September 2025

Stage 1: Appropriate Assessment - Screening and Stage 2: Natura Impact Statement

Proposed Large-Scale Residential Development at Maglin, Co. Cork

On behalf of

O’Flynn Construction Co. Unlimited Company

MALONE O'REGAN ENVIRONMENTAL

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Stage 1: Appropriate Assessment - Screening and Stage 2: Natura Impact Statement

Proposed Large-Scale Residential Development at Maglin, Co. Cork

O'Flynn Construction Co. Unlimited Company

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1 INTRODUCTION

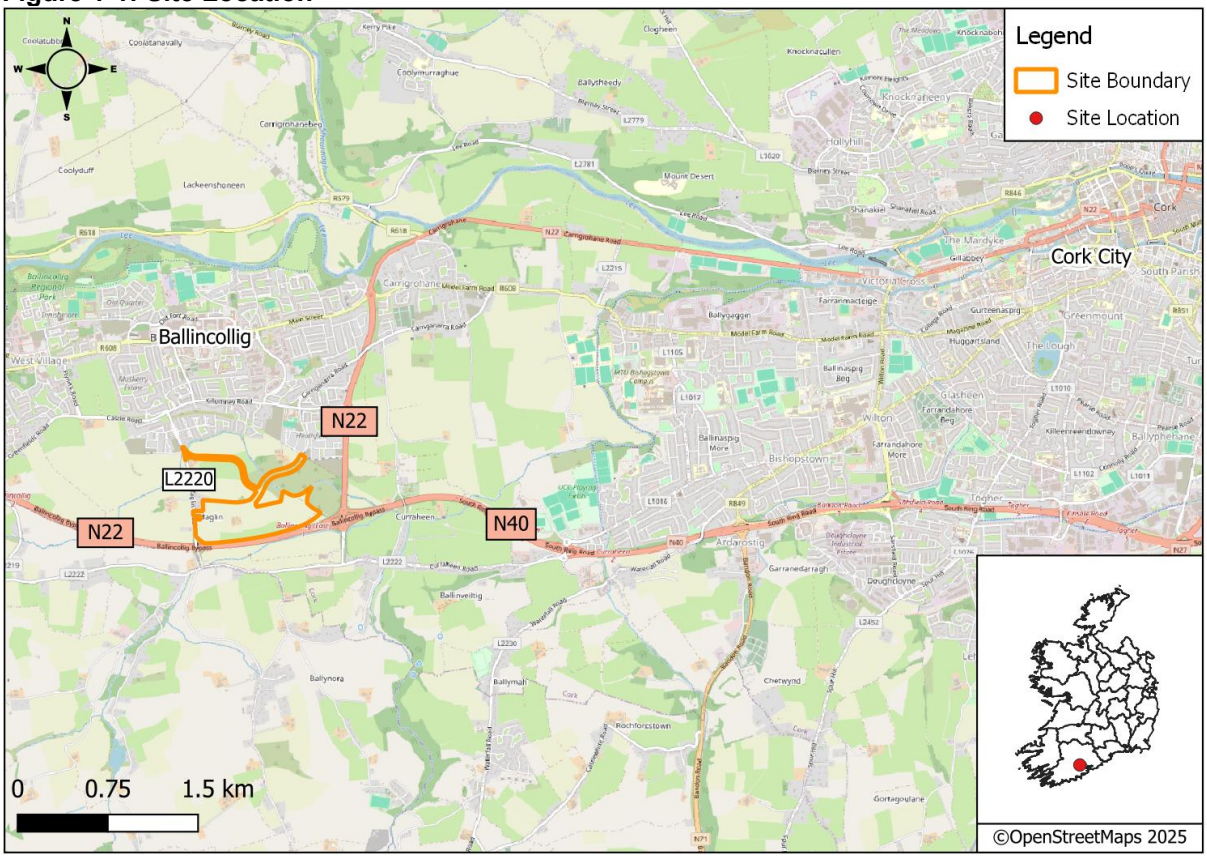
Malone O'Regan Environmental ('MOR Environmental') have been commissioned by O'Flynn Construction Co. Unlimited Company ('the Applicant') to undertake an Appropriate Assessment to assess the likely significant effects, if any, of the proposed Large-Scale Residential Development ('LRD') and ancillary works ('the Proposed Development) at Maglin, Co. Cork (OS ITM Reference: X: 559844 Y: 569377) on nearby sites with European conservation designations (i.e., Natura 2000 sites).

The Proposed Development will be located on a site that is circa ('ca.') 28.7195 hectares ('ha') in size and is located within the townlands of Maglin, Curraheen, Carrigrohane and Ballynore, Co. Cork ('the Site'). This Site is located ca. 870m south of Ballincollig Town Centre and ca. 7.2km southwest of Cork City Centre and is shown in Figure 1-1.

This report has been prepared to inform the Planning Authority with regard to Stage 1 (Screening) and Stage 2 (Appropriate Assessment) of the Proposed Development through the research and interpretation of best scientific, geographic and engineering knowledge and in view of the conservation objectives of the surrounding European sites. This report seeks to determine whether the Proposed Development will, on its own or in-combination with other plans / projects have a significant effect on European sites within a defined zone of influence of the Site.

On completion of the Appropriate Assessment Screening Report, it was found necessary to progress to a Stage 2 of the Appropriate Assessment process and prepare a Natura Impact Statement ('NIS') to assess effects on the integrity of European sites.

Figure 1-1: Site Location



1.1 Statement of Authority

This report was reviewed by Mr. Henry Tennyson – Senior Environmental Consultant. Henry is a qualifying member of the Chartered Institute of Ecology and Environmental Management ('CIEEM') with four years of experience working in the environmental consultancy sector. As part of his role, Henry regularly conducts ecological surveys and assessments for various projects across Ireland and has experience in conducting surveys in accordance with Best Practice Guidelines.

This report was approved by Mr. Dyfrig Hubble, Associate Director - Ecologist. Dyfrig is a full member of CIEEM. Dyfrig has over 18 years' experience working in the ecological consultancy sector, including habitat surveys and appraisals and specialist protected species surveys in support of Appropriate Assessments and Ecological Impact Assessments.

1.2 Regulatory Context

The following guidance documents were adhered to for the preparation of this NIS report:

- OPR Practice Note PN01, *Appropriate Assessment for Screening for Development Management*, The Office of the Planning Regulator [1];
- *Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*, European Commission [2];
- *Guidelines for Ecological Impact Assessment in the UK and Ireland*, Chartered Institute of Ecology and Environmental Management [3];
- *Managing Natura 2000 Sites:* The Provision of Article 6 of the Habitats Directive 92/43/EEC [4]*;*
- *Appropriate Assessment of Plans and Projects in Ireland, Guidance for Planning Authorities,* Department of Education, Gaeltacht and Local Heritage ('DoEGLH') [5]; and,
- *Appropriate Assessment under Article 6 of the Habitats Directive; Guidance for Planning Authorities. Circular NPW 1/10 and PSSP 2/10*, DoEGLH [6]*.*

This NIS was prepared in accordance with and in compliance with the following legislation:

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna, better known as "The Habitats Directive". This provides the framework for legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. The Habitats Directive was transposed into Irish law by the Planning and Development Act 2000 (as amended) and the European Communities (Birds and Natural Habitats) Regulations (S.I. 477 / 2011) (as amended) [7].

For completeness, the Planning and Development Act 2000 (as amended) states "European site" means:

a. A candidate site of Community Importance ('cSCI');
b. A site of Community Importance ('SCI');
c. A Special Area of Conservation ('SAC');
d. A candidate Special Area of Conservation ('cSAC'); or,
e. A Special Protection Area ('SPA').

These are Special Areas of Conservation ('SACs') designated under the Habitats Directive and Special Protection Areas ('SPAs') designated under the Conservation of Wild Birds Directive (79/409/EEC as amended 2009/149/EC) (better known as "The Birds Directive").

Article 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect European sites (Annex 1.1). Article 6(3) establishes the requirement for Appropriate Assessment.

> *"Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implication for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public"*

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures. First, the project should aim to avoid any negative impacts on European sites by identifying possible impacts early in the planning stage and designing the project in order to avoid such impacts. Second, mitigation measures should be applied, if necessary, during the Appropriate Assessment ('AA') process to the point where no adverse impacts on the site(s) remain. If the project is still likely to result in adverse effects, and no further practicable mitigation is possible, it is rejected. If no alternative solutions are identified and the project is required for imperative reasons of overriding public interest (IROPI test) under Article 6 (4) of the Habitats Directive, then compensation measures are required for any remaining adverse effect.

1.3 Stages of Appropriate Assessment

There are four distinct stages to undertaking an AA as outlined in the current European Union ('EU') and Department of Environment, Heritage and Local Government ('DoEHLG') guidance:

Stage 1: Screening

This process identifies the potential impacts of a plan or project on a Natura site, either alone or in combination with other plans and projects and considers whether these impacts are likely to be significant. If potentially significant impacts are identified the plan or project cannot be screened out and must proceed to Stage 2.

Stage 2: Appropriate Assessment

Where potentially significant impacts are identified, an assessment of the potential mitigation of those impacts is required; this stage considers the appropriateness of those mitigation measures in the context of maintaining the integrity of the Natura 2000 sites. If potential significant impacts cannot be eliminated with appropriate mitigation measures, the assessment must proceed to Stage 3.

Stage 3: Assessment of Alternatives Solutions

This process examines alternative ways to achieve the objectives of the plan or project that avoid adverse impacts on the integrity of the Natura 2000 site if mitigation measures are deemed insufficient.

Stage 4: Imperative Reasons of Overriding Public Interest ('IROPI')

Assessment where no alternative solution exists for a plan or project, and where adverse impacts remain. This includes an assessment of compensatory measures, which in the case of projects or plans, can be considered necessary for IROPI.

2 METHODOLOGY

2.1 Determining Zone of Influence

The starting point for this assessment was to determine the Zone of Influence. The Zone of Influence comprises the area which the Proposed Development may potentially affect the conservation objectives (or qualifying interests) of a European site.

Previous guidance for 'Appropriate Assessment of Plans and Projects in Ireland' noted that a distance of 15km is recommended for the identification of relevant European sites [5]. However, guidance from the Office of the Planning Regulator ('OPR') and guidance from the NPWS recommend that the distance should be evaluated on a case-by-case basis with reference to the nature, size and location of the project, the sensitivities of the ecological receptors, and the potential for in-combination effects (cumulative). For some projects, the distance could be greater than 15km, and in some cases, less than 100m.

The definition of the zone of influence for the proposed works includes evaluating the following:

- Identification of the European sites that are situated within, in close vicinity or downstream within the zone of influence of the Proposed Development;
- Identification of the designated habitats and species and Conservation Objectives for the identified European sites;
- Identification of the environmental conditions that stabilise and increase the qualifying interests of the European sites towards favourable conservation status;
- Identification of the threats / impacts – actual or potential that could negatively impact the conservation objectives for the European sites;
- Identifying the activities of the proposed works that could give rise to significant adverse impacts; and,
- Identification of other plans or projects, for which in-combination impacts would likely have significant adverse effects.

2.1.1 Source-Pathway-Receptor Model

European sites are only at risk from significant effects where a source-pathway-receptor link exists between a Proposed Development and a European site. This can take the form of a direct impact (e.g., where the Proposed Development is located within / in close vicinity to the boundary of a European site), or an indirect impact where impacts outside of the European site but affect ecological receptors within (e.g., impacts to water quality which can affect estuarine habitats at a distance from the impact source).

The likely effects of the Proposed Development on any European site have been assessed using a source-pathway-receptor model. A source-pathway-receptor model is a standard tool used in environmental assessment and is recommended by OPR Guidance [8] [9]. The model comprises:

- A *source*: any potential impacts from the Proposed Development, e.g., the runoff of sediment / construction pollution;
- A pathway: the means or route by which a source can affect the ecological receptor; and,
- A receptor: the qualifying interests and / or special conservation interests of the European sites.

In order to establish the Zone of Influence of the Proposed Development works, the likely key environmental impacts / changes associated with the Proposed Development were

determined having regard to the project characteristics set out in Section 3.3 of this report. Zone of Influence for various potential impact pathways is discussed in Section 4.1.

2.2 Desk-Based Review

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

- Review of aerial maps of the Site and surrounding area;
- The National Parks and Wildlife Service ('NPWS') website was consulted with regard to the most up to date detail on conservation objectives for the European sites relevant to this assessment [10];
- The Cork City Council ('CCC') Planning Portal to obtain details about existing / proposed developments in the vicinity of the Site [11];
- The Department of Housing, Local Government and Heritage's planning portal – the National Planning Application Database to obtain details about existing / proposed developments in the vicinity of the Site [12];
- BirdWatch Ireland – The Irish Wetland Bird Survey ('I-WeBS') data, which is coordinated by BirdWatch Ireland and under contract to the NPWS, was reviewed with regard to wintering waterbird population within the vicinity of the Site [13];
- The National Biodiversity Data Centre ('NBDC') website was consulted with regard to species distributions [14]; and,
- The Environmental Protection Agency ('EPA') Maps website was consulted to obtain details about watercourses in the vicinity of the Site [15].

2.2.1 I-WeBS Data Request

As mentioned above, I-WeBS data was reviewed in order to understand the potential assemblages of wintering bird populations that tend to occur within the vicinity of the Site.

