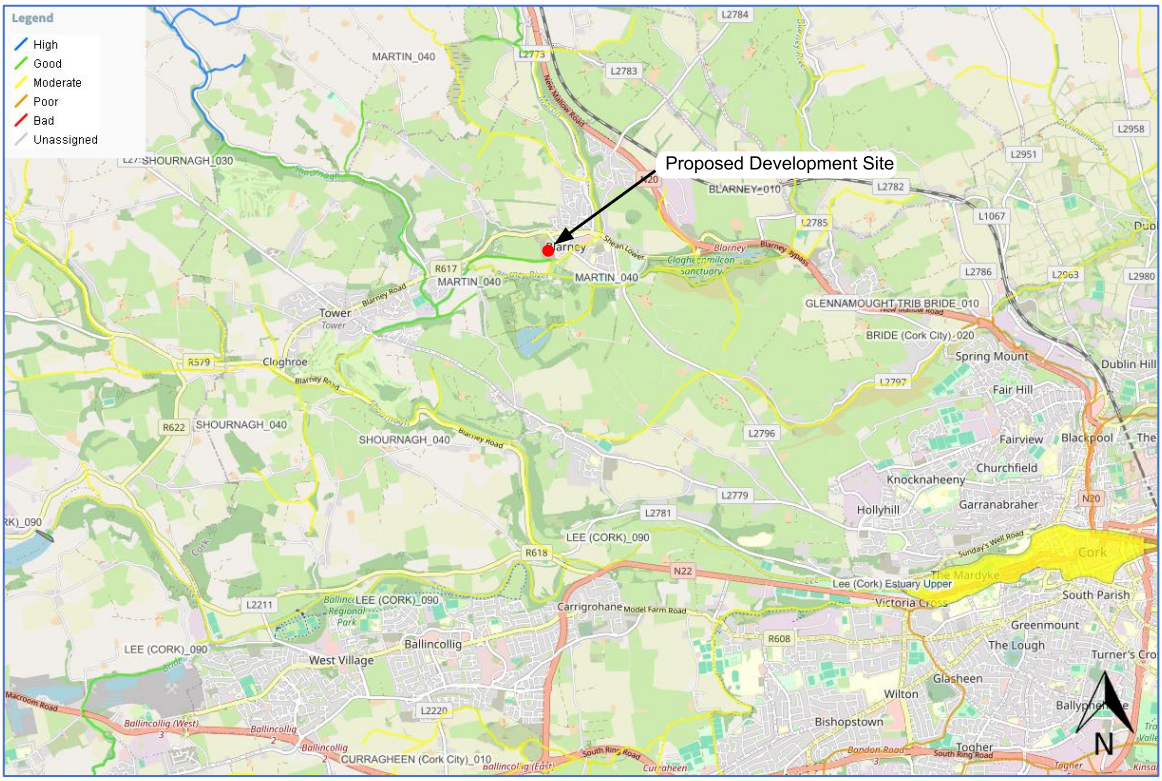


Figure 11. WFD Status of waterbodies in the vicinity of the proposed development | | Source EPA envision mapping | not to scale

7.2 Urban Wastewater Treatment Directive

The Wastewater Discharge (Authorisation) Regulations 2007 (S.I. 684 of 2007) gives effect to the requirements of the Urban Wastewater Treatment Directive (Directive 91/271/EEC) and the Water Framework Directive (2000/60/EC) in Ireland. The Urban Wastewater Treatment Directive (UWWTD) lays down the requirements for the collection, treatment and discharge of urban wastewater and specifies the quality standards which must be met — based on agglomeration size — before treated waste-water is released into the environment.

The priority objective for this river basin planning cycle is to secure compliance with the Urban Wastewater Treatment Directive and to contribute to the improvement and protection of waters in keeping with the water-quality objectives established by this Plan. Achieving this objective entails addressing waste-water discharges and overflows where protected areas (i.e. designated bathing waters, shellfish waters and Freshwater Pearl-Mussel sites) or high-status waters are at risk from urban waste-water pressures.

As part of the proposed development wastewater discharging from the proposed development will be conveyed to the Blarney WWTP (Reference D0043-01) for treatment prior to discharging into the River Shournagh.

8. Evaluation of Potential Impacts

During construction and operation, potential impacts could arise from increased noise and disturbance which could result in the disturbance/displacement of birds and mammals. Scrub, immature woodland (with mature trees in some areas) and grassland habitat will be removed. Increased traffic and noise associated with the site works could potentially increase levels of disturbance which could result in the disturbance/displacement of birds and mammals.

Increased dust levels during construction could have localised impacts on vegetation and habitats. During occupancy of the residential development, there will be increased activity and disturbance in line with current background levels.

Discharges of silt, were they to occur through inadequate control of surface water run-off, could impact on fisheries habitat and aquatic ecology in local waterbodies. Minor spills of hydrocarbons during construction could impact on groundwater or surface water quality with resultant impacts on aquatic ecology. Wastewater discharges during operation may also impact on water quality with the River Shournagh.

Potential impacts on designated European sites (SAC/cSAC/SPA) are specifically addressed in an Appropriate Assessment (AA) Screening Report which has been submitted as part of this application.

8.1 Do Nothing' Impact

Areas of mature/semi-mature trees alongside developing scrub habitats provide locally valuable habitat for fauna. If habitats were left unmanaged a general pattern of succession from grassland to scrub would be expected to occur. If sufficient time elapsed without development, the unused areas of the proposed development area would be expected to develop a covering of woodland with a mix of native and introduced species. In the absence of development, the site would continue to provide potential habitat for a locally common of flora and fauna.

8.2 Impact Appraisal

When describing changes/activities and impacts on ecosystem structure and function, important elements to consider include positive/negative, extent magnitude, duration, frequency and timing, and reversibility (IEEM, 2018).

Section 3.7 of the *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports'*, (EPA 2022) provides standard definitions which have been used to classify the effects in respect of ecology. This classification scheme is outlined below in **Table 12**.

Table 12. EPA Impact Classification

Impact Characteristic	Term	Description
Quality	Positive	A change which improves the quality of the environment.
	Neutral	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
	Negative	A change which reduces the quality of the environment.
Significance	Imperceptible	An effect capable of measurement but without significant consequences.
	Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.

Impact Characteristic	Term	Description
	Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
	Moderate	An effect that alters the character of the environment in a manner consistent with existing and emerging trends.
	Significant	An effect, which by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
	Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
	Profound	An effect which obliterates sensitive characteristics.
Duration	Momentary Effects	Effects lasting from seconds to minutes.
	Brief Effects	Effects lasting less than a day.
	Temporary Effects	Effects lasting less than a year.
	Short-term	Effects lasting one to seven years.
	Medium-term	Effects lasting seven to fifteen years.
	Long-term	Effects lasting fifteen to sixty years.
	Permanent	Effects lasting over sixty years.
	Reversible Effects	Effects that can be undone.
	Frequency	Describe how often the effect will occur. (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually)
	Irreversible	When the character, distinctiveness, diversity, or reproductive capacity of an environment is permanently lost.
	Residual	Degree of environmental change that will occur after the proposed mitigation measures have taken effect.
	Synergistic	Where the resultant effect is of greater significance than the sum of its constituents.
	'Worst Case'	The effects arising from a development in the case where mitigation measures substantially fail.

9. Potential Impacts

9.1 Designated Sites

DixonBrosnan prepared a screening for Appropriate Assessment (AA) (which accompanies this planning application). This report investigated the potential for the proposed development to have significant effects on Natura 2000 sites (SAC/cSAC/SPA) either alone or in

combination with other plans or projects. The screening report identified a potential pathway for impact on Cork Harbour SPA via surface water runoff/discharges. However, given the distance downstream of the site, no significant effects were identified. Similarly no significant effects on downstream pNHAs i.e. Shournagh Valley pNHA, Lee Valley pNHA have been identified.

The closest pNHA is the Blarney Castle Woods pNHA, located 185m south. In the absence of mitigation, increased lighting at the site could potentially create light spillage within this pNHA. However, operational lighting has been designed in line with bat lighting guidelines (in compliance with lighting requirements) to minimise impacts on local bat populations. This will minimise light spillage within the proposed development site and will prevent impacts on valuable habitats to the north and south of the site. Construction lighting mitigation has also been specified. No significant effect on the Blarney Castle Woods pNHA are predicted to occur.