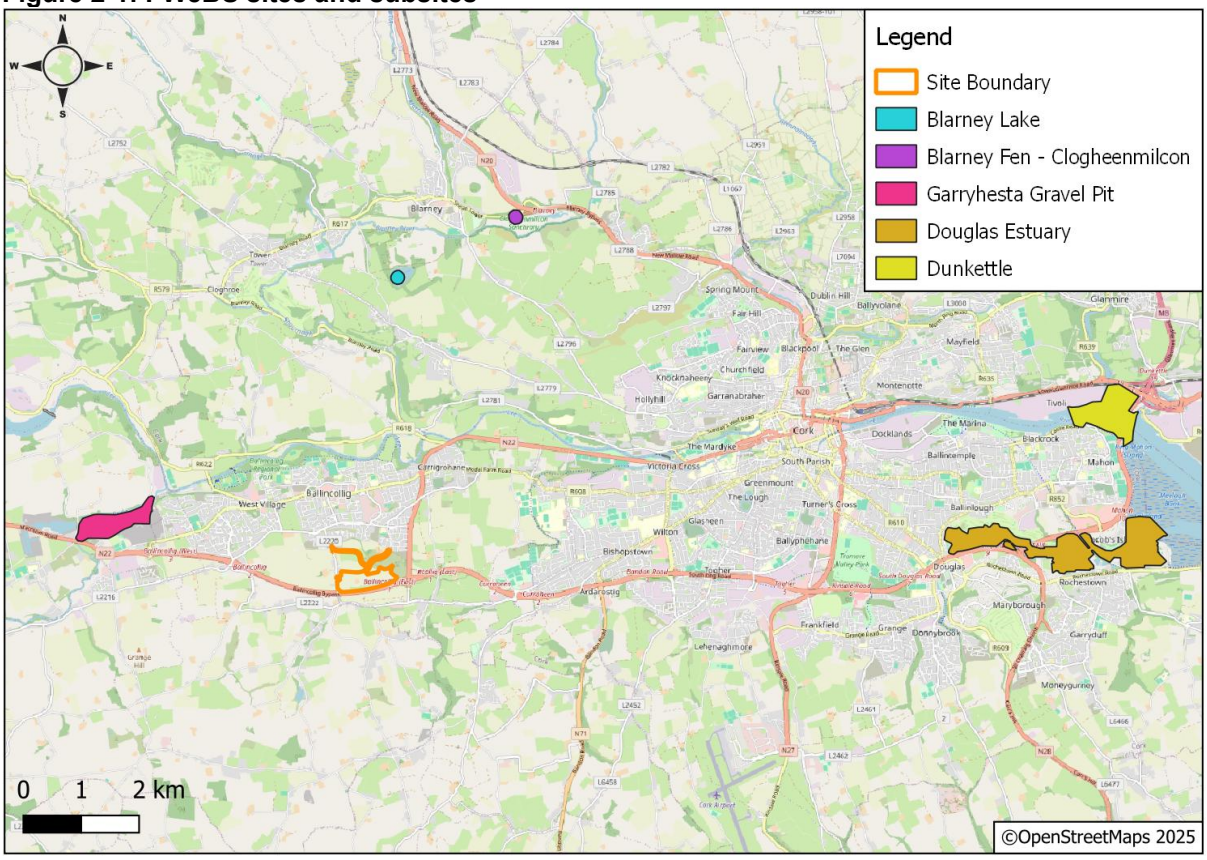
As part of this review, a data request was submitted to the I-WeBS on 7th March 2025. The data request was made for all available data from the nearest subsites to the east and west and north of the Site, as listed in Table 2-1 below.

See Figure 2-1 for the location of the subsites in relation to the Site.

Table 2-1: I-WeBS Data Request

Site Name	Subsite Name	Site Code	Subsite Code
Blarney Lake	N/A	0L040	N/A
Blarney Fen - Clogheenmilcon	N/A	0L320	N/A
Garryhesta Gravel Pit	Garryhesta Gravel Pit	0L202	N/A
Cork Harbour	Douglas Estuary	0L403	0L488
Cork Harbour	Dunkettle	0L403	0L486

Figure 2-1: I-WeBS sites and subsites



2.3 Field-Based Studies

2.3.1 Habitat Survey

An initial site walkover was undertaken on the 31st August 2023, by a suitably qualified and experienced MOR Environmental Ecologist, to assess the extent and the quality of habitats present on the Site and to identify any potential ecological receptors associated with any European sites (i.e., Natura 2000 sites).

During the initial site walkover, a habitat survey was undertaken for the Site utilising the Heritage Council's – '*A Guide to Habitats in Ireland*' [16]. This is the standard habitat classification system used in Ireland and includes both a desk-based and field-based assessment.

Updated habitat surveys were undertaken on the following dates:

- 13th September 2024;
- 25th October 2024; and,
- 13th May 2025.

These surveys were undertaken by a team of suitably qualified and experienced MOR Environmental Ecologists to confirm that the extent and quality of habitats present onsite and the potential ecological receptors onsite had not changed from the previous assessments.

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

2.3.2 Bird Surveys

The Site was assessed for its potential to support important assemblages of birds of rare or notable species, as well as designated bird species. Surveys aimed to identify and examine the suitability of the Site for potential wintering and breeding birds. Any bird activity onsite and potential nesting habitats were noted. Following the initial Site walkover it was deemed necessary to undertake wintering and breeding bird surveys onsite.

2.3.2.1 Wintering Bird Surveys

Wintering bird surveys were undertaken by a suitably qualified and experienced MOR Environmental Ecologist on 21st November 2023, 12th December 2023 and 17th January 2024. These surveys were undertaken to determine whether or not wintering birds were utilising the Site and the area within the immediate vicinity of the Site. Additionally, it was also to assess the potential use of the Site by wintering bird species associated with European sites within 15km of the Site.

The surveys utilised methods provided by the Scottish Natural Heritage ('SNH') bird survey methods [17] and Bird Monitoring Methods [18]. Two pre-determined vantage points ('VPs') were selected that had sufficient views of the Site (see Figure 2-2). See Figure 2-3 for the viewshed from VPs. Following the completion of the survey at VP1, a transect survey was undertaken to flush out any birds that may not have been visible during the vantage point survey (see Figure 2-3). All species observed utilising the Site were recorded, and their locations were marked on the maps.

During the surveys, all birds were recorded using a standard British Trust of Ornithology ('BTO') code through sight and sound. Optical equipment, such as telescopes and binoculars, was used to minimise disturbance to wintering birds. The behaviours and activities of the birds were recorded to identify whether the birds were roosting or feeding within the Site. Any roosts identified within the Site were recorded.

Full details of the survey methodology are presented in Appendix A – Bird Report.

Figure 2-2: Winter Bird Survey VPs and Transect

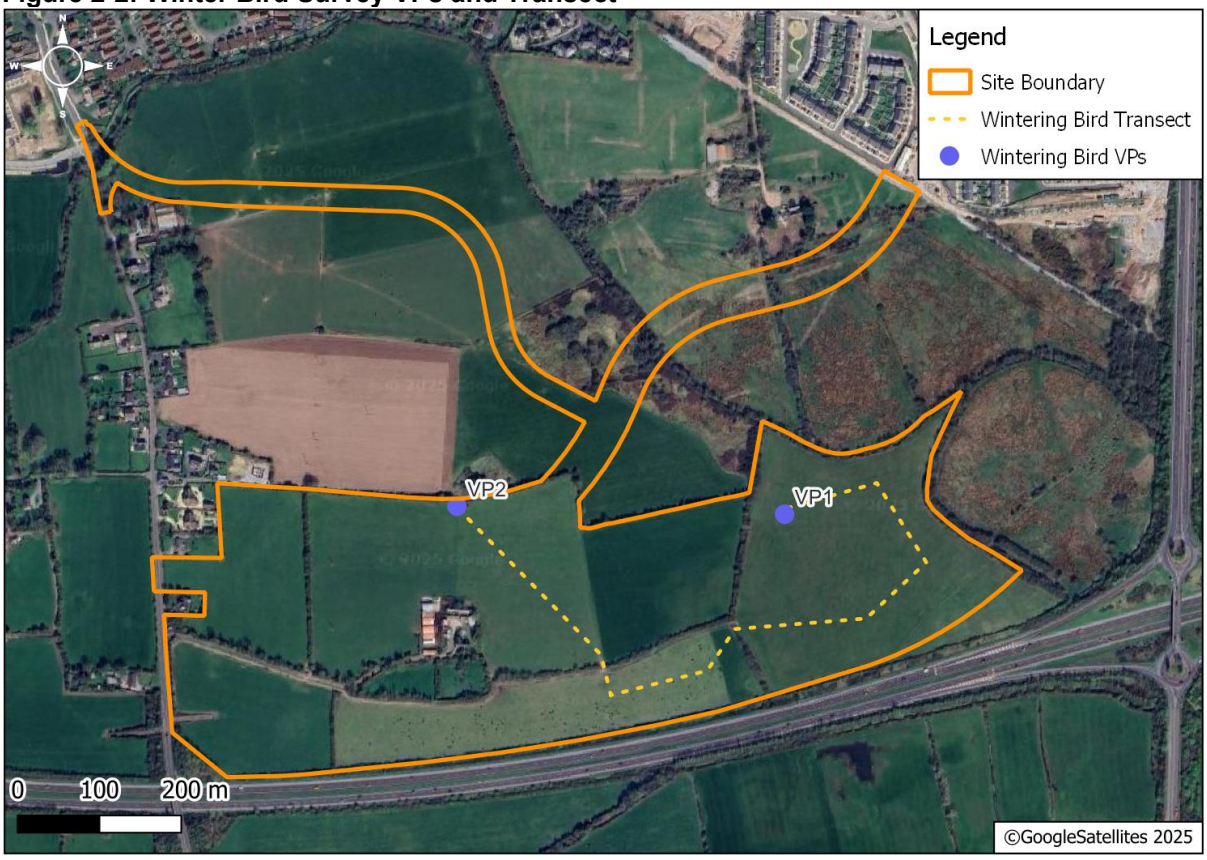
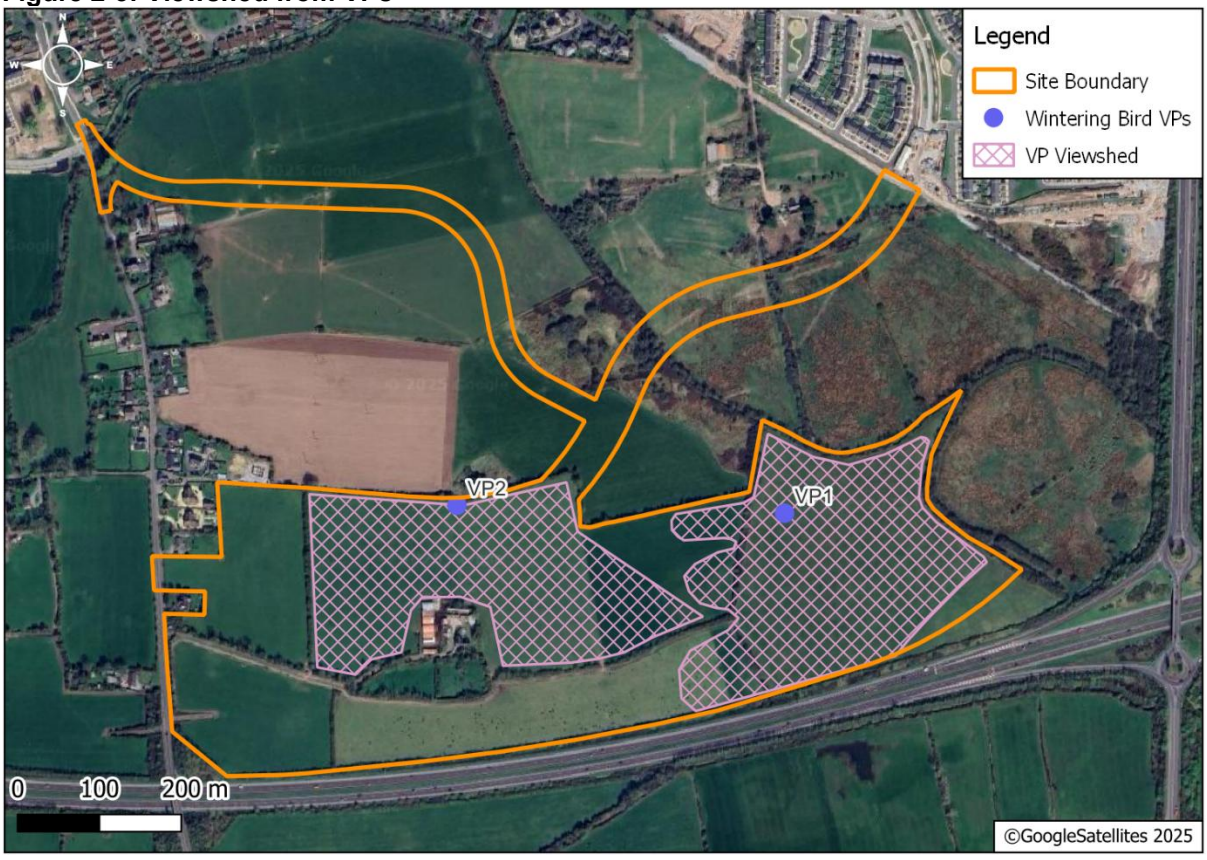


Figure 2-3: Viewshed from VPs



2.3.2.2 Breeding Bird Survey

Three breeding bird transect surveys were undertaken on 24th April, 16th May and 20th June 2024 by two suitably qualified MOR Environmental Ecologists. The breeding bird surveys were conducted in line with the methodology described in:

- BTO – *A Field Guide to Monitoring Nests* [19]; and,
- Common Bird Census in Bird Monitoring Methods [20].

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

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

The transect routes can be found in Figure 2-4.

Full details of the survey methodology are presented in Appendix A – Bird Report.

Figure 2-4: Breeding Bird Survey Transects



2.3.3 Invasive Species

The Site was visually assessed for the presence of any noxious / invasive species that are regulated under the European Union (Invasive Alien Species) Regulations 2024 (S.I. No. 374/2024) [21] such as Japanese knotweed (*Reynoutria japonica*) and Himalayan balsam (*Impatiens glandulifera*).

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

2.3.4 Other Species

In addition, as part of the overall ecological assessment for the Site, an assessment was carried out for the potential of the Site to support any other species considered to be of value for biodiversity, including those that were identified as occurring locally by the desktop study. This information was used as part of the NIS to inform the assessment of potential adverse effects on both Annex 1 Species and Habitats identified as part of the study.

2.4 Survey Conditions and Limitations

It should be noted that the northern section of the Site connecting the Site with Heathfield Park and Maglin Road were not surveyed as part of the breeding or winter bird surveys. These sections of the Site were added to the redline following the completion of surveys. However, the habitats of these areas were covered during the updated habitat surveys.

During the winter bird survey, the southern section of the Site was not covered due to the obstructed view on-site from existing treelines and vegetation. Due to the close proximity of these areas to the N22 National Road and residential areas, it is considered that birds are more likely to use other sections of the Site, covered in the winter bird surveys. Additionally, as per the CIEEM Advice Note on the Lifespan of Ecological Report and Surveys, survey data that is 12-18 months old can still remain valid following an updated survey by a professional ecologist and updated desk-based assessment to confirm that the Site has not experienced significant changes and that the local distribution of species in the wider area around the Site has not changed [22]. Updated surveys on the Site on 13th September 2024, 25th October 2024 and 13th May 2025 concluded that onsite habitats and the habitats in the wider area had not changed since 2023 and that the 2023/2024 survey results for winter birds and 2024 breeding bird surveys results remain valid.

Additionally, please note that 2025 breeding bird surveys are taking place in the 2025 season and the results of which will be submitted to CCC following completion.

No other survey limitations were encountered.

3 DESCRIPTION OF THE PROJECT

3.1 Site Context

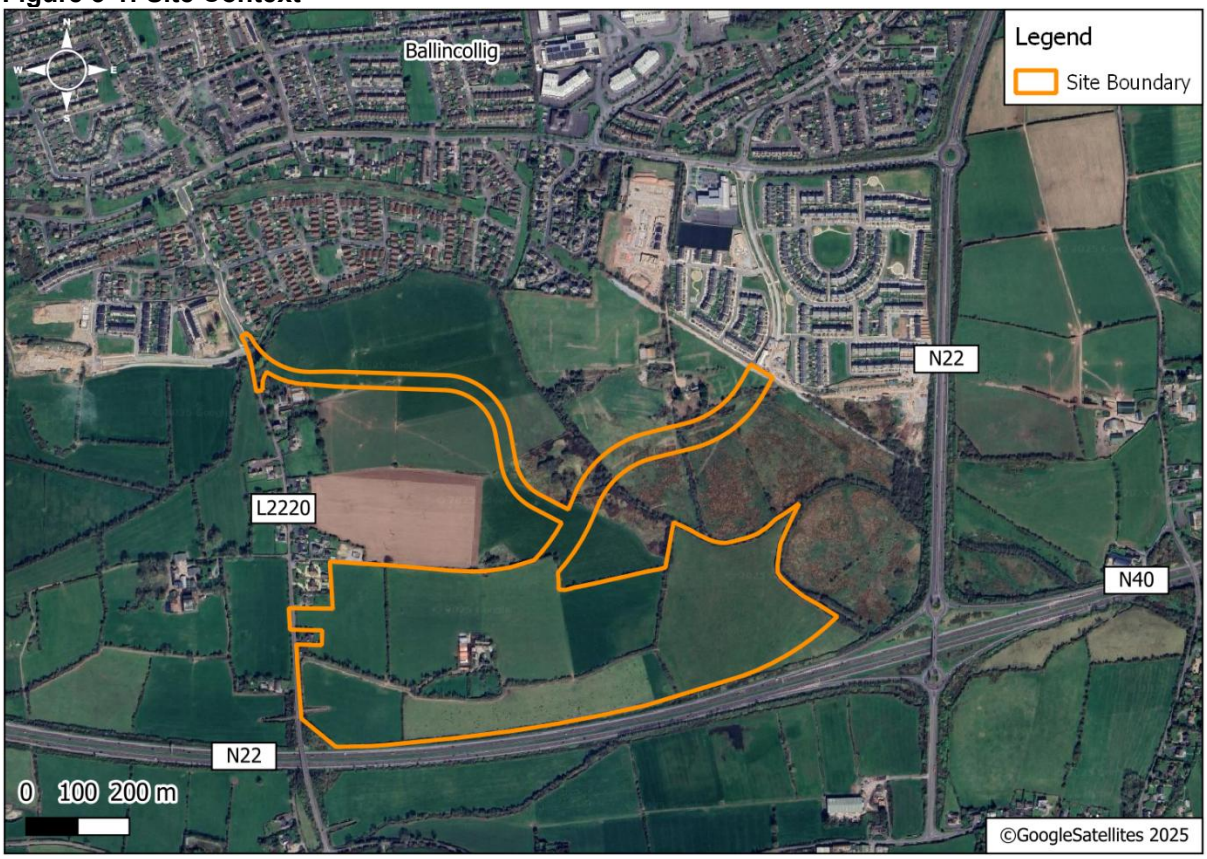
The Site is located on a ca. 28.7195ha. site, which is located ca. 870m south of Ballincollig Town Centre and 7.2km southwest of Cork City Centre. The Site has a relatively flat topography with some sloped areas along the southern and eastern boundaries. The Site is currently accessed via L2220 ('Maglin Road') to the west, with ca. 170m of the lands fronting onto Maglin Road.

The lands comprise agricultural fields. Maglin House, a late 18th / early 19th-century house, sits centrally within the lands. The two-storey, L-shaped farmhouse is surrounded by a farmyard with associated farm buildings located to the rear of the house and an overgrown orchard to the south. The primary field boundaries are made up of hedgerow / treelines that border the Site to the north, south, east and west, and bisect the fields. The Grange Hill River intersects the northwestern and northeastern portions of the Site and borders the northeastern boundary of the Site.

A small area of mixed broadleaved woodland lies adjacent to the Grange Hill River on the southeastern branch of the Site and lies adjacent to Maglin Road on the northwestern branch of the Site.

The Site is primarily surrounded by agricultural land. The town of Ballincollig is located generally to the north of the Site. The N22 National Road runs adjacent to the southern boundary of the Site, which connects the lands to Cork City's enviros and major employment hubs. Residential properties are located on the northwestern Site boundary. The area to the east of the Site is dominated by wet grassland with a construction site for a residential housing development to the northeast.

Figure 3-1: Site Context



3.2 Watercourses within the Vicinity of the Site

As per EPA maps, there are two EPA designated watercourses within the Site, the Grange Hill River and the Maglin River.

1. Grange Hill River

The Grange Hill River intersects the Site in two locations along the northwestern and northeastern branches of the Site and runs adjacent to the northeastern boundary of the Site. The Maglin River discharges into Curragheen stream ca. 730m downstream of the Site. The Curragheen stream flows for ca. 6km and discharges into the Lee (Cork) Estuary Upper and the Cork Harbour SPA, ca. 15km downstream of the Site.

According to the WFD 2016-2021 monitoring events, the water quality within the Grange Hill River is considered to be '*moderate*', and the status of this river is considered to be '*at risk'* [15].

2. Maglin River

According to EPA Maps, the Maglin River flows through the southeastern section of the Site and along the eastern boundary of the Site. This river flows in an easterly direction and drains into the Grange Hill River at the eastern extent of the Site. The location of the key surface water features in the vicinity of the Site, according to EPA maps, are illustrated in Figure 3-2 below. However, it should be noted that the Maglin River no longer runs through the Site. As part of the works associated with the development of the N22 National Road to the south of the Site, the Maglin River was redirected [23] . As shown in Figure 3-3, the river was redirected to the south of the N22. Therefore, the Site is no longer hydrologically connected to the Maglin River in the southwest corner. However, the Grange Hill River drains into Maglin River, as shown in Figures 3-2 and 3-3 to the east of the Site.

Under the Water Framework Directive (WFD) 2000/60/EC, as amended, the EPA classifies the status and the risk of not achieving good water quality status for all waterbodies in Ireland [15]. According to the WFD 2016-2021 monitoring events, the most up-to-date data at the time of writing this report, the water quality within the Maglin River is considered to be '*moderate,'* and the status of this river is considered *'at risk'* [15].

The Site is situated within the Lee, Cork Harbour and Youghal Bay WFD Catchment [Catchment_ID: 19] and the Glasheen (Cork City) subcatchment [Subcatchment_ID: 19_17] [15].

Figure 3-2: EPA watercourses in the vicinity of the Site

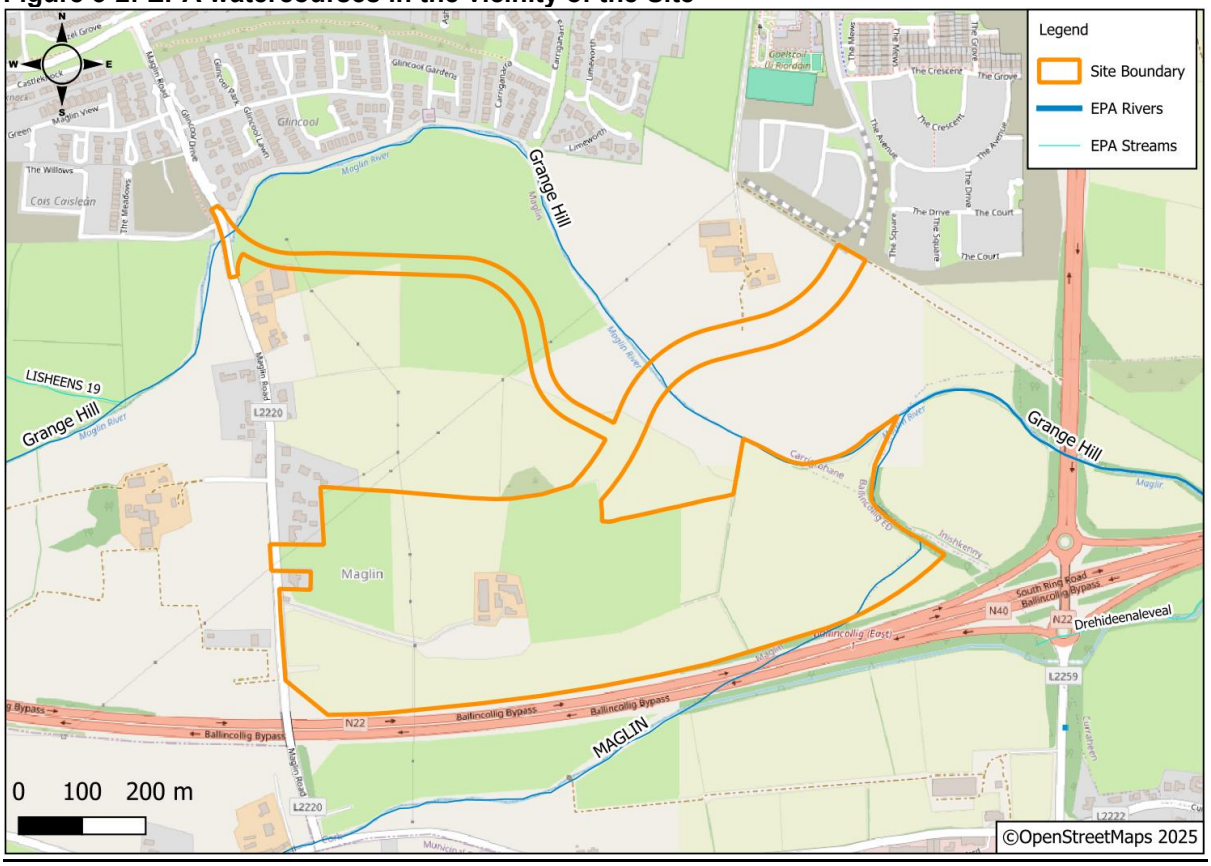
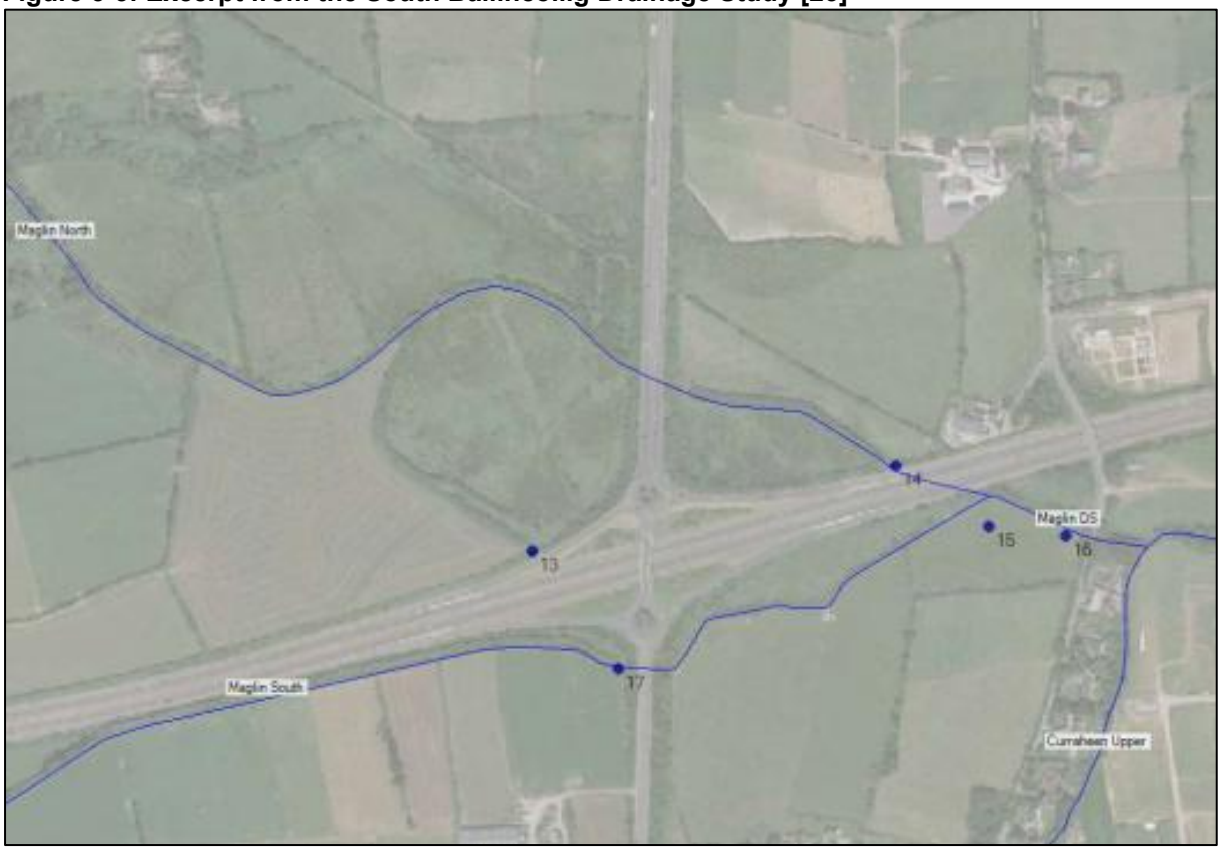