9.2 Habitats/Flora

Impacts on habitats are generally restricted to direct removal of habitats. Indirect impacts may occur via damage and disturbance arising from vehicular activities and storage of overburden and materials. Levels of dust during construction are predicted to be low and effectively managed by mitigation. The impact on vegetation in adjoining habitats from wind-blown dust is predicted to be imperceptible. No rare floral species were recorded within the study area. Based on the criteria outlined by EPA 2022, as described above, the predicted impacts are detailed in **Table 13.** No Annex I terrestrial habitats will be directly or indirectly impacted.

Table 13. Predicted impacts as a result of the proposed development

Habitats	Ecological value (NRA guidelines)	Predicted impacts
Scrub WS1/Dry meadows and grassy verge GS2/ Spoil and bare ground ED2	Local importance (Higher value)	This habitat will be removed to facilitate development. This includes areas of developing scrub over areas previously used as car parking areas and buildings for the hotel. This habitat provides locally valuable habitat for fauna. Negative, moderate and long-term.
Hedgerow WL1/Treeline WL2 HR1	Local importance (Higher value)	This habitat will be retained as outlined in the CSR Landscape Masterplan (which accompanies this application). Neutral, imperceptible, long-term
Hedgerow WL1/Treeline WL2 HR2	Local importance (Higher value)	This hedgerow will be largely retained. As outlined in the CSR Landscape Masterplan and Tree Protection plan (Holly Arboricultural TPP5925) (which accompany this application), tree protection measures will be implemented to ensure that this boundary is

Habitats	Ecological value (NRA guidelines)	Predicted impacts
		protected and retained during construction works. Neutral, imperceptible, long-term
Hedgerow WL1/Treeline WL2 HR3	Local importance (higher value)	This hedgerow will be removed to facilitate development. This is a dense Beech hedgerow adjoining the site entrance road. Negative, slight, long-term.
Scrub WS1	Local importance (Higher value)	This hedgerow will be removed to facilitate development. This is an area of dense scrub near the site entrance, which includes a number of semi-mature and mature Lime trees. Negative, slight, long-term
Scrub WS1/Dry meadows and grassy verge GS2	Local importance (Lower value)	This hedgerow will be removed to facilitate development. This is an area of developing scrub near the site entrance. Negative, slight, long-term
Scrub WS1/Immature woodland WD2	Local importance (Higher value)	This habitat will be removed to facilitate development. This is an established areas of scrub/immature woodland near the site entrance. There are two semi-mature Pedunculate Oak within this area. Negative, moderate, long-term
Treeline WL2 TL1	Local importance (Lower to Higher value)	This habitat will be removed to facilitate development. While part of this habitat includes non-native Cypress (which are of lower value), there are a number of mature and semi-mature broadleaved trees in this area include mature Red oak, semi-mature Pedunculate oak and semi-mature Sweet Chestnut. Negative, moderate, long-term
Treeline WL2 TL2	Local importance (Lower value)	This habitat will be removed to facilitate development. This is a densely planted Cypress treeline with low ecological value. Negative, slight, long-term
Buildings and artificial structures BL3	Local importance (Lower value)	Two small plant buildings will be removed. They are of no ecological value. Neutral, imperceptible, long-term.
Dry meadows and grassy verges GS2	Local importance (Lower value)	A small area of open semi-natural grassland will be removed to facilitate development. This

Habitats	Ecological value (NRA guidelines)	Predicted impacts
		area is of moderate diversity, but is of low local value. Negative, imperceptible, long-term
Treeline WL2 TL3	Local importance (Higher value)	This habitat will be retained. As outlined in the CSR Landscape Masterplan and Tree Protection plan (Holly Arboricultural TPP5925) (which accompany this application), tree protection measures will be implemented to ensure that this boundary is protected and retained during construction works. Neutral, imperceptible, long-term
Treeline WL2 TL4	Local importance (Lower value)	This habitat will be removed to facilitate development. This is an overgrown Griselinia treeline with low ecological value. Negative, slight, long-term
Scrub WS1/Treeline WL2	Local importance (Higher value)	This habitat will be removed to facilitate development. This area includes a number of mature and semi-mature non-native trees alongside developing native and non-native scrub. . Negative, moderate, long-term.
Scrub WS1	Local importance (Higher value)	This habitat will be retained. As outlined in the CSR Landscape Masterplan and Tree Protection plan (Holly Arboricultural TPP5925) (which accompany this application), tree protection measures will be implemented to ensure that this boundary is protected and retained during construction works.
Scrub WS1/Immature woodland WS2	Local importance (Higher value)	This habitat will be removed to facilitate development. This includes an area of developing native and non-native scrub. Negative, moderate, long-term

9.3 Invasive species

The following invasive species were recorded on the site: Cotoneaster, Buddleia, Red Oak, Snowberry and Dogwood.

No third schedule invasive species were recorded. The invasive species recorded onsite are medium impact species.

An invasive species management plan will be developed (post planning) for this development to ensure that all invasive species are removed. The removal of invasive species from the site will have a positive, imperceptible and long-term impact on the retained and newly planted habitats.

9.4 Bats

The proposed development site supports foraging and commuting bats. Surveys carried out during 2024 and 2025 indicate that this area supports low numbers of common i.e. Common and Soprano Pipistrelle, Leisler's and less common bat species Brown long-eared and Myotis. No records for Lesser Horseshoe bat were recorded during the site surveys.

Surveys carried out in the Blarney-Ballincollig area in 2022 and 2023 recorded Lesser Horseshoe Bats in a woodland block west of Blarney Castle, along linear landscape features from the west of Blarney Castle and in two separate blocks of woodland at the west and east of Blarney Castle. Surveys also confirmed roosting within the Dungeon associated with Blarney Castle. While Lesser Horseshoe were not recorded within the lands adjoining the propsoed development site, linear features around the site (in particular the southern site boundary adjoining Blarney Castle and Gardens) may provide connectivity to Lesser Horseshoe and other bat species.

Although the habitats within the proposed development site in themselves are not considered of high value for bats, the mosaic of habitats, including dark sheltered areas with grassland scrub and trees, does provide foraging habitat and a number of bat species.

Boundary treelines/hedgerows, particularly along the western, northern and southern boundaries, provide foraging and commuting habitat for bats. No signs of roosting bats were recorded, although a small number of trees provide moderate roosting potential for bats. Other areas of the site are less valuable for bats i.e. scrub and grassland within the site's interior and eastern treeline/hedgerow, although bat activity was recorded within these areas.

Boundary treelines/hedgerows along the eastern, southern and western edges of the site will be retained as outlined in the CSR landscape plan. However, vegetation within the interior of the site and along the northern boundary will be removed to facilitate development. As part of the CSR Landscape plan, a mixture of native and non-native street planting and native hedgerow planting will be used as part of the proposed development. The removal of scrub and mature/semi-mature trees alongside increased lighting will remove dark foraging/commuting areas for bats. While retained and enhanced habitat are likely to provide foraging and commuting habitat in the medium and long-term, the removal of areas of scrub and mature/semi-mature trees within the site is likely to reduce the value of retained habitats onsite.

Artificial night lighting negatively impacts bat species by impeding their ability to forage successfully and to move efficiently through the landscape. While some species, such as Leisler's Bat, exploit insects which accumulate around lights on occasion, most Irish bat species are too sensitive to light to benefit from such prey accumulations, and their foraging opportunities and commuting movements are generally negatively affected by lighting (Mathews *et al.* 2015). Some bat species which are recorded in the locality are highly averse to artificial light, including Brown Long-eared Bat, Natterer's Bat, Whiskered Bat, Daubenton's Bat and Lesser Horseshoe Bat (Rydell 1992; Rowse *et al.* 2016). Furthermore, all Irish bat

species require dark conditions for roosting (Bat Conservation Ireland 2010). Bat roosting opportunities are known to be negatively affected by lighting, as some cases of roost abandonment, delayed emergence, or reduced growth of bat pups in response to light spill near roosts have been reported (Boldogh, Dobrosi and Samu 2007). The operational lighting has been designed in line with bat lighting guidelines (in compliance with lighting requirements) to minimise impacts on local bat populations. The lighting plan has taken into account the presence (and potential presence) of light sensitive species such as Brown long-eared, Myotis species and Lesser Horseshoe Bat. The lighting design and layout of boundary paths has been chosen to minimise light spillage within the proposed development site and will prevent impacts on valuable boundary habitats, in particular along the southern and western boundary of the site. Further detail on operational lighting is included in **Section 11.3.2.** The site layout (with footpaths set back from the southern boundary) and lighting plan have been redesigned to reduce light spillage onto the western and southern boundary habitats (refer to MBA lighting report). This will ensure there is no significant light spillage and/or changes in light levels to habitats adjoining or to the south (i.e. Blarney Castle and Gardens) of the proposed development site.

Whilst no bat roosts were detected within trees, there are number of trees at the site with PRFs to support roosting bats. The presence of occasional bats in mature and semi-mature trees earmarked for removal cannot altogether be excluded and in the absence of mitigation direct impacts on bats cannot be ruled out. Mitigation measures will be implemented during tree removal, to ensure there is no direct injury to roosting bats. Biodiversity enhancement measures, including bat boxes, will be provided which will provide alternative bat roosting habitat.

The proposed development site provides habitats of low to moderate value for common species i.e. Common pipistrelle, Soprano pipistrelle and Leisler's as well as well as more uncommon species of Myotis and Brown Long-eared bats. There is potential for Lesser Horseshoe Bat to commute along habitat on the boundary and in the vicinity of the site. The habitats appear to provide commuting habitat for bats to the wider landscape. The landscape plan will retain boundary habitat and provide new planting, to retain the commuting corridor within the site. The lighting plan has been designed to avoid lighting of sensitive habitats and to ensure that where lighting is proposed along internal roads, footpaths etc, that this has been designed in line with the bat conservation guidelines. The impact of the proposed development on local bat populations is predicted to be negative, slight and long-term.

9.5 Otter

The drainage ditch onsite, is dry for at least part of the year and does not support fish or amphibians or provide foraging habitat for Otter. An Otter holt was recorded within 150m of the proposed development site along the Knockacorbally Stream i.e. c100m southwest. While Otters could potentially pass through the site while travelling between feeding grounds, the site itself is not of value for Otter. Increased activity and human presence and additional lighting has the potential to disturb or displace Otters. Although no works are proposed in the vicinity of the holt, construction works could cause indirect disturbance to the holt. A derogation licence will be required alongside mitigation to prevent impacts on breeding Otters in the vicinity of the site (see **Section 11.4.3**). This application for derogation was submitted to the NPWS in December 2025. It is noted that the habitats along the site boundaries will be largely retained and this will be minimise disturbance to habitat outside the proposed development

site boundary. Lighting has been designed in line with wildlife guidelines (in compliance with local authority requirements) to minimise light spillage outside the site boundary.

Construction works could potentially indirectly affect fish stocks and aquatic invertebrates within watercourses downstream, which could potentially provide a food source for Otter. However, a range of mitigation and design measures will protect water quality during construction and operation. Further details on surface water and aquatic species are included in **Section 9.9**.

The impact on Otter from construction works is predicted to be negative, slight and short-term at a local geographic level due to construction works. Overall, the impact on Otter is predicted to be neutral, imperceptible and long-term.

9.6 Other Mammals

The habitats within the proposed development site are likely to provide habitat for a number of mammal species and provide connectivity to the wider environment e.g. Hedgehog, Pygmy Shew and Irish Stoat.

The habitats to be affected are common and there is no evidence to indicate that the proposed development areas are of particular value for these species in the context of the surrounding countryside. It is noted that many of the boundary habitats onsite will be retained. However, construction works could potentially impact on mammal commuting routes around the site.

Landscape planting, includes native and non-native trees and as well as meadow grassland. As trees and shrubs mature these will provide shelter for small mammal species such as Hedgehog and Pygmy Shrew. Lighting has been designed to minimise impacts on nocturnal foraging mammals (See **Section 11.3**). The impact of the proposed development on other mammals is predicted to be negative, moderate and short-term, reducing to negative, slight in the long-term.

9.7 Birds

The terrestrial bird species recorded within the proposed development site are typical of the terrestrial habitats onsite and are generally common. The most significant impacts on breeding birds will be the potential for direct impacts during the construction phase through habitat loss, fragmentation and modification. The proposed development will result in the loss of scrub, immature woodland, mature and semi-mature trees and grassland within the site, which will lead to a reduction in the numbers of birds which this site can support. In the absence of mitigation, potential impacts include disturbance and injury to eggs, young and nests, and long-term loss of potential nesting sites habitat.

During the construction phase increased noise is likely to disturb and/or displace some breeding birds from the site. The duration of works means that works are likely to overlap with several breeding bird seasons. However, noise levels will fall off quickly outside the site boundary. The majority of species recorded within the site are woodland edge species which are typically recorded on this urban fringe habitat. Some of these species are likely to continue to breed and/or forage within the retained treeline/hedgerow habitats, albeit at lower numbers. Many of these species may be habituated to human activity and disturbance, given the location of the site within an urban edge setting.

Given the mobile nature of birds, the common nature of habitats within the site and the availability of alternative foraging habitat in the immediate vicinity, the impact from disturbance will be slight to moderate during the construction phase at a local level. Mitigation measures will be implemented during site clearance works to ensure there is no direct injury/mortality to breeding birds.

The landscape plan, including areas of native/non-native trees and wildflower areas, will create alternative habitat for breeding birds in the medium to long term. Meadow grassland habitat within the proposed development site is also likely to create habitat for birds in the medium to long term. However, in the short term, there will be a slight loss of habitat with the removal of vegetation at the west of the site.

Increased activity and human presence and additional lighting has the potential to disturb or displace other birds from retained habitats during the operational phases. However, the majority of species recorded during the site surveys are typical of the urban landscape e.g. House sparrow, Robin, Blackbird, Chaffinch etc. These species are likely to habituate to the residential setting and continue to use habitats within the proposed development site.

The proposed development site does not provide habitat for wintering wading birds and waterbirds due to the overgrown nature of the site. No SCI birds were recorded during the site surveys.

The impact of the proposed development on birds is predicted to be negative, moderate and short-term, reducing to negative, slight in the long-term.

9.8 Other species

No signs of amphibians were recorded and there are no wetland habitats within the site boundary. No impact on amphibians or reptiles are predicted to occur.

The proposed development area is only likely to support common invertebrate species. The use of native tree planting as well as the creation of meadow grassland areas will encourage invertebrate use of newly landscaped habitats during the operational phase of the development. Biodiversity measures for invertebrates i.e. insect hotels, loggeries etc, will also provide alternative habitat. Given that the habitats which will be affected are relatively common in the surrounding landscape, any impact on these species will be slight to not significant.

As outlined in **Section 11**, a range of construction mitigation and operational design measures will be implemented to ensure that local water quality is protected. Impacts on aquatic fauna are predicted to be neutral, imperceptible and long-term.

9.9 Surface Water Runoff

Potential impacts on aquatic habitats which can arise from surface water emissions associated with the construction phase of the proposed development include increased silt levels in surface water run-off and inadvertent spillages of cement and/or hydrocarbons from fuel and hydraulic fluid.

High levels of silt can impact on fish species, in particular salmonids. If of sufficient severity, adult fish could theoretically be affected by increased silt levels as gills may become damaged by exposure to elevated suspended solids levels. If of sufficient severity, aquatic invertebrates

may be smothered by excessive deposits of silt from suspended solids. In areas of stony substrate, silt deposits may result in a change in the macro-invertebrate species composition, favouring less diverse assemblages and impacting on sensitive species. Cement can also affect fish, plant life and macroinvertebrates by altering pH levels of the water. Aquatic plant communities may also be affected by increased siltation. Submerged plants may be stunted and photosynthesis may be reduced. Such run-off if severe could potentially impact on water quality and thus could impact on aquatic species.