Figure 3-3: Excerpt from the South Ballincollig Drainage Study [23]



3.2.1 Drainage Ditch Network

The Office of Public Works ('OPW') Flood Maps identifies Drainage Districts, Arterial Drainage Schemes and Benefited Areas [24] [24]. Arterial Drainage Schemes were works that were carried out under the Arterial Drainage Act, 1945 to improve land for agriculture and to mitigate flooding. The Benefited land identifies land that was drained as part of the Drainage District with the aim of improving land for agriculture and to mitigate flooding.

As per the OPW Flood Maps, there are benefited lands within the Site Boundary (See Figure 3-3). The Drainage District Channels identified on the OPW Flood Maps follow the flow of the Grange Hill River and intersect the Site in two locations and border the northwestern boundary.

There are multiple drainage ditches in the eastern portions of the Site. At the time of the most recent survey, all drainage ditches were recorded as dry and there was no flow. These drainage ditches are hydrologically connected to the Grange Hill River (see Figure 3-4). However, these drainage ditches are not identified on the OPW Flood Maps [24] which are shown in Figure 3-5.

Figure 3-4: Drainage Districts on and in close proximity to the Site

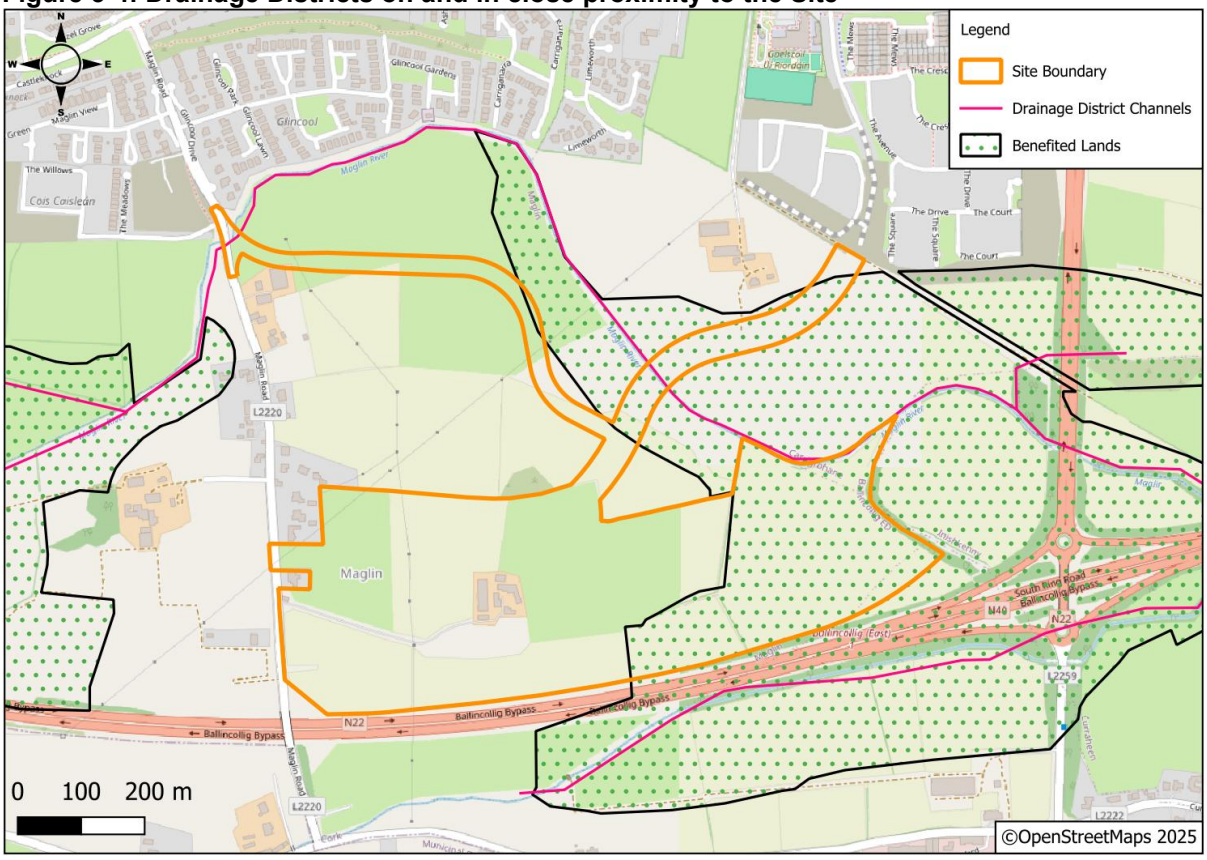
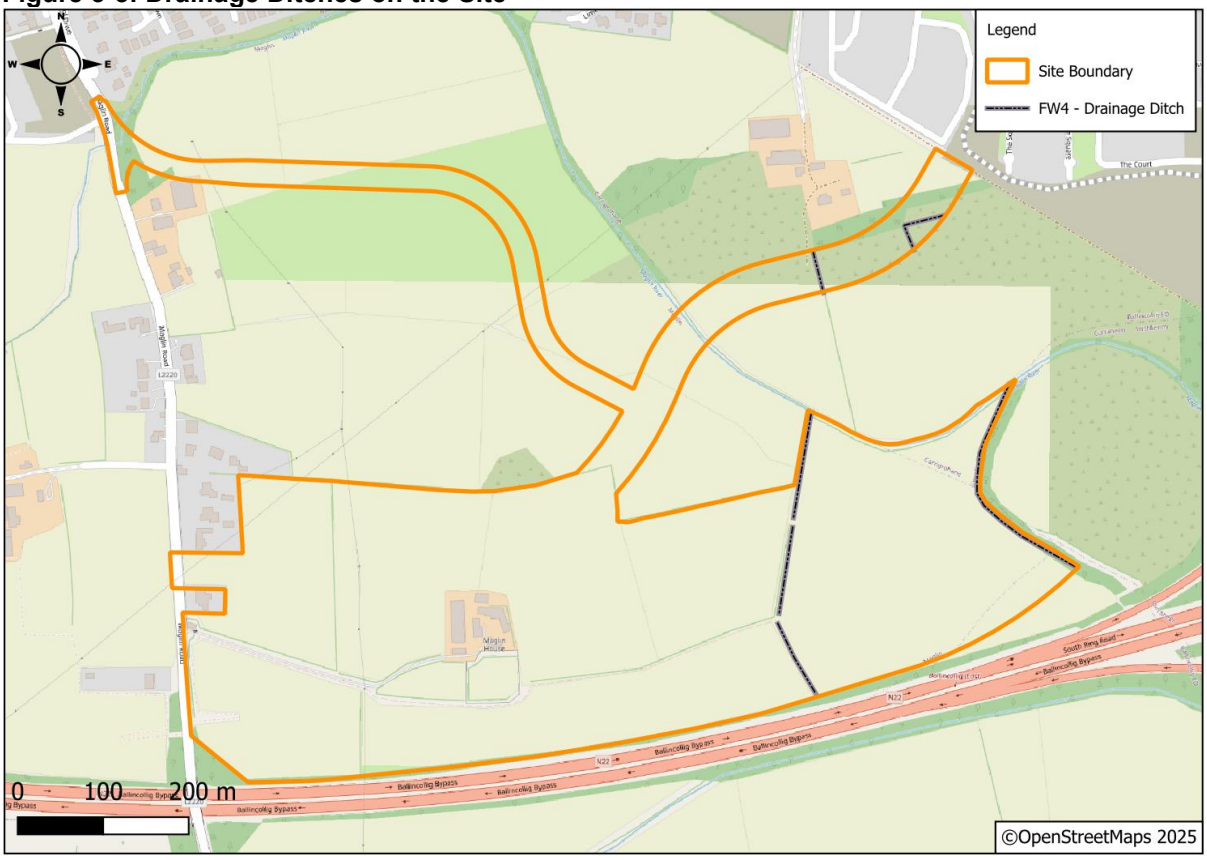


Figure 3-5: Drainage Ditches on the Site



3.3 Description of the Proposed Development

The Applicant intends to apply for a 10-year permission for the following LRD, comprising the demolition of the existing farmhouse and associated outbuildings on site, the restoration and refurbishment of Maglin House and the existing gate lodge to provide three apartments, the construction of 1,150 residential units to include 638 dwelling houses (comprising a mix of two, three and four bed detached, semi-detached and townhouse units) and 512 apartments / duplex units (comprising a mix of one, two and three bed units in nine blocks ranging in height from three to five storeys), one creche, three commercial / retail units, the provision of two link roads, one to the northwest connecting to the Maglin Road and one to the northeast connection to the Heathfield residential estate and all associated ancillary development works including vehicular and pedestrian access, drainage, footpaths & cycle lanes, landscaping, amenity and open space areas, boundary treatments, bicycle and car parking, bin storage, the undergrounding of the existing 38kv overhead line currently traversing the site, public lighting and all other ancillary development at Maglin, Ballincollig, Carrigrohane and Ballynora (townlands), Ballincollig, Cork.

3.3.1 Drainage

Please refer to the Drainage Impact Assessment Report prepared by MHL & Associates Ltd. Consulting Engineers in support of this planning application for full details.

3.3.2 Proposed Storm Water Network

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 Greater Dublin Strategic Drainage Study ('GDSDS').

The stormwater management plan for this particular development incorporates a range of measures, including both soft and hard solutions. The use of SUDS and tank systems has been proposed where applicable.

All surface water runoff from the paved development will be directed away from the site. The attenuation tanks are specifically designed to handle a 100-year storm event. Moreover, the maximum discharge from the attenuation tanks will be restricted to the calculated permissible runoff for the site.

Given the proposed changes in the development design, there will be alterations to the land surface. Consequently, this anticipated modification will result in a corresponding increase in the peak rate of surface runoff from the site during periods of heavy rainfall.

Collection

Surface water will be collected on the building roofs, which will discharge via downpipes and underground pipes to either private soak pits located within the back gardens or into the public stormwater network, which will discharge to attenuation tanks.

Surface water runoff from paved surfaces will be collected separately by drainage channels, road gullies and underground pipes. The surface water drainage system for the Proposed Development will be separate from the foul water system.

Treatment

Surface water from half the roof (back roof) will be drained by gravity directly to private soak pits located within the garden areas. These soak pits will be suitably sized using infiltration results. The remainder of runoff from the roof, as well as the paved areas, roads, etc., will discharge to attenuation systems via a bypass interceptor or similar approved system.

Discharge

Runoff from the soak pits will discharge directly into the ground. It is proposed to discharge the attenuated surface water flow by gravity to a combination of outfalls. These outfalls include direct to the Grange Hill River watercourse and direct into an interceptor drain, which will ultimately discharge to the Grange Hill River.

Pipe Design

Pipes carrying surface water within the site are suitably sized to cater for a rainfall intensity of 50mm per hour applied to all external impermeable areas and roofs. Surface water runoff from impermeable areas is calculated using the Modified Rational Method.

Design Details

It is proposed to attenuate to 12 tanks, providing sufficient capacity (m^3) greater than the storage requirement for the 100-year return period. Regarding limiting outflow from the storm network, hydro-brakes (or similar approved) flow control devices are to be fitted at their outlets.

The design of the drainage network was assessed using events with a range of different durations to determine the critical event for each period analysed as follows:

- 1 in 2-year return period events were used to ensure that the system did not surcharge; and,
- 1 in 100-year return period vents were used to ensure that flooding did not occur.

It should be noted that climate change has been accounted for in the design. The GDSDS recommend a factor of 20%, which has been incorporated into the design.

For full details, please refer to the Drainage Impact Assessment Report submitted in support of this planning application.

3.3.2.1 Sustainable Urban Drainage Systems ('SuDS')

The replication of a natural drainage system requires the implementation of a 'Management Train'. This hierarchy of SuDS techniques follows a sequence:

- Prevention: Aims to prevent both runoff and pollution;
- Source Control: Focuses on controlling runoff at or close to its source;
- Site Control: Involves managing surface water within the Site or local area; and,
- Regional Control: Encompasses the collective management of surface water from multiple sites.

Different SUDS components align with these objectives and are better suited for specific stages of the Management Train. The fundamental principle is to locally manage surface water in smaller sub-catchments, reducing the reliance on conveyance to larger systems downstream. The existing natural / created drainage channels running adjacent to internal ditches within the site will be maintained.

The new drainage system provided for the proposed development will be entirely separated from the wastewater sewer network. Noting this methodology, the Site is to be split into separate subcatchment zones for attenuation purposes

The site's impervious areas are proposed to be attenuated by SuDs methods coupled with tanking solutions. The SUDs design philosophy will incorporate multiple controls to ensure the water management train is developed throughout the Site.

This proposed storm system will alleviate any untoward effects of the development on the downstream receiving environment, habitats / water quality and represent a sustainable design solution.

The following SuDS features have been identified as applicable and will be provided within the Proposed Development.

- **Permeable Paving**: Permeable paving is designed to allow rainwater to infiltrate through the surface, either into underlying layers or underground storage and be released at a controlled rate to surface water sewers. Permeable paving can provide attenuation of rainfall, and potentially can also store runoff from surrounding areas, if designed and sized appropriately. It is proposed that each house will be provided with a permeable paved driveway of an average area of 25m^2. The storm water from the roofed areas within each property shall be collected by rain harvesting/water butts and discharged to a soakaway via distribution connection;
- **Tree Pits**: Tree pits will be used where feasible across the development to provide interception storage and will contain engineered soil-filled tree boxes with drainage pipes beneath;
- **Swales**: An existing drainage ditch runs through the Site from west to east before connecting with an interceptor drain. This natural feature is not being utilised for the development's stormwater network; however, it will offer an additional conveyance path for runoff from adjacent green areas. As previously outlined, the initial site investigation indicates that a level of infiltration will be possible, which will further reduce the anticipated outflow from the site. This infiltration has not been taken into account for the drainage analysis;
- **Green Roofs**: Green roofs can be used to intercept rainfall, which is slowed as it flows through the vegetation and a drainage layer. Some of the rainwater is stored in the drainage layer and taken up by the vegetation, with the remainder discharged from

the roof by a conventional drainage system. Flow rates from the green roof are therefore reduced and attenuated, providing source control and interception;

- **Basins**: Basins can be used to manage the volume of runoff expected from the development and provide long-term stormwater storage. The size of the basins will be minimised with the implementation of SuDS measures previously discussed. The use of basins will be limited due to onsite topography with one basin proposed in a central green area prior to outfall to the adjoining watercourse; and,
- **Concrete Attenuation Tanks**: will be required to manage the volume of runoff expected.

Please refer to the Preliminary Engineering Design Report prepared by MHL & Associates Ltd. Consulting Engineers in support of this planning application for full details.

3.3.3 Foul Water Network

Zoned lands to the north and northeast have been facilitated in the design of the foul network and the proposed pump station will be sized to cater for these additional units. The pump station will then be pumped via rising main along the new Eastern Link Road to a gravity sewer connection point at the main access junction to Heathfield.

The construction of the foul sewer pipe network shall be in accordance with Uisce Éireann's Code of Practice for Wastewater Infrastructure Doc UE-CDS-5030-03 and will connect to a proposed foul sewer pump station. A Letter of Confirmation of Feasibility for the development has been received from Uisce Éireann and is included in the Appendix of this Report. A Statement of Design Acceptance is currently being sought from Uisce Éireann.

Please refer to the Preliminary Engineering Design Report prepared by MHL & Associates Ltd. Consulting Engineers in support of this planning application for full details.

3.3.4 Water Design

A 450mm diameter HDPE watermain is proposed for the Main Distributor Road. This will take connection from the northeast at Heathfield and will terminate at a dead end at the intersection of the Distributor Road and the Maglin Road. The development itself will be supplied by branches of 200mm, 150mm and 100mm diameter HDPE watermains. These will supply potable water to all units and fire hydrants within the development. The proposed internal pipe network has no dead ends with loops serving a minimum of 4 units in accordance with Uisce Éireann's Code of Practice for Water Infrastructure Doc UE-CDS-5020-03.

The construction of the water supply pipe network shall be in accordance with Uisce Eireann Code of Practice for Water Infrastructure Doc UE-CDS-5020-03. Service layout distances to comply with Uisce Éireann Detail STD-W-11.

A Letter of Confirmation of Feasibility for the development has been received from Uisce Eireann and is included in the Appendix of this Report. A Statement of Design Acceptance is currently being sought from Uisce Éireann.

Please refer to the Preliminary Engineering Design Report prepared by MHL & Associates Ltd. Consulting Engineers in support of this planning application for full details.

3.4 Construction Procedure

During the Construction Phase of the Proposed Development, potential environmental effects will be short-term and localised. Nonetheless, all works will comply with the relevant legislation, construction industry guidelines and best practice to reduce potential environmental adverse effects.

A Construction Environmental Management Plan ('CEMP') will be prepared and submitted to the planning authority by the appointed contractor in advance of works commencing at the

Site. The following guidance will be referred to and will be followed during the construction phase of the project to prevent environmental pollution that may occur:

- C532 – Control of Water Pollution from Construction, Guidance for Consultants and Contractors [25];
- C811 - Environmental Good Practice on Site (5th edition) [26];
- Guidance for the Treatment of Otters Prior to the Construction of National Road Schemes [27]; and,
- All works will be undertaken in accordance with the Inland Fisheries Ireland ('IFI') 'Requirements for the Protection of Fisheries Habitat during Construction and Development' [28].

Working hours will generally be restricted to between 07:30 and 18:00 hours Monday to Friday inclusive and between 07:30 and 17:00 hours on Saturdays. Construction work will not be permitted on Sundays, public holidays or at night-time except where safety concerns necessitate it or if agreed in advance with the Planning Authority.

3.5 Monitoring Works

An Ecological Clerk of Works ('ECoW') will inspect the Site in advance of works commencing and will undertake monthly Site inspections as required during the works to ensure that they are completed in line with the mitigation measures detailed within this NIS and the CEMP, and that the mitigation measures are effective.

The ECoW will also either deliver or provide the resident engineer with sufficient environmental information to deliver a Site induction to all personnel working on-site.

4 IDENTIFICATION OF EUROPEAN SITES

In accordance with the European Commission Methodological Guidance [4] a list of European sites that can be potentially affected by the Proposed Development has been compiled. Guidance for Planning Authorities prepared by the Department of Environment, Heritage and Local Government [5] states that defining the likely zone of impact for the screening and the approach used will depend on the nature, size, location and the likely significant effects of the project. The key variables determining whether or not a particular European site is likely to be significantly affected by a project are:

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

All SPAs and SACs within 15km have been considered to assess their ecological pathways and functional links. As acknowledged in the OPR guidelines [1], few projects have a zone of influence this large; however, the identification of European sites within 15km has become widely accepted as the starting point for the screening process. For this reason, all SPAs and SACs within 15km have been identified for consideration as part of the screening.

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

Figure 4-1: Site Location and European Sites within 15km

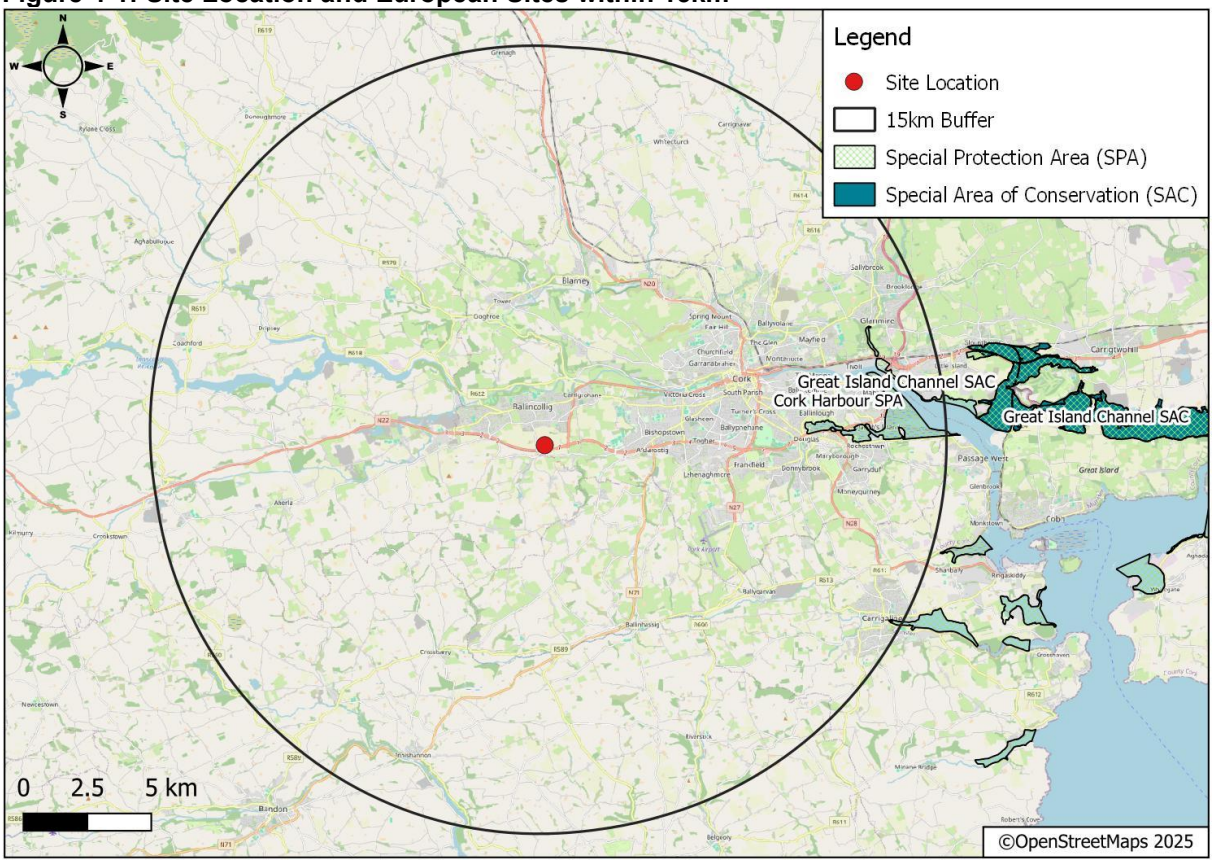


Table 4-1: European Designated Sites within 15km of the Site

Site Name	Code	Distance (km)	Direction from the Site
Special Protection Area ('SPA')			
Cork Harbour SPA	004030	9.5km	E

The Site is hydrologically connected to the Cork Harbour SPA via the onsite drainage and Grange Hill River, as outlined in Section 3.2. The Site is also hydrologically connected to the Great Island Channel SAC, which is downstream of the Cork Harbour SPA. The Great Island Channel SAC is ca. 16km to the east of the Site and forms part of Cork Harbour and overlaps with the north-eastern portion of the Cork Harbour SPA.

The Great Island Channel SAC is also hydrologically connected to the Proposed Development via the Grange Hill River and Curragheen stream, which discharges into the Lee (Cork) Estuary Upper and drains to Cork Harbour and estuary ca. 20km downstream of the Site.

4.1 Identification of European Sites within ZoI

The Zone of Influence ('ZoI') comprises the area in which the Proposed Development may potentially affect the conservation objectives (or qualifying interests) of a European site. The definition of ZoI for the proposed works evaluated multiple factors as outlined in Section 2.1 and discussed below. Please note that the extent of ZoI differs for different environmental aspects, e.g. air, water, etc.