Inadvertent spillages of hydrocarbon and/or other chemical substances could introduce toxic chemicals into the aquatic environment via direct means, surface water run-off or groundwater contamination. Some hydrocarbons exhibit an affinity for sediments and thus become entrapped in deposits from which they are only released by vigorous erosion or turbulence. Oil products may contain various highly toxic substances, such as benzene, toluene, naphthenic acids and xylene which are to some extent soluble in water; these penetrate into the fish and can have a direct toxic effect. The lighter oil fractions (including kerosene, petrol, benzene, toluene and xylene) are much more toxic to fish than the heavy fractions (heavy paraffins and tars). In the case of turbulent waters, the oil becomes dispersed as droplets into the water. In such cases, the gills of fish can become mechanically contaminated and their respiratory capacity reduced (Svobodova et al. 1993). Aquatic plant communities may also be affected by increased siltation. Submerged plants may be stunted and photosynthesis may be reduced. Significant impacts on fish stocks or invertebrate prey could potentially impact on piscivorous species i.e., Otter, Cormorant, or wading birds e.g., Golden Plover and Curlew using habitat downstream due to a reduction in prey availability.

The proposed development site is hydrologically connected to the River Shournagh. During construction works (and in the absence of mitigation) silt-laden stormwater run-off during site preparation, site clearance, dewatering of excavations and construction of site access roads as well as spillages of fuel and oil and concrete / cement run-off could potentially impact on water quality within the River Shournagh. During operation surface water from the site will discharge to an onsite drainage ditch. In the absence of mitigation, hydrocarbons from the parking areas could be carried in the stormwater and increased volumes of stormwater as a result of increased areas of impermeable surfaces could also occur during operation. A Construction Environmental Waste Management Plan (CEWMP) has been submitted with this application with a range of general and site specific measures to protect local water quality throughout the construction period.

During operation, the proposed surface water management system is designed, as much as is feasible, in accordance with the principles of Sustainable Drainage Systems (SuDS) as embodied in the recommendations of the Cork City Development Plan 2022-2028. As outlined above, surface water will be discharged to an existing open drain at the west of the site. SuDS measures will include tree pits and permeable paving. These will manage surface runoff before being diverted to three onsite attenuation tanks and ultimately discharge (via hydrocarbon interceptor) to the local drain. Each tank is designed to provide storage for a 1-100 year storm event plus a 20% climate change allowance, with discharge limited to the greenfield runoff rate of 18.2l/s. The combined attenuation volume across the three tanks equates to approximately 1,627m³.

A petrol interceptor will also be installed upstream of the discharge point to remove hydrocarbon pollutants from surface water runoff prior to discharge. Each tank is connected to a hydro-brake manhole which controls the discharge rate to the open drain.

Ayesa carried out a flood risk assessment at the proposed development site. The subject site lies within Flood Zones C as per the CFRAM flood maps. Mitigation measures to reduce residual risk of flooding on the proposed development include the appropriate setting of FFLs and the overall slope of hardstanding levels away from the buildings to reduce surface water inundation. Greenfield runoff rates from the proposed development site will ensure there is no risk of flooding to surrounding lands.

Construction and operational phase runoff from the site will be effectively managed to ensure there is no impact on local water quality or any other watercourse downstream of the site e.g. Knockacorbally Stream, River Martin, River Shournagh. Given the proposed water control measures no significant impact on local water quality is predicted to occur from the proposed development.

9.10 Wastewater Discharges

The proposed residential development could potentially result in an increase in nutrients discharging to River Shournagh via the Blarney Wastewater Treatment Plant (WWTP). Increased nutrients can potentially impact on freshwater habitats by changing baseline ecological conditions and increasing algal growth, which in turn could impact on feeding local flora and fauna.

Wastewater from the proposed development will be conveyed for treatment to Blarney WWTP. The Blarney agglomeration is served by a wastewater treatment plant with a Plant Capacity Population Equivalent (P.E.) of 13,000. The agglomeration consists of one primary discharge point which discharges to the River Shournagh.

The WWTP obtained a discharge licence (Reg: D0043-01) from the EPA and has assigned emission limit values (ELV's) for a range of parameters to ensure a high degree of protection to the River Shournagh and surrounding waters. The discharge licence assigns ELV's for total phosphorous (Total P), chemical oxygen demand (COD), total suspended solids (TSS), biological oxygen demand (BOD), Ammonia, pH and orthophosphate. The ELVs are set based on the full design capacity (Population Equivalent (P.E.) 13,000) and are aimed at providing a high degree of protection to the receiving water body and to ensure the receiving waterbody is capable of accommodating the proposed discharge without causing or exacerbating a breach in the relevant standards.

The 2024 Annual Environmental Report for Blarney WWTP was reviewed. The AER notes that the final effluent from the Primary Discharge Point was non-compliant with the Emission Limit Values in 2024. The non-compliance's with the ELVs were in relation to Ammonia – as N (mg/l). This non-compliance is related to the hydraulic load at the WWTP where the annual mean hydraulic loading is greater than the peak Treatment Plant Capacity. The annual maximum hydraulic loading is also greater than the peak Treatment Plant Capacity. However, the AER notes that the discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status.

In 2024 the agglomeration PE for Blarney WWTP was 10,150 with a design capacity of 13,000 P.E.. A Pre-Connection Enquiry was submitted to Uisce Eireann to determine if the connection of the proposed development to Uisce Eireann network could be facilitated. A response has confirmed that the connection if feasible without upgrade (CDS25004956).

While there appears to be compliance issues at Blarney WWTP, these are not having an observable negative effect on the Water Framework Directive. The addition of the effluent discharge from the proposed housing development to the Blarney WWTP is well within its design capacity and will not comprise the operational capability of the WWTP to treat effluent to comply with emission limit values. Therefore, the impacts from the proposed development will be negligible given the current operating conditions at the WWTP. Minor increases in nutrient levels potentially discharged by the WWTP will not have a significant impact water quality within the River Shournagh.

10. Cumulative Impacts

Cumulative impacts on fauna chiefly relate to increased noise and activity levels and potential impacts on water quality. A planning search of Cork City Council planning portal was conducted to identify permitted projects in the vicinity of the proposed development site. Projects which, due to their nature or scale were unlikely to result in an in-combination impact, or to which there was no pathway, were excluded**.**

312893. Demolition of buildings, construction of 143 no. residential units (105 no. houses, 38 no. apartments), creche and associated site works.. Monacnapa, Blarney, Co. Cork.

316790 Inclusion of the land on the residential zoned land tax draft map at Monacnapa, Blarney Town Centre, Cork

2341736. Alverna, St. Ann's Road, Blarney, Cork, T23E440. The development will consist of: The construction of a new single-storey dwelling adjoining the existing dwelling located to the north, construction of a new single-storey rear extension and elevational alterations to existing dwelling, a new additional vehicular entrance to serve the existing dwelling and all ancillary works necessary to facilitate the development.

341746. Permission is sought for the construction of an all-weather pitch, perimeter fence, gates, ballstop netting, landscaping, drainage and all associated site works, to replace 2 no. ball courts and a grass playing field permitted under An Bord Pleanala ref PL04.247742 (Cork County Council ref 16/6473).. Scoil Mhuire Gan Smal , Shean Lower , Blarney.

2443031 Permission for a Large-Scale Residential Development (LRD) at this site at Ringwood, Shean Upper, Blarney, Cork. The proposed development will consist of a largescale residential development (LRD), representing Phase 1 of the development in the Blarney East / Ringwood Expansion Area, and comprising of 246no. residential dwellings. Ringwood , Shean Upper , Blarney

The remaining developments which have been granted planning during the last 24 month period are small in scale.

A range of mitigation measures will be implemented during construction to effectively prevent adverse effects on local water quality during construction. The measures to be implemented

will effectively prevent any significant discharges of hydrocarbons or excess levels of silt from the individual elements of the project thus ensuring that no in-combination impacts will occur. Furthermore, operational design measures, including SuDS measures, will ensure there are no impacts on local water quality or flooding risk and therefore no cumulative impacts from operational surface water discharges will occur.

Short-term cumulative disturbance effects on local wildlife may occur during construction works. The loss of habitat alongside other developments proposed in the Blarney area is likely to have slight, negative cumulative impact on local fauna.

11. Mitigation Measures

The mitigation measures have been drawn up in line with current best practice and include an avoidance of sensitive habitats at the design stage and mitigation measures will function effectively in preventing significant ecological impacts. The following mitigation measures will be implemented:

A Construction Environmental Waste Management Plan (CEWMP) has been prepared (by MMOS Consulting Engineers) for the proposed development and this contains construction mitigation measures, which are also set out in this report.