4.1.1 Habitat Loss / Degradation

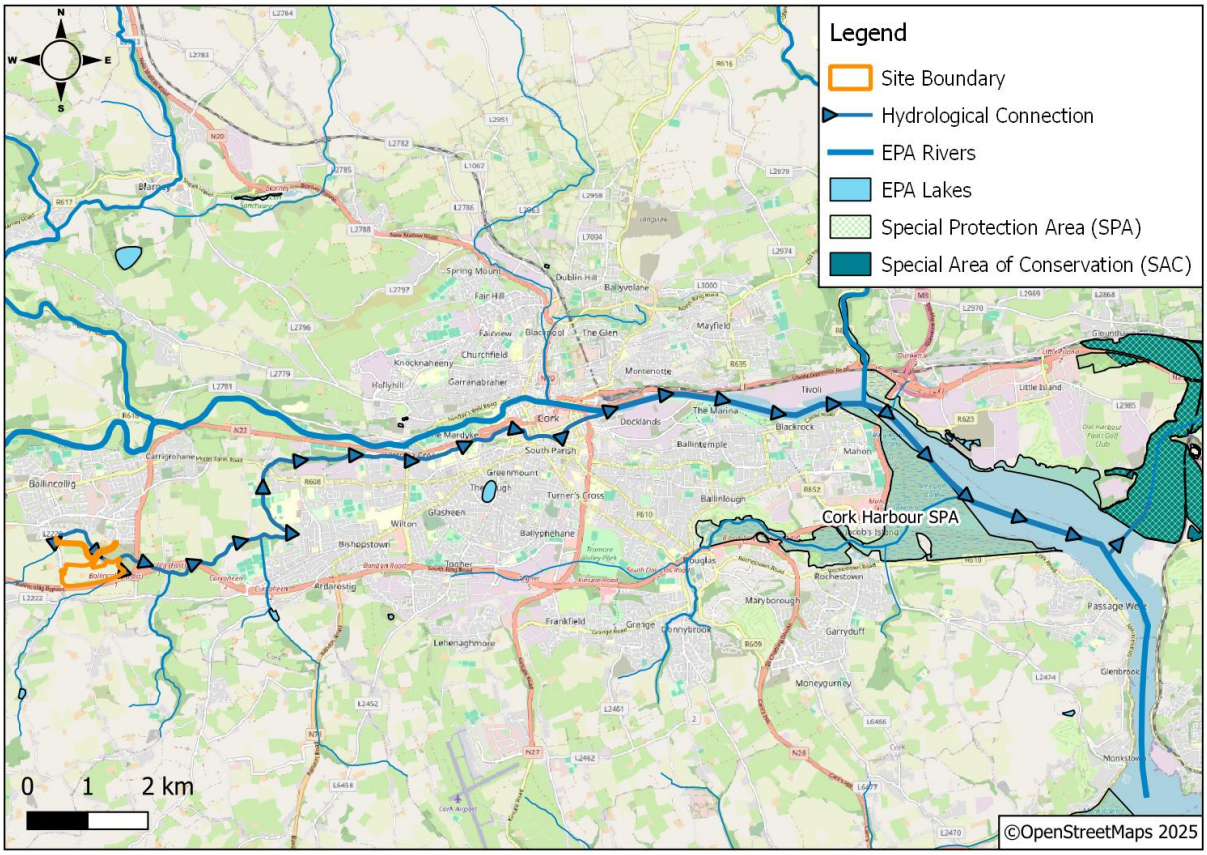
The Site is located predominantly within an area of agricultural grassland with associated farm buildings. There are no designated habitats located within the Site.

There is a hydrological connection between the Site and European sites, 16km to the Cork Harbour SPA and 20km to the Great Island Channel SAC (downstream), and this is considered further below. However, based on the habitats present on and adjoining the Site and given the nature of the Proposed Development it can be concluded that there are no impacts associated with designated habitat loss / degradation as a result of the Proposed Development given the distance separating the Site from the European sites.

4.1.2 Water Quality Impairment

As per Section 3.2, a hydrological connection was identified between the Site and Cork Harbour SPA and the Great Island Channel SAC via the Grange Hill River, Curragheen stream and the Lee (Cork) Estuary Upper, which drains into Cork Harbour and estuary ca. 20km downstream of the Site.

Figure 4-2: Hydrological Connection between the Site and Cork Harbour SPA and Great Island Channel SAC



Potential water quality impacts would typically be associated with the release of sediment and other pollutants to surface water during the Construction Phase of the Proposed Development. Therefore, the ZoI would be considered to include the receiving waterbodies adjacent to and downstream of the Site during the construction phase within 5km.

Given the distance between the Site and the Great Island Channel SAC, the dilution factor, many tributaries and daily tides, there is no potential for the Proposed Development to have an impact on the habitats designated under the SAC.

Water quality impairment has the potential to impact bird species designated in the Cork Harbour SPA through indirect impacts such as disruptions to foraging and any birds that may be utilising areas upstream of the Cork Harbour SPA. Therefore, the ZoI for water quality impacts on Cork Harbour will extend upstream towards Cork City and beyond 5km from the Site.

It can therefore be concluded that given the hydrological conditions between the Site and this European site, there is potential for likely significant effects on the Cork Harbour SPA without taking mitigation measures into account and as such it has been screened in for further consideration.

4.1.3 Air Quality Impairment

According to the Institute of Air Quality Management ('IAQM') Guidelines, the potential adverse effects from dust arising from construction to ecological receptors occur within 50m of a construction site [29]. No impacts associated with dust will occur as a result of the Proposed Development, given the distance separating the Site from the European sites.

The Cork Harbour SPA and the Great Channel Island SAC are located 9.5km and 16km, respectively, from the Site and, therefore, do not require a detailed dust assessment.

It is not considered that the Proposed Development will result in any significant effect on the Great Channel Island SAC or the Cork Harbour SPA as a result of construction dust.

4.1.4 Noise / Disturbance

Noise from the construction activity has the potential to cause disturbance to resting, foraging and commuting qualifying species of the European sites.

Individual species will provoke different behavioural responses to disturbances at different distances from the source of disturbance.

- Transport Infrastructure Ireland (formerly the National Roads Authority) has produced a series of best practice planning and construction guidelines for the treatment of certain protected mammal species (i.e. otter), which indicate that disturbance to terrestrial mammals would not extend beyond 150m [30]; and,
- Studies have noted that different types of disturbance stimuli are characterised by different avifaunal reactions; however, in general, a distance of 300m can be used to represent the maximum likely disturbance distance for waterfowl [31].

The ZoI for noise / disturbance is therefore established at a distance of 300m around the Site boundary.

The Great Island Channel SAC is not designated for any species. Given the distance between the Site and the Cork Harbour SPA, 9.5km east, and the intervening lands and infrastructure, this receptor has been scoped out from further consideration.

4.1.5 Invasive Species

No high-impact invasive species (including those that are regulated under European Union (Invasive Alien Species) Regulations 2024 (S.I. No. 374/2024) [21] were recorded within the Site. Only Sycamore and winter heliotrope– a medium impact invasive species was recorded onsite.

Therefore, no impacts associated with the spread of invasive species as a result of the Proposed Development are anticipated.

4.1.6 ZoI Conclusions

The Site is not located within or directly adjacent to any European sites; however, the boundaries of one are located within 15km of the Site. A further European site, The Great Channel Island SAC, is hydrologically linked to the Site via the watercourses present on Site. Given the distance between the Site and this SAC, the dilution factor and the habitats designated under the SAC, it was screened out from further consideration.

The following European sites listed in Table 4-2 have been screened in for further consideration to assess potential adverse effects resulting from the Proposed Development.

Table 4-2: European Designated Sites within ZoI

Site Name	Code	Distance at closest point and source-pathway-receptor link
Cork Harbour SPA	004030	The Site is located 9.5m west of the Cork Harbour SPA, at its closest point, see Figure 4-1. A hydrological connection from the Site to the SPA exists via the Grange Hill River, and therefore, potential water impairment effects will be taken forward for further consideration to assess any potential impacts as a result of water quality impacts.

The screening assessment for designated species for the screened in European site and the potential for it to be adversely affected by the Proposed Development are presented in Section 6 below.

Further information on the screened in European site is provided below.

4.2 Cork Harbour SPA (Site Code: 004030)

The Cork Harbour SPA comprises the main intertidal areas of Cork Harbour. The harbour is a large, sheltered bay system with several river estuaries, including estuaries for the Rivers Lee, Doughlas, Owenboy and Owennacurra. The SPA overlaps with the Great Island Channel SAC and therefore contains intertidal flats which support a range of macroinvertebrates and plants. Atlantic salt marshes and marginal areas of wet grassland are also present.

The SPA is an internationally important wetland site and is of special conservation interest for 23 bird species. The SPA is of special conservation interest as it can hold over 20,000 wintering waterbirds and, as a result, is designated for wetlands and waterbirds. The site is of international importance for populations of black-tailed godwit (*Limosa limosa*) and redshank (*Tringa tetanus*). 19 bird species are present on site in nationally important populations including little grebe (*Tachybaptus* ruficollis), oystercatcher (*Haematopus ostralegus*) and curlew (*Numenius arquata*).

The Cork Harbour Spa provides feeding and roosting opportunities for important wintering populations of birds and is a Ramsar Convention site. Part of the site is a designated wildfowl sanctuary, and the site supports a nationally important breeding site for common terns (*Sterna hirundo*).

Table 4-3: Qualifying Annex I Species for Cork Harbour SPA

Species Name	Scientific Name	Code
Little Grebe	*Tachybaptus ruficollis*	A004
Great Crested Grebe	*Podiceps cristatus*	A005
Cormorant	*Phalacrocoras carbo*	A017
Grey Heron	*Ardea cinerea*	A028
Shelduck	*Tadorna tadorna*	A048
Wigeon	*Anas Penelope*	A050
Teal	*Anas crecca*	A052
Pintail	*Anas acuta*	A054
Shoveler	*Anas clypeata*	A056
Red-breasted Merganser	*Mergus serrator*	A069
Oystercatcher	*Haematopus ostralegus*	A130
Golden Plover	*Pluvialis squatarola*	A140
Grey Plover	*Pluvialis squatarola*	A141
Lapwing	*Venellus vanellus*	A142
Dunlin	*Calidris alpina*	A149
Black-tailed Godwit	*Limosa limosa*	A156
Bar-tailed Godwit	*Limosa lapponica*	A157

Species Name	Scientific Name	Code
Curlew	*Numenius arquata*	A160
Redshank	*Tringa tetanus*	A162
Black-headed Gull	*Larus ridibundus*	A179
Common Gull	*Larus canus*	A182
Lesser Black-backed Gull	*Larus fuscus*	A183
Common Tern	*Sterna hirundo*	A193
Wetland and Waterbirds		A999

4.3 Conservation Objectives

European and national legislation places a collective obligation on Ireland and its citizens to maintain a favourable conservation status at areas designated as candidate Special Areas of Conservation. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

According to the Habitats Directive, the favourable conservation status of a species is achieved when:

- Population data on the species concerned indicate that it is maintaining itself;
- The natural range of the species is neither being reduced nor likely to be reduced for the foreseeable future; and,
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Conservation objectives for all identified Natura 2000 SPA Sites are as follows:

> *'To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.'*

The full reports for the conservation objectives for Cork Harbour SPA[1] can be found on the NPWS website [10].

[1] https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004030.pdf

5 STUDY RESULTS

5.1 Desk-Based Study Results

5.1.1 NBDC Records

Table 5-1 provides a summary of records of legally protected or otherwise notable species protected under the Cork Harbour SPA that occur within 2km of the Site at the time of writing this report [14]. The NBDC records were checked on 6th May 2025. The following NBDC 2km grids have been checked: W56T, W56U, W56Y, W56Z, W57V, W66D, W66E, W66I, W66J, W67A and W67F [14].

Only species recorded within the past 10 years were included in Table 4-3. The parameter of 10 years was chosen based on habitat adaption and modification; it is considered that any records over 10 years old are not representative of the current distribution of species populations.

Table 5-1: NBDC Records for Species Designated for the Cork Harbour SPA within 2km of the Site

Common Name	*Scientific Name*	Date of Last Record *	Designation
Black-headed Gull	*Larus ridibundus*	04/03/2020	Wildlife Acts 1976 / 2000 Birds of Conservation Concern - Amber List
Canada Goose	*Branta canadensis*	25/10/2018	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex II Section I Bird Species Invasive Species: High Impact Invasive Species
Common Greenshank	*Tringa nebularia*	25/10/20218	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Green List
Common Kingfisher	*Alcedo atthis*	29/03/2021	Wildlife Acts 1976 / 2000 Birds of Conservation Concern - Amber List
Common Moorhen	*Gallinula chloropus)*	04/03/2020	Wildlife Acts 1976 / 2000 Birds of Conservation Concern - Green List
Common Shelduck	*Tadorna tadorna*	28/04/2020	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Common Snipe	*Gallinago gallinago*	28/03/2020	Wildlife Acts 1976 / 2000 EU Birds Directive Annex II & III Birds of Conservation Concern – Amber List

Common Name	***Scientific Name***	**Date of Last Record ***	**Designation**
Cormorant	*Phalacrocorax carbo*	05/05/2020	Wildlife Acts 1976 / 2000 Birds of Conservation Concern - Amber List
Eurasian Curlew	*Numenius arquata*	17/11/2021	Wildlife Acts 1976 / 2000 EU Birds Directive Annex II Birds of Conservation Concern – Red List
Euarsian Teal	*Anas crecca*	11/04/2024	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex II Section I and Annex III Section II Bird Species Birds of Conservation Concern Amber List
European Shag	*Phalacrocorax aristotelis*	11/04/2021	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
European Golden Plover	*Pluvialis apricaria*	18/01/2021	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex I Annex II Section II and Annex III and Section III Bird Species Birds of Conservation Concern Red List
Grey Heron	*Ardea cinerea*	15/06/2020	Wildlife Acts 1976 / 2000 Birds of Conservation Concern - Green List
Lesser Black-backed Gull	*Larus fuscus*	28/04/2020	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Little Egret	*Egretta garzetta*	15/06/2020	Wildlife Acts 1976 / 2000 EU Birds Directive Annex I Birds of Conservation Concern - Green List
Mallard	*Anas platyrhynchos*	11/04/2021	Wildlife Acts 1976 / 2000 EU Birds Directive Annex II & III Birds of Conservation Concern – Amber List
Mute Swan	*Cygnus olor*	11/04/2021	Wildlife Acts 1976 / 2000 Birds of Conservation Concern - Amber List

Common Name	*Scientific Name*	Date of Last Record *	Designation
Northern Lapwing	*Vanellus vanellus*	18/01/2018	Wildlife Acts 1976 / 2000 EU Birds Directive Annex II Section II Bird Species Birds of Conservation Concern Red List
Northern Shoveler	*Anas clypeata*	19/05/2020	Wildlife Acts 1976 / 2000 EU Birds Directive Annex II & III Birds of Conservation Concern –Red List
White-throated Dipper	*Cinclus cinclus*	16/05/2020	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Green List

5.1.2 I-WeBS Records

The I-WeBS data for the following nearby sites and subsites within the vicinity of the Site was provided by BirdWatch Ireland on 27th March 2025:

- Blarney Lake (Site code: 0L040) – located ca. 4.5km north of the Site;
- Blarney Fen - Clogheenmilcon (Site code: 0L320) – located ca. 6km northeast of the Site;
- Cork Harbour – Douglas Estuary (Site Code: 0L403, Subsite Code: 0L488) – located 9.5km east of the Site;
- Cork Harbour – Dunkettle (Site Code: 0L403, Subsite Code: 0L486 – located 12km northeast of the Site; and,
- Garryhesta Gravel Pit (Site code: 0L202) – located 3.1km northwest of the Site.

The records were reviewed in order to gain an understanding of the potential assemblage of bird populations that may utilise the areas within the vicinity of the Site. It should be noted that no records from the 2024/2025 wintering season were included.

5.1.2.1 Blarney Lake (Site Code: 0L040)

The I-WeBS data for wintering seasons between 1994/1995 to 2023/2024 was available for the Blarney Lake site. However, it should be noted that data from 2005/2006, 2007/2008, between 2009/2010 and 2013/2014 and between 2025/2016 and 2022/2023 were unavailable. A total of 24 species were recorded during this period. However, during the most recent counts available for the 2023/2024 season, a total of 15 species were recorded. No species were recorded at numbers of national or international importance at this site.

5.1.2.2 Blarney Fen – Clogheenmilcon (Site Code: 0L320)

The I-WeBS data for wintering seasons between the years 1995/1996 and 2003/2004, 2006/2007, 2014/2015 and 2023/2024 were available for the Blarney Fen – Clogheenmilcon site. A total of 23 species were recorded during this period. However, during the most recent counts available for the 2023/2024 season, only a total of 12 species were recorded.

None of the species recorded were recorded in numbers that would be considered of international importance. However:

- Shoveler were recorded in numbers that would be considered to be of national importance during the 2023/2024 season.

5.1.2.3 Garryhesta Gravel Pit (Site Code: 0L202)

The I-WeBS data for wintering seasons between the years 1995/1996 and 1998/1999, and between the years 2005/2006 and 2008/2009 were available for the Garryhesta Gravel Pit site. A total of 20 species were recorded during this period. However, during the most recent counts available for the 2008/2009 season, only a total of 10 species were recorded.

None of the species recorded were recorded in numbers that would be considered of international importance. However:

- Teal were recorded in numbers that would be considered to be of national importance during the 1995/1996 season; and,
- Pochard were recorded in numbers that would be considered to be of national importance during the 2007/2008 season.

5.1.2.4 Cork Harbour – Douglas Estuary (Site Code: 0L403, Subsite Code: 0L488)

The I-WeBS data for wintering seasons for 1995/1996, 1997/1998, 1998/1999 and between the years 2005/2006 and 2008/2009 were available for the Douglas Estuary subsite. A total of 20 species were recorded during this period. However, during the most recent counts available for the 2008/2009 season, only a total of ten species were recorded.

None of the species recorded were recorded in numbers that would be considered of international importance. However, several species were recorded in numbers that would be considered to be of national importance, including:

- Shelduck were recorded at numbers of national importance between the 1994/1995, 1995/1996, 1996/1997 and 2000/2001, 2001/2002, 2003/2003, 2003/2004, 2004/2005, 2005/2006, 2006/2007, 2007/2008, 2009/2010, 2010/2011, 2011/2012 seasons;
- Wigeon were recorded at numbers of national importance during the 1994/1995 season;
- Teal were recorded at numbers of national importance during the 1995/1996, 2000/2001 and the 2003/2004 seasons;
- Great crested grebe were recorded at numbers of national importance during the 1995/1996, 1996/1997 and 2001/2002 seasons;
- Little egret were recorded at numbers of national importance during the 2004/2005, 2007/2008, 2009/2010 and 2014/2015 seasons;
- Oystercatcher were recorded at numbers of national importance during the 1996/1997 season;
- Golden plover were recorded at numbers of national importance during the 1994/1995, 1996/1997, 2000/2001, 2001/2002, 2003/2003, 2003/2004, 2004/2005, 2005/2006, 2006/2007, 2007/2008, 2009/2010, 2010/2011, 2011/2012, 2012/2013, 2013/2014, 2014/2015, 2015/2016, 2017/2018, 2018/2019 and 2021/2022 seasons;
- Lapwing were recorded at numbers of national importance during the 1994/1995, 1995/1996, 1996/1997, 2000/2001, 2002/2003, 2003/2004, 2004/2005, 2005/2006, 2007/2008, 2010/2011, 2011/2012, 2013/2014 and 2014/2015 seasons;

- Knot were recorded at numbers of national importance during the 2010/2011 season;
- Dunlin were recorded at numbers of national importance during all seasons with data available;
- Bar-tailed godwit were recorded at numbers of national importance during all seasons with data available except the 1994/1995 and 2023/2021 seasons;
- Curlew were recorded at numbers of national importance during the 1995/1996, 1996/1997, 2002/2003, 2003/2004, 2004/2005, 2005/2006, 2007/2008, 2010/2011, 2011/2012, 2013/2014, 2014/2015 and 2021/2022 seasons; and,
- Redshank were recorded at numbers of national importance during the 1995/1996, 1996/1997, 2002/2003, 2003/2004, 2004/2005, 2005/2006, 2006/2007, 2007/2008, 2009/2010, 2011/2012, 2012/2013, 2013/2014, 2014/2015, 2016/2017, 2019/2020, 2020/2021, 2021/2022 and 2022/2023 seasons.

5.1.2.5 Cork Harbour – Dunkettle (Site Code: 0L403, Subsite Code: 0L486)

The I-WeBS data for the Dunkettle subsite's wintering seasons between 1994/1995 and 2023/2024 were available, with the exception of the 2005/2006 and 2020/2021 seasons. A total of 43 species were recorded during this period. However, during the most recent counts available for the 2023/2024 season, only 15 species were recorded.

None of the species recorded were recorded in numbers that would be considered of international importance. However, several species were recorded in numbers that would be considered to be of national importance, including:

- Cormorant were recorded at numbers of national importance during the 1996/1997 season;
- Dunlin were recorded at numbers of national importance during the 1994/1995, 1995/1996, 1996/1997, 1997/1998, 1998/1999, 1999/2000, 2000/2001, 2001/2002, 2008/2009 and 2021/2013 seasons;
- Black-tailed godwit were recorded at numbers of national importance during the 1996/1997, 2001/2002, 2002/2003, 2008/2009, 2010/2011, 2011/2012, 2013/2014, 2015/2016, 2016/2017, 2019/2020 and 2021/2022 seasons;
- Bar-tailed Godwit were recorded at numbers of national importance during the 1994/1995, 1995/1996 and 2001/2002 seasons;
- Curlew were recorded at numbers of national importance during the 2014/2015 season; and,
- Greenshank were recorded at numbers of national importance during the 2013/2014 season.

5.2 Field-Based Study Results

5.2.1 Habitat Assessment

The following section provides details of the field-based assessment that was undertaken for the Site, the most recent one was undertaken on the 15th May 2025. A description of the habitats and features of ecological significance is outlined below and illustrated in Figure 5-1.

Buildings and Artificial Surfaces (BL1)

This habitat onsite primarily comprises of agricultural sheds which are in use, one disused farmhouse 'Maglin House' and a farmyard. The farmyard and associated farm buildings are centrally located within the Site. Vegetation has colonised the farmyard and species present include ash (*Fraxinus excelsior*), ivy (*Hedera helix*), perennial ryegrass (*Lolium perenne*),

dandelion (*Taraxacum officinale*), St. Johns wort (Hypericum perforatum), cleavers (*Galium aparine*), creeping buttercup (*Ranunculus repens*), field buttercup (*Ranunculus acris*), bull thistle (*Cirsium vulgare*), broad-leaved dock (*Rumex obtusifolius*) and scarlet pimpernel (*Anagallis arvensis*).

An access road runs from Maglin Road at the western extent of the Site and branches to provide access to the farmyard and the fields in the east of the Site. The derelict Maglin Lodge lies north of the access road to the farmyard. Maglin Road (L2220) encompasses boundaries of the western parts of the Site.

Depositing / lowland River (FW2) – Grange Hill River

The Grange Hill River intersects the two northern sections of the Site and borders the northeastern boundary.

During the most recent assessment of the Grange Hill River, it had a moderate flow at a depth of ca. 0.3m to 0.7m. The width is between 1-2m in sections, with a bank height ranging from 0.4m and 1.5m. The substrate was predominantly comprised of gravel, mud and some cobbles. As outlined in Section 3.2.1, this river was influenced as part of the Arterial Drainage Scheme.

Drainage Ditch (FW4)

Multiple drainage ditches were identified on-site. Most of the drainage ditches were dry at the time of the survey. The drainage ditch in the northeastern portion of the Site was vegetated with common rush (*Juncus effusus*) and grass sp. The drainage ditch on the northeast boundary of the Site was wet and muddy in some sections and drains into the Grange Hill River.

Hedgerow / Treeline (WL1 / WL2)

The Site is bordered by treelines to the south and hedgerow / treelines to the north, east and west. The internal field boundaries were comprised of hedgerow / treelines. The hedgerow / treelines onsite consist of common species found throughout Ireland. These included blackthorn (*Prunus spinosa*), hawthorn (*Crataegus monogyna*), bramble (*Rubus fruticosus*), elder (*Sambucus nigra*), ivy, goat willow (*Salix caprea*), grey willow (*Salix cinerea),* sycamore (*Acer pseudoplatanus*) holly (*Ilex aquifolium*), crab apple (*Malus sylvestris*), dog rose (*Rosa canina*), lilac (*Syringa vulgaris*), new zealand broadleaf (*Griselinia littoralis*), downy birch (*Betula pubescens*), beech (*Fagus sylvatica*), spindle (*Euonymus europaeus*) and hazel (*Corylus avellana*).

The understory consisted of stinging nettle (*Urtica dioica*), gorse (*Ulex europaeus*), hairy willowherb (*Epilobium hirsutum*), fringed willowherb (*Epilobium ciliatum*), bracken (*Pteridium aquilinum*), cleavers, lords and ladies (*Arum maculatum*), cow parsley (*Anthriscus sylvestris*), wood avens (*Geum urbanum*), common vetch (*Vicia sativa*), pink sorrel (*Oxalis articulata*), boxleaf honeysuckle (*Lonicera nitida*), dog rose, hawthorn saplings, ivy, germander speedwell (*Veronica chamaedrys*), polyplody (*Polypodium vulgare*), bull thistle, soft shield fern (*Polystichum setiferum*), viburnum sp. (*Genus Viburnum*) and bigleaf periwinkle (*Vinca major*).

Treelines consisted of ash, pedunculate oak (*Quercus robur*), hazel, horse chestnut (*Aesculus hippocastranum),* sycamore, spindle, elder, hawthorn, willow (*Salix sp*.), birch, sycamore and whitebeam (*Sorbus aria*). The understory of the treelines consisted of stinging nettle, meadowsweet (*Filipendula ulmaria*), bramble, fringed willowherb, spear thistle, ivy, cleavers, dandelion, broad-leaved dock, lords and ladies, creeping buttercup, gorse, bracken and cotoneaster (*Cotoneaster horizontalis*).