Mitigation measures (of relevance in respect of any potential ecological effects) will be implemented throughout the project, including the preparation and implementation of detailed method statements. The works will incorporate the relevant elements of the guidelines outlined below:

- *NRA (2010) Guidelines for the Management of Noxious Weeds and Non- Native Invasive Plant Species on National Roads. National Roads Authority, Dublin.*
- *Murphy, D. (2004) Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites. Eastern Regional Fisheries Board, Dublin.*
- *IFI (2016) Guidelines on protection of fisheries during construction Works in and adjacent to waters (IFI, 2016)*
- *H. Masters-Williams et al (2001) Control of water pollution from construction sites. Guidance for consultants and contractors (C532). CIRIA.*
- *E. Murnane, A. Heap and A. Swain. (2006) Control of water pollution from linear construction projects. Technical guidance (C648). CIRIA.*
- *E. Murnane et al., (2006) Control of water pollution from linear construction projects. Site guide (C649). CIRIA.*

All personnel involved with the proposed development will receive an on-site induction relating to construction and operations, and the environmentally sensitive nature of the local watercourses and to re-emphasise the precautions that are required as well as the control measures to be implemented. Site managers, foremen and workforce, including all subcontractors, will be suitably trained in risks and preventative measures.

All staff and subcontractors have the responsibility to:

- Work to agreed plans, methods and procedures to eliminate and minimise environmental impacts,
- Understand the importance of avoiding on-site impacts, including noise and dust, and how to respond in the event of an incident to avoid or limit environmental impact;
- Respond in the event of an incident to avoid or limit environmental impact;
- Report all incidents immediately to the site manager;
- Monitor the workplace for potential environmental risks and alert the site manager if any are observed; and
- Co-operate as required, with site inspections.

11.1 Water Protection Measures

11.1.1 Water Sources at Site

The following are the sources of water that are likely or that may be encountered during the construction works.

Rainwater: The primary source of water to the site is rainwater. The anticipated average annual rainfall at the site is anticipated to be approx. 1228mm annually. The rainfall intensity varies by season and is predicted by Met Eireann to be as much as 109.4mm for a 1-in-100-year event over a 24-hour duration. Heavy rainfall can have significant effects on the site. It can cause flooding and the overwhelming of site drainage systems. Flooding can have an adverse effect on on-site stored materials which would not normally pose a risk. The contractor will be required to ensure that materials are therefore properly stored on site, and to plan site activities to ensure that works such as heavy excavation, drainage, and foundation works are postponed during adverse weather conditions.

Surface Water: Surface waters tend to include watercourses and waterbodies. To the south of the site, the River Martin flows through Blarney. A preliminary flood risk assessment indicates that the site is situated on elevated ground within the Blarney area, outside of the designated flood plains and areas of known fluvial or tidal flooding as identified by the OPW Flood Maps. Surface water runoff management will be a critical consideration in the site's drainage design to prevent localised flooding or erosion during extreme rainfall events. As such, prior to the commencement of construction, the Contractor is required to develop an appropriate preparation, mitigation, and operation plan to deal with the associated risks, and to plan site activities to ensure that works such as heavy excavation, drainage, and foundation works are postponed during such an event. Prior to the commencement of construction, the Contractor is required to develop an appropriate plan for the preparation, mitigation, and operation to deal with any associated risks, and to plan site activities to ensure that works such works are postponed during such an event in an appropriate manner.

Groundwater. The contractor will be required, in advance of, and during site establishment, to undertake a series of trial holes to establish the ground water levels.

11.1.2 Potential Sources of Water Pollution on Site

The following are a list of potential water pollutions that could arise on the construction site.

Suspended Solids: The contractor is to employ measures to ensure that water pollution does not arise as a result of suspended solids pollution. Sources of suspended solids pollution include, but are not limited to; excavation works, earth stockpiles, plant and wheel washing, and the build-up of mud on site roads. Good practice construction measures are proposed in the following sections that the contractor will be required to employ to ensure that suspended sediments from the above potential sources do not enter nearby drainage systems or any watercourse in accordance with CIRIA C532 – Control of Water Pollution from Construction Sites – Guidance for Consultants and Contractors.

Oils and Hydrocarbons: Oils are a potential source of pollutants on a construction site. Diesel, lubricating oil, fuel, petrol, and hydraulic fluids are used quite readily on construction sites for various types of machinery and refuelling and maintenance are required regularly on sites. The contractor will need to employ good practice measures to prevent these potential pollutants entering nearby drainage systems or any water course. These measures will include bunded areas for the storage of fuels, regular maintenance of machinery to ensure that no leakages occur, measures to protect the site from vandalism, and the provision of a designated refuelling area on site or refuelling off-site. Any fuel storage on site should be carefully controlled and considered to ensure that the risks associated with adverse weather conditions including heavy rainfall and high winds are accounted for.

Concrete and Cement Products: It is important that cement products are carefully stored to withstand various weather conditions such as heavy rainfall and high winds to prevent run-off and dust pollution. Concrete products can cause contamination during wash down of the trucks which can cause a large volume of uncontrolled runoff. Precast concrete is to be used on site where feasible. Concrete pours are not to take place on site during intense rainfall. Good practice measures are to be employed on site to prevent such uncontrolled runoff.

11.1.3 Surface Water Management Techniques

The contractor will be required to submit proposed methods for managing surface water runoff from the site during the construction operations. The following operations will require particular attention.

Excavations for foundations works:

Excavations works will require works below ground level and to control the groundwater in the areas being excavated the contractor will require to isolate the area by digging trenches to the perimeter of the foundation area with suitable falls and sumps. The perimeter drains in an open excavation such deep excavation should include French drains.

Discharge of ground water will be via silting ponds where suspended solids can be removed, and the water quality can be monitored.

11.1.4 Oil and Fuel delivery points:

A designated fuel transfer area should be provided on-site, and this is typical good practice on well-managed construction sites. The contractor will be required to install an impermeable

paved and bunded area that is capable of handling and intercepting fuel spillages. All tanks should be fully bunded and placed on a firm and secure foundation.

11.1.5 Formwork and concrete operations

Concrete should always be placed in a controlled method to prevent spillages in accordance with good construction practice. Where possible, concrete should be placed using a concrete pump. As noted above, it is important that the machinery is well-maintained.

At the delivery and wash-down point, it is important that measures are employed to prevent spillages from concrete delivery trucks contaminating the ground. Where appropriate, pre-cast concrete is to be used and concrete pours are not to be undertaken during periods of intense rainfall.

11.1.6 Spillage Procedure

A spillage procedure is to be developed which shall be enacted in the event of the release of any sediment, cement products, hydrocarbons, or other pollutants into any waterbody. In the event of such a spillage, the Environmental Protection Agency (EPA), Cork City Council, Inland Fisheries Ireland (IFI), and the National Parks and Wildlife Service (NPWS) are to be notified immediately. A hydrocarbon spill kit is to be available on site at all times, such kits are to be maintained on site and appropriate staff trained in their use.

11.2 Noise and Working Hours

To moderate impacts on the surrounding area and in order to mitigate noise levels emanating from the site, all site development and building works will be carried out only between the hours of 08.00 to 18.00 Mondays to Fridays inclusive, between 08.00 to 16.00 on Saturdays and not at all on Sundays or Public Holidays. Any deviation from these times will be submitted to the Cork City Council for approval.

The Contractor will be required to carry out noise monitoring at a defined location on the boundary on an ongoing basis during the works. The contractor must ensure that construction noise will comply with the requirements of BS5228-1:2009: Code of Practice for Noise and Vibration Control on Construction and Open sites. Noise during construction shall not exceed 65dB (A), Leq 30 minutes, and the peak noise shall not exceed 75 dB (A) when measured at any point off site.

The contractor is to have a point of contact available during the works at all times and if exceedances are recorded, the contractor will be required to adopt alternative construction methodologies and measures to ensure that the limits are complied with.

Noise monitoring will be addressed with the contractor on an ongoing basis by the Engineer, and it will be on the agenda at weekly site meetings.

11.3 Lighting

The primary mitigation which will be implemented for this project relates to bats, as these are considered the most sensitive species in relation to night time lighting. It is noted that the mitigation proposed will also lessen in the impact in relation other nocturnal species such as

Hedgehog. Potentially lighting associated with the site works could cause disturbance/displacement of Bats and other nocturnal wildlife. If of sufficient severity and duration, there could be impacts on reproductive success. Lighting mitigation measures will follow *Bats & Lighting Guidance Notes for: Planners, engineers, architects and developers* (Bat Conservation Ireland, 2010). The following measures will be applied in relation to construction and operational lighting:

11.3.1 Lighting during construction

Site lighting will typically be provided by tower mounted temporary portable construction floodlights. The floodlights will be cowled and angled downwards to minimise spillage to surrounding properties. The following measures will be applied in relation to site lighting:

- Lighting will be provided with the minimum luminosity sufficient for safety and security purposes.
- Lights will be switched off when not in use; and
- Lighting will be positioned and directed so that it does not to unnecessarily intrude on adjacent ecological receptors and structures used by protected species...
- Works will primarily take place during hours of daylight to minimise disturbance to any nocturnal mammal species.

11.3.2 Lighting During Operation

The lighting scheme has taken into account best practice, as published by the UK Bat Conservation Trust, in respect of mitigation strategies, to minimise the impact of outdoor lighting upon bat populations.

- LED type lanterns, of the Warm White type will be utilised where possible. Colour Temperature of 3,000 kelvin, as is considered least disruptive to the emergence of bats from roosts at dusk, and subsequent movement from habitats to foraging locations.
- Lanterns are of the fully cut off type with no light output above the horizontal plane.
- Height of columns kept as low as possible taking cognisance of need to make lanterns vandal resistant
- Lighting will be faced away from the retained boundary habitats to minimise the impact on bats foraging along these areas. The positioning of lighting l along eastern treeline will be carried out in consultation with a supervising ecologist.
- Timers and/sensors should be used where possible.

11.4 Ecology

11.4.1 General

All personnel involved with the project will receive an on-site induction relating to operations and the environmentally sensitive nature of retained habitats onsite as well as the hydrological connection to local waterbodies.

The Wildlife Amendment Act 2000 (S.46.1) provides that it is an offence to cut, grub, burn or destroy any vegetation on uncultivated land or such growing in any hedge or ditch from the first of March to the 31st of August. Exemptions include the clearance of vegetation in the course of road or other construction works or in the development or preparation of sites on which any building or other structure is intended to be provided. None the less it is recommended that vegetation be removed outside of the breeding season where possible. In particular, removal during the peak-breeding season (April-June inclusive) should be avoided. Such a timeframe would also minimise the potential disturbance of breeding birds outside of the proposed development site boundary.

A landscape plan has been included with the application (CSR Landscape masterplan). The plan includes tree planting, wildflower meadow encouragement (though maintenance) and hedgerow planting.

A Tree Protection drawing (Holly Arboricultural TPP5925) and the Arboricultural Impact Assessment and Tree Protection Plan (BS5837:2012) have been submitted with this application. This outlines areas of trees to be retained and the measures proposed to protect these trees for the duration of construction works.

11.4.2 Bats

As noted above lighting mitigation measures have taken into account measures outlined in the *Bats & Lighting Guidance Notes for: Planners, engineers, architects and developers* (Bat Conservation Ireland, 2010).

During the site works, general mitigation measures for bats will follow the National Road Authority's '*Guidelines for the Treatment of Bats during the Construction of National Road Schemes*' NRA (2005c) and '*Bat mitigation guidelines for Ireland v2'*. Marnell *et al.* 2022). These documents outline the requirements that will be met in the pre-construction (site clearance) stage to minimise negative effects on roosting bats, or prevent avoidable effects resulting from significant alterations to the immediate landscape.

No bat roosts were recorded within trees earmarked for removal. However, the presence of occasional roosting bats in mature and semi-mature trees cannot be altogether ruled out. A large number of trees will be removed prior to/during construction. The following precautionary measures will be implemented during all tree felling.

- Tree-felling should ideally be undertaken in the period late August to late October/early November. During this period bats are capable of flight and may avoid the risks of tree-felling if proper measures are undertaken. Felling during the winter months is to be avoided as this creates the additional risk that bats may be in hibernation and thus unable to escape from a tree that is being felled. Additionally, disturbance during winter may reduce the likelihood of survival as the bats' body temperature is too low and they may have to consume too much body fat to survive.

- Immediately prior to felling, the trees should be examined for the presence or absence of bats, and/or other bat activity. This survey should be carried out by a suitably qualified bat specialist and should include a visual inspection of the tree during daylight hours followed by a night time detector survey. The survey should be carried out from dusk through the night till dawn to ensure that bats do not re-enter the tree.

- For trees classified as moderate value (or low to moderate value) in **Table 9**; tree-felling will not be undertaken in June, July and early August, in order to ensure that breeding populations of bats are protected. Bats typically form maternity roosts from late May onwards and single young are born in June or July. The young are totally dependent upon their mothers and are unable to fly, or to take any evasive action, that would save them from the dangers imposed by the felling or major surgery of a tree.

- Soft-felling will be used on all felled trees as follows; Felled trees will not be mulched immediately. Such trees will be left lying several hours and preferably overnight before any further sawing or mulching. This will allow any bats within the tree to emerge and avoid accidental death. The bat specialist will be on-hand during felling operations to inspect felled trees for bats. If bats are seen or heard in a tree that has been felled, work will cease and the local NPWS Conservation Ranger will be contacted.

- Trees will be retained where possible and no 'tidying up' of dead wood and spilt limbs on tree specimens will be undertaken unless necessary for health and safety.

- Treelines/hedgerows earmarked for retention, but adjacent to tree removal areas and thus at risk, will be clearly marked by a bat specialist to avoid any inadvertent damage.

11.4.3 Otter

Measures will be implemented during construction works to ensure that there will be no disturbance or mortality of otter during the Construction Phase of the Proposed Development in line with NRA (2008) *Guidelines for the Treatment of Otters Prior to the Construction of National Road Schemes*. As there is an Otter holt within 150m of the proposed development site boundary (and construction works area), a derogation licence application is currently being processed by the NPWS (not received at time of report update). A derogation licence will be required before the commencement of any works. The following mitigation measures will also be implemented.

- Works will take place within a defined working area to reduce the footprint of the Proposed Development to minimise potential for impact to Otter foraging or resting habitat;

- There will be no in-stream activities along the Knockacorbally Stream

- Any excavations will be covered at night to prevent Otter from falling in or becoming trapped;

- Any lights will be turned off after working hours;

- A pre-construction survey will be carried out to ensure no change in the baseline information to ensure that mitigation measures remain relevant. This should be conducted no more than 10-12 months in advance of construction. Should there be a

change in Otter behaviour or new holts created a derogation licence from the NPWS may be required;

- No works should be undertaken within 150m of any holts at which breeding females or cubs are present. Otter breeding may take place during any season so breeding activity at holts needs to be determined on a case-by-case basis. No wheeled or tracked vehicles (of any kind) should be used within 20m of active, but non-breeding, otter holts. Light work, such as digging by hand or scrub clearance should also not take place within 15m of such holts, except under licence;

- A Noise and Vibration Management Plan will be developed by the appointed contractor.

11.5.3. Birds

The Wildlife Amendment Act 2000 (S.46.1) provides that it is an offence to cut, grub, burn or destroy any vegetation on uncultivated land or such growing in any hedge or ditch from the first of March to the 31st of August. Exemptions include the clearance of vegetation in the course of road or other construction works or in the development or preparation of sites on which any building or other structure is intended to be provided. None the less it is recommended that vegetation be removed outside of the breeding season where possible. In particular, removal during the peak-breeding season (April-June inclusive) should be avoided. Such a timeframe would also minimise the potential disturbance of breeding birds outside of the proposed development site boundary.

Breeding bird surveys during summer of 2026 to aid in optimal locations on nest boxes within site boundary.

11.5.4 Biodiversity Enhancement

Bats

Bat boxes will be installed prior to any tree felling works. Given the diversity of bats which use the site, a range of bat boxes have been specified. The boxes have been selected to provide a range of roosting opportunities for different species and colony sizes. They can be sited on existing trees. The boxes will be installed by the project ecologist considering relevant factors including foraging resources, commuting routes, future landscape development, and lighting and will be regularly checked for usage as part of an ongoing ecological monitoring programme.

Bat boxes will be installed on mature and semi-mature trees which are earmarked for retention within the site (See **Figure 12**).

Bat boxes are more likely to be used if they are located where bats are known to feed and for this reason bat boxes within the proposed development site have been location on mature/semi-mature treelines where bat activity has been recorded.

Boxes should be put as high (ideally over 4m) as possible on the tree to try and avoid predation from cats on the ground or nearby structures. Bats use dark treelines or hedgerows for navigation, so boxes will not be installed in proximity to proposed street lighting. Bat boxes will be installed in a south/south-east/south-west aspect.

Vincent Pro Bat Box

Two Vincent Pro bat boxes will be provided. This box features three vertical chambers of different sizes, providing ideal roosting space for a variety of species. Beneath the crevice entrances is a ladder which provides a rough surface for bats to land. Limited cleaning is required for these boxes as the droppings will fall out of the bottom of the chambers. The front and top of the box are black which helps the box to absorb heat. This bat box can be used by Leisler's, Common Pipistrelle, Soprano Pipistrelle, Brown long-eared, Natterer's and Whiskered Bat.

Vincent pro bat box

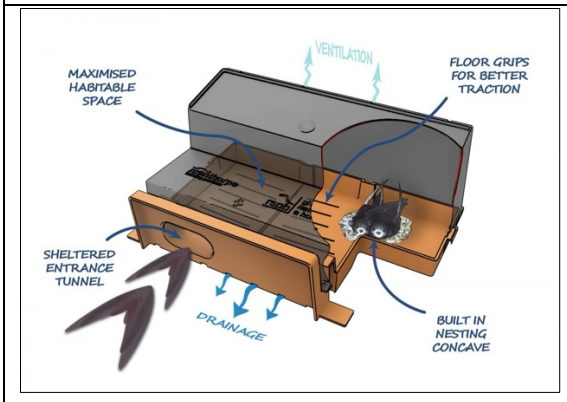
Bat Colony Box 1FF

Bat Box 3FF

Hedgehog highway example

Hedgehog dome

Example of installed Swift bricks in use.



Interior of Manthorpe swift brick.

Bat Box 1FF

Two Bat Box 1FF will be provided. Suitable for Pipistrelle and Nathusius' Pipistrelle Bats as well as Daubenton's Bats and Long-Eared Bats. The Flat Bat Box 1FF is a crevice roost that is open at the bottom. It can be used even in extremely steep locations and it is maintenance-free, i.e. it does not have to be cleaned.

Bat Colony Box 3FF

Two Bat Colony Boxes (3FF) will be provided. This type of box is readily used for forming large colonies, by Daubenton's Bats and Brown Long-Eared Bats. The 3FF is self-cleaning, i.e. the Bat droppings can fall out freely from the underside without blocking the entrance if the box is densely occupied.

Other mammals

Hedgehog boxes/highways.

Hedgehog highways will be provided between the properties to allow free movement of small mammals through the gardens/development. This requires a small hole (c. 13cm by 13cm

square) to be included at the base of garden fencing to provide passage for Hedgehogs along the boundary of development site. Regarding mammal connectivity at the site, the priority for this site during operation is to prevent access by dogs to the Otter holt to the southwest of the site. Therefore, the holes on the boundary fence (13cm x 13cm) will only allow free access of smaller mammals, i.e. Hedgehog, Pygmy shrew etc, but not larger mammals such as Badgers and Foxes. There is no indication that this is an important site for Badger (or Fox).

Three SCHWEGLER Hedgehog Dome (or similar) will be provided. These will be located under the retained woodland habitats. This dome encourages Hedgehogs to settle in a particular area and provides year-round shelter, including during the winter months. This will be located somewhere protected from wind and rain. Ideally this will be filled with hay (supplied with the dome) but alternatively use dry leaves and straw, as well as cut up newspaper and wood shavings.

These will be located adjacent or within suitable habitat but will not be situated near internal or external roads.

Birds

Breeding bird surveys during summer of 2026 to aid in optimal locations on nest boxes within site boundary.

Swift

The swift is a Red List bird of conservation concern in Ireland because its population has declined by over 40% in the last 15 years. Conservation actions across the country are helping to recover populations. Swifts are faithful to their nest sites. Nest box projects, especially built-in nest boxes, can provide safe long-term homes for new breeding pairs of Swifts.

Commercial Swift nest bricks are made from hollow brick or concrete composite designed to allow access by Swifts and manufactured to modern building regulation standards. They can be integrated into the walls of buildings during the construction phase.

Twenty swift bricks will be positioned on the apartment building at the north-east of the site and step down building at the centre of the site as **Figure 12**. These will be installed following the *Swift Conservation Ireland Guidelines* (2019). These will be placed at least 5m above ground level with an open area of the building i.e., free of overhanging ledges, vegetation, and other obstacles. There will be no directional lighting in the vicinity of this area. Bricks will be positioned in rows to encourage colonial nesting. It is noted that Swift bricks will not overheat in the way that externally fitted boxes do and therefore they can be placed on any aspect of the building.

Swifts look for nest sites at locations with established colonies. Swifts are known to occur in the Blarney area (Source NBDC), although none were recorded during the site surveys. To increase the chances of attracting Swifts to a new nest location, a recording of a Swift call should be played. Swift calls can be broadcast from a small speaker placed as close as possible to the nest box or brick. New nest box sites where no lures are played are less likely to be successful in attracting nesting Swifts. This will be carried out under licence of the National Parks and Wildlife Service (NPWS).

The following procedures will be followed during the playing of calls:

- Volume will be set at a ‘normal’ noise level. Playing the call too loudly will distort the sound.
- Swifts look for nest sites during two specific time periods: in May and June (to nest that year) and in June and July (to nest the following year). The latter group are younger birds.
- The following recommended times will be used:
- from dawn, for 3-6 hours
- in the evening, from 6.00pm to dark.
- Swifts will only look for nest sites in fine weather. Playing the calls in cold, wet weather is ineffective.

Nest boxes used by swifts do not require the cleaning and maintenance required by some other species. However, every few years check the bricks remain secure and for signs of possible damage.

1B Schwegler nest box

1ZA Schwegler wren roundhouses

Log pile example	Examples of insect hotels

Eight house martin artificial nest cups/swallow nest cups will be installed onsite on a number of dwellings as per **Figure 12**. Details will follow the guidance as per House Martin Conservation UK & Ireland *'Artificial nest cup installation guide'*.

- As shown in drawings, all nest cups will be placed at a minimum height of 3m.
- Nest cups will be installed under the apex, soffits and/or eaves of the buildings outlined in drawings.
- Nest cups will have a north, east or westerly aspect.

House martins and Swallows leave droppings which can be an issue for some households, but they are easily removed with a hosepipe or brush.

Other breeding birds

In order to enhance the site for nesting birds five nesting bird boxes (a range of bird box types) will be installed at the proposed development site (See **Figure 12**). 1B Schwegler nest box will be installed high on retained trees. The 1B nest boxes will be installed at a height of 1.5 metres whilst the large bird nest boxes should be positioned at least 3m in height. 1ZA Schwegler wren roundhouses will be located in hedgerows, thickets and overgrown areas. The 1ZA will be hung in retained hedgerows along the eastern and western boundaries.

Log Piles/Loggeries

Building invertebrate habitats can provide shelter to many beneficial insects and offer a great foraging habitat for birds and other mammals.

Dead wood is one of the most valuable habitats for urban wildlife. The decline of the availability of deadwood is linked to the decline of many woodland birds due to the loss of foraging opportunities provided by this habitat.

Key points

- Install the logs vertically
- Site the loggery in a shaded part of a site
- Do not use concrete to bed the logs in. The beetles require the logs to be in contact with the soil
- Do not use well-rotted logs as they will have little wood left as food

Log piles will be installed under retained treeline and woodland habitats using the felled trees at the site (as outlined in Landscape master plan). Log piles are suitable for invertebrates, small mammals and birds and can be easily installed in wooded areas of parks or open

spaces. They are really just stacks of logs piled up and allowed to rot down. Left undisturbed they will support a good range of biodiversity.

Insect hotels

Three insect hotels will be installed on meadow grassland areas. Insect hotels are excellent for attracting a wide range of invertebrate species. Perforations allow for insect access and a chamber with bamboo below for solitary bees. This can be positioned anywhere in the site where pollination is to be encouraged. The nesting tubes are ideal for solitary bees to build their nests in, the vertical slots are designed to encourage butterflies, other refuge holes are perfect for ladybirds and lacewings and the pinecones offer an excellent habitat for a range of other species.

Figure 12. Location of biodiversity enhancements within proposed development site

11.6 Invasive species

A site specific invasive species management plan will be developed (post planning) for this development to ensure that all invasive species are removed.

12. Conclusions

Habitats within the proposed development site include a mix of semi-natural grassland and developing scrub and immature woodland alongside areas of planted non-native treelines and native hedgerows. The site, which previously included a hotel, has been left unmanaged for a number of years which has allowed these habitats to develop in the absence of active management. While there are mature and semi-mature trees within the site, the habitats onsite are of relatively recent origin with the majority of scrub/immature woodland developing in the past 8 years. Although the habitats in themselves are not considered of high value for wildlife, the mosaic of habitats, including dark sheltered areas with grassland scrub and trees, does provide foraging habitat and a number of bats, birds and other wildlife.

The proposed development will require the removal of the interior vegetation at the site, i.e. scrub, immature woodland, semi-natural grassland and semi-mature/mature trees. Boundary treelines/hedgerows along the eastern, western and southern boundary will be retained. This will retain connectivity between valuable woodland habitats to the north and south of the proposed development site. While the landscape plan provides for new tree planting, the proposed development is likely to impact commuting and foraging bat habitat within the site. The removal of habitat combined with increased lighting at the site will have a negative impact on local bat populations. Through the implementation of bat protection measures, such as retention of boundary vegetation, planting of native and non-native tree species, avoidance and minimisation of artificial light spill, and provision of roost spaces, residual impacts on bats will be minimised. Mitigation measures will also be implemented during tree removal to ensure there is no direct injury/mortality impacts on bats. However, the impact of the proposed development on local bat populations is predicted to be negative, slight to moderate and long-term.

An Otter holt was recorded c.100m from the proposed development site boundary. There are no works proposed within this area and mitigation measures will be implemented to ensure that there is no impact on breeding Otters (within the holt) during construction works. No residual effects on Otter are predicted to occur.

During construction, there will be increased noise and disturbance which could potentially impact on birds and non-volant mammals. Given the availability of alternative habitat in the vicinity, the impact on birds, non-volant mammals and other wildlife is likely to be slight to moderate and short-term. This impact will reduce to slight in the long-term as landscape planting matures. The habitats to be affected are common and there is no evidence to indicate that the proposed development areas are of particular value for terrestrial (non-volant) mammals in the context of the surrounding countryside. The impact of the proposed development on birds is predicted to be negative, moderate and short-term, reducing to negative, slight in the long-term.

No third schedule invasive species were recorded within the proposed development site. A site specific invasive species management plan will be developed (post planning) for this development to ensure that all invasive species are removed.

The proposed development is not located within or immediately adjoining any designated site i.e. SAC. sSAC, SPA, NHA or pNHA. Mitigation measures have been proposed to protected local water quality. Operational lighting has been designed in line with bat lighting guidelines (in compliance with lighting requirements) to minimise impacts on valuable habitats to the north and south of the site. No significant effect on the Blarney Castle Woods pNHA are predicted to occur.

No difficulties in the effective implementation of the prescribed mitigation measures have been identified. No impact from the spread of invasive species will occur.

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Appendices

Appendix 1. NRA 2009 Guidelines

Table 1: Examples of valuation at different geographical scales

Ecological valuation: Examples

International Importance:
 	
• 'European Site' including Special Area of Conservation (SAC), Site of Community Importance (SCI), Special Protection Area (SPA) or proposed Special Area of Conservation.
• Proposed Special Protection Area (pSPA).
• Site that fulfills the criteria for designation as a 'European Site' (see Annex III of the Habitats Directive, as amended).
• Features essential to maintaining the coherence of the Natura 2000 Network.[4]
• Site containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive.
• Resident or regularly occurring populations (assessed to be important at the national level)5 of the following:
  ○ Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and/or
  ○ Species of animal and plants listed in Annex II and/or IV of the Habitats Directive.
• Ramsar Site (Convention on Wetlands of International Importance Especially Waterfowl Habitat 1971).
• World Heritage Site (Convention for the Protection of World Cultural & Natural Heritage, 1972).
• Biosphere Reserve (UNESCO Man & The Biosphere Programme).
• Site hosting significant species populations under the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals, 1979).
• Site hosting significant populations under the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats, 1979).
• Biogenetic Reserve under the Council of Europe.
• European Diploma Site under the Council of Europe.
• Salmonid water designated pursuant to the European Communities (Quality of Salmonid Waters) Regulations, 1988, (S.I. No. 293 of 1988).[6]

National Importance:
 	
• Site designated or proposed as a Natural Heritage Area (NHA).
• Statutory Nature Reserve.
• Refuge for Fauna and Flora protected under the Wildlife Acts.
• National Park.
• Undesignated site fulfilling the criteria for designation as a Natural Heritage Area (NHA); Statutory Nature Reserve; Refuge for Fauna and Flora protected under the Wildlife Act; and/or a National Park.
• Resident or regularly occurring populations (assessed to be important at the national level)7 of the following:
  ○ Species protected under the Wildlife Acts; and/or
  ○ Species listed on the relevant Red Data list.
• Site containing 'viable areas'[8] of the habitat types listed in Annex I of the Habitats Directive.

County Importance:
 	
• **Area of Special Amenity.[9]**
• **Area subject to a Tree Preservation Order.**
• **Area of High Amenity, or equivalent, designated under the County Development Plan.**
• **Resident or regularly occurring populations (assessed to be important at the County level)[10] of the following:**
  ○ **Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;**
  ○ **Species of animal and plants listed in Annex II and/or IV of the Habitats Directive;**
  ○ **Species protected under the Wildlife Acts; and/or**
  ○ **Species listed on the relevant Red Data list.**
• **Site containing area or areas of the habitat types listed in Annex I of the Habitats Directive that do not fulfil the criteria for valuation as of International or National importance.**

- **County important populations of species, or viable areas of semi-natural habitats or natural heritage features identified in the National or Local BAP, 11 if this has been prepared.**
- **Sites containing semi-natural habitat types with high biodiversity in a county context and a high degree of naturalness, or populations of species that are uncommon within the county.**
- **Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level.**

Local Importance (higher value):

- Locally important populations of priority species or habitats or natural heritage features identified in the Local BAP, if this has been prepared;
- Resident or regularly occurring populations (assessed to be important at the Local level)12 of the following:
  - Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;
  - Species of animal and plants listed in Annex II and/or IV of the Habitats Directive;
  - Species protected under the Wildlife Acts; and/or
  - Species listed on the relevant Red Data list.
- Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality;
- Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value.

Local Importance (lower value):

- Sites containing small areas of semi-natural habitat that are of some local importance for wildlife;
- Sites or features containing non-native species that are of some importance in maintaining habitat links.

4 See Articles 3 and 10 of the Habitats Directive.
5 It is suggested that, in general, 1% of the national population of such species qualifies as an internationally important population. However, a smaller population may qualify as internationally important where the population forms a critical part of a wider population or the species is at a critical phase of its life cycle.
6 Note that such waters are designated based on these waters' capabilities of supporting salmon (*Salmo salar*), trout (*Salmo trutta*), char (*Salvelinus*) and whitefish (*Coregonus*).
7 It is suggested that, in general, 1% of the national population of such species qualifies as a nationally important population. However, a smaller population may qualify as nationally important where the population forms a critical part of a wider population or the species is at a critical phase of its life cycle.
8 A 'viable area' is defined as an area of a habitat that, given the particular characteristics of that habitat, was of a sufficient size and shape, such that its integrity (in terms of species composition, and ecological processes and function) would be maintained in the face of stochastic change (for example, as a result of climatic variation).
9 It should be noted that whilst areas such as Areas of Special Amenity, areas subject to a Tree Preservation Order and Areas of High Amenity are often designated on the basis of their ecological value, they may also be designated for other reasons, such as their amenity or recreational value. Therefore, it should not be automatically assumed that such sites are of County importance from an ecological perspective.
10 It is suggested that, in general, 1% of the County population of such species qualifies as a County important population. However, a smaller population may qualify as County important where the population forms a critical part of a wider population or the species is at a critical phase of its life cycle.
11 BAP: Biodiversity Action Plan
12 It is suggested that, in general, 1%of the local population of such species qualifies as a locally important population. However, a smaller population may qualify as locally important where the population forms a critical part of a wider population or the species is at a critical phase of its life cycle