A hedgerow borders the northwest of the Site. The species comprised of hawthorn, blackthorn, dog rose and elder. The understory of the hedgerows and treelines was comprised of nettle (*Urtica dioica*), broad-leaved dock, cow parsley and bramble.

A manged hedgerow borders the road in the northwest of the site. The species consist primarily of privet (*Ligustrum vulgare*) with hawthorn and elder.

Improved Agricultural Grassland (GA1)

The Site is predominantly comprised of agricultural fields that were grazed by cattle during the surveys. The species present in this habitat included perennial ryegrass, white clover (*Trifolium repens*), broad-leaved dock, dandelion, creeping buttercup, stinging nettle, field horsetail (*Equisetum arvense*), field buttercup, silverweed (*Argentina anserina*), creeping thistle (*Cirsium arvense*), bull thistle, common chickweed (*Stellaria media*), common speedwell (*Veronica officinalis*), ground ivy (*Glechoma hederacea*), daisy (*Bellis perennis*), cleavers, cut-leaf geranium (*Geranium dissectum*), sowthistle (*Sonchus oleraceus*), ragwort (*Sonchus oleraceus*), Yorkshire fog (*Holcus lanatus*), pineapple mayweed (*Matricaria discoidea*) and willowherb species.

Mixed Broadleaved Woodland (WD1)

Two small areas of woodland are present within the Site. The woodland in the northwest of the Site consisted of horse chestnut, field maple (*Acer campestre*), beech, rowan (*Sorbus aucuparia*), common ash, Japanese barberry (*Berberis thunbergii*), sycamore, elder, large leaved lime (*Tilia platyphyllos*), poplar sp. (*Populus sp*.), pedunculate oak, sessile oak (*Quercus petraea*) and field elm (*Ulmus minor*). The understory consisted of stinging nettles, creeping buttercup, bramble, montbretia (*Crocosmia × crocosmiiflora*), cleavers, broad-leaved dock, bracken, sycamore saplings, oak saplings, rowan saplings, holly, wood avens, cuckoo pint (*Arum maculatum),* willowherb species, spotted laurel (*Aucuba japonica*), ground ivy and ivy.

The woodland area adjacent to the Grange Hill River in the northeastern section of the Site consisted of alder (*Alnus glutinosa*), elder and hawthorn. The understory consisted of cow parsnip (*Heracleum sphondylium*), soft shield fern, ivy, woodavens, herb Robert (*Geranium robertianum),* bramble, stinging nettle, creeping buttercup, cleavers, field horsetail, meadow foxtail (*Alopecurus pratensis*) and willowherb species.

Scattered Trees and Parkland (WD5)

A small orchard is present directly to the south of the abandoned farmhouse. This orchard was not managed and was in an overgrown state. The orchard is enclosed by old stone walls to the north, east, south and west. The orchard contained crab apple trees with an understory of grasses, common polypody, elder, stinging nettle, ground elder (*Aegopodium podagraria*), field maple, bramble, broad-leaved dock, rosebay willowherb (*Chamaenerion angustifolium*), mouse ear chickweed (*Cerastium fontanum*), butcher's broom (*Ruscus aculeatus*), cow parsley and Indian cluster berry (*Lonicera ligustrina*).

Scrub (WS1)

The areas of scrub onsite consist predominantly of bramble with species such as gorse, hairy willowherb, sowthistle, creeping buttercup, field buttercup, hedge bindweed (*Calystegia sepium)* and winter heliotrope (*Petasites pyrenaicus*) interspersed.

Stone walls and other stonework (BL1)

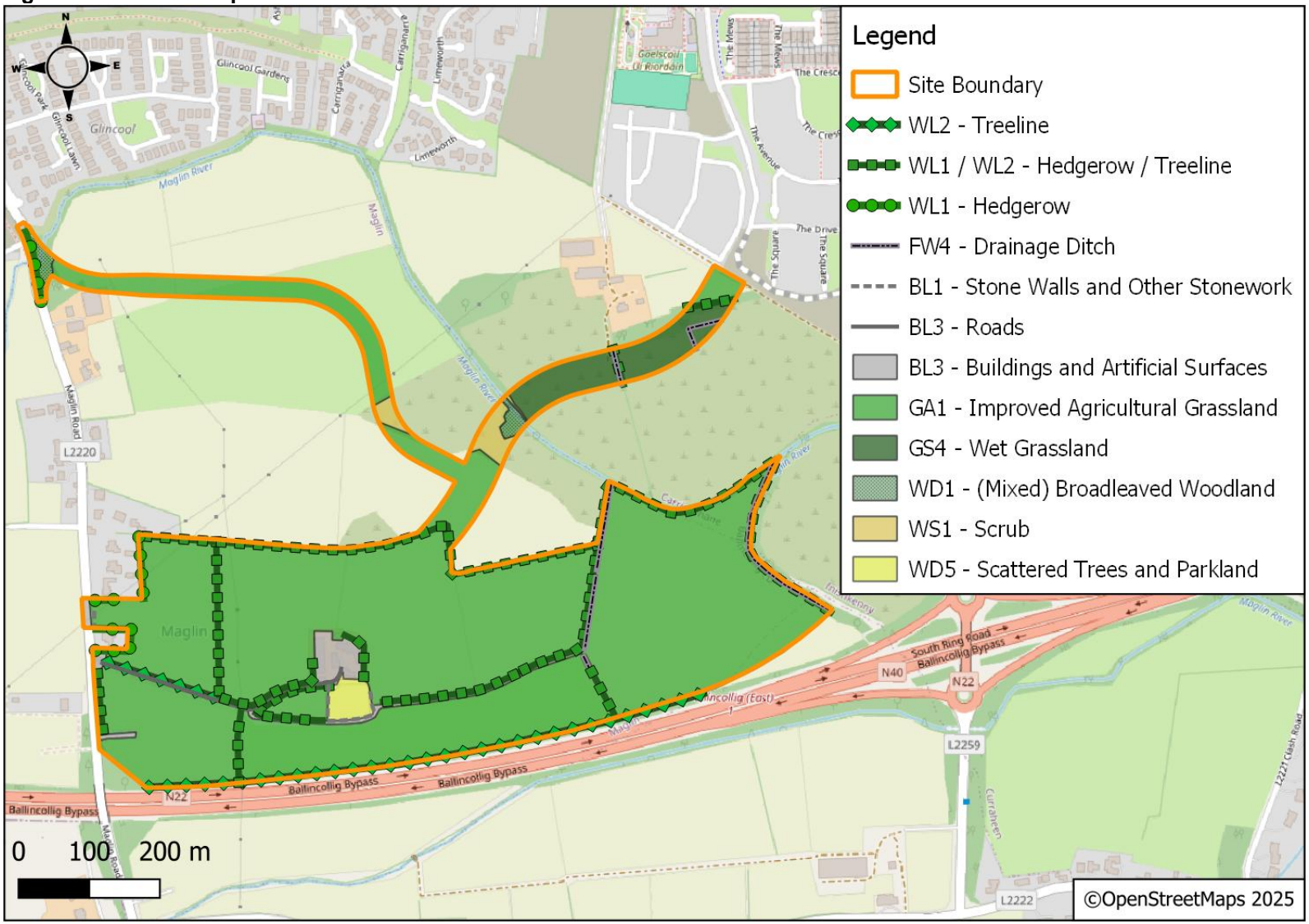
Stone walls enclosed the orchard directly to the south of the abandoned farmhouse. Ivy and sycamore are present on the stone walls. A stone wall is present on the western Site boundary, adjacent to the road. Stone walls are also present on the eastern extent of the access track on the northern side of the access track.

Wet Grassland (GS4)

The northeastern section of the Site crossed through a field of wet grassland. These fields were grazed by cattle at the time of the survey. The field consisted predominantly of common

rush with bramble, hairy willowherb, creeping bent (*Agrostis stolonifera*), silverweed, alder, smartweed sp. (*Persicaria sp.*), common bentgrass (*Agrostis capillaris*), horsetail, field buttercup and sowthistle.

Figure 5-1: Habitat Map



5.2.2 Species

5.2.2.1 Wintering Bird Surveys

The NBDC holds records for wintering bird species designated as conservation interests as part of the Cork Harbour SPA. Wintering bird surveys were undertaken on the 21st November 2023, 12th December 2023 and 17th January 2024 to assess the potential use of the Site by wintering bird species.

During the surveys, eight bird species were recorded:

- Three green-listed species – buzzard (Buteo buteo), fieldfare (Turdus pilaris) and sparrowhawk (Accipiter nisus);
- One amber-listed species – herring gull (Larus argentatus); and,
- Four red-listed species – curlew (Numenius arquata), kestrel (Falco tinnunculus), redwing (Turdus iliacus) and snipe (Gallinago gallinago).

Of these species recorded, three are designated species under the Cork Harbour SPA – curlew, herring gull and snipe. Additionally, under the EU Birds Directive, snipe are classified as an Annex II (Section I) & Annex III (Section III) bird species.

Table 5-2 provides a record of the bird species identified during the wintering bird surveys, the number of individuals recorded during the surveys and the species' designation under the Birds of Conservation Concern in Ireland 2020-2026 [32].

Table 5-2: Birds recorded during the Wintering Bird Surveys

BoCCI Conservation Status	Species	Scientific Name	Visit 1	Visit 2	Visit 3
Green-listed	Buzzard	*Buteo buteo*	1	0	0
	Fieldfare	*Turdus pilaris*	0	0	8
	Sparrowhawk	*Accipiter nisus*	0	1	0
Amber listed	Herring Gull	*Larus argentatus*	8	0	0
Red-listed	Curlew	*Numenius arquata*	0	0	20
	Kestrel	*Falco tinnunculus*	1	1	0
	Redwing	*Turdus iliacus*	1	0	8
	Snipe	*Gallinago gallinago*	1	1	7

During the wintering bird surveys, no flocks of wintering or designated bird species were recorded on the Site. It is important to note that while curlew and herring gull were recorded during the surveys, these species were recorded flying over the Site and were not recorded interacting with the Site at any point.

5.2.2.2 Breeding Bird Surveys

The Bird Report (Appendix A) contains a summary of the birds recorded in the Site during the breeding bird surveys, the behaviours exhibited during the surveys, their status according to

the Birds of Conservation Concern in Ireland ('BoCCI'), which is the third assessment of the status of all regularly occurring birds on the island of Ireland [33], and the breeding status of all birds noted.

A total of 33 species were recorded either within the Site or flying over the Site during the surveys.

Of the 33 species that were recorded:

- 26 Green-listed BoCCI, non-annex species were recorded – blackbird, blackcap, blue tit, bullfinch, buzzard, chaffinch, chiffchaff, dunnock, feral pigeon, goldfinch, grasshopper warbler, great tit, grey heron, hooded crow, jackdaw, long-tailed tit, magpie, mistle thrush, pheasant, pied wagtail, robin, rook, song thrush, treecreeper, woodpigeon and wren;
- Seven Amber-listed BoCCI, non-annex species were recorded – goldcrest, greenfinch, house sparrow, mallard, starling, swallow and willow warbler; and,
- No Red-listed BoCCI, non-annex species were recorded.

During the surveys, no species were classified as '*Confirmed Breeding*', and no active nests or signs of nest building were recorded within the Site.

However, 23 species were observed displaying territorial behaviours and were classified as '*Possible Breeding'* - blackbird, blackcap, blue tit, bullfinch, chaffinch, chiffchaff, dunnock, goldcrest, goldfinch, grasshopper warbler, great tit, greenfinch, hooded crow, long-tailed tit, magpie, mistle thrush, robin, rook, song thrush, treecreeper, willow warbler, woodpigeon and wren. Ten species were classified as non-breeding – buzzard, feral pigeon, grey heron, jackdaw, pied wagtail, pheasant, house sparrow, mallard, starling and swallow.

For full details, refer to the Bird Report attached as Appendix A.

5.2.2.3 Invasive Species

Montbretia, sycamore and winter heliotrope were all recorded within the Site Boundary. These species are subject to legislative control. No other invasive species were noted during the habitat surveys.

6 STAGE 1 SCREENING: IDENTIFICATION OF POTENTIAL SIGNIFICANT IMPACTS

6.1 Potential Significant Impacts

The potential for significant effects on Cork Harbour SPA were considered further in this section. The key output of this stage of the assessment is the identification of likely significant effects of the Proposed Development alone and in combination with other plans and projects on relevant European sites without the implementation of mitigation measures.

Table 6-1 presents further details and rationale of the screening assessment undertaken for each of the European sites identified as having the potential to be significantly affected by the Proposed Development, in light of their site conservation objectives and best scientific knowledge.

Table 6-1: Screening Assessment: Annex I Species for Cork Harbour SPA

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
Little Grebe	The NBDC does not hold records for Little Grebe within 2km of the Site [14]. Little Grebe have a preference for nesting mostly on floating plant material hidden in dense vegetation at the margins of shallow, freshwater rivers, streams, loughs and ponds. In the winter, this bird species is typically found in coastal habitats [34]. This species was not identified during the wintering or breeding bird surveys. However, there is potential for this species to utilise the Grange Hill River.	• Impairment to water quality; and, • Indirect impacts on food supplies.	The Site itself is not considered to be of high suitability or a site of importance for this species based on the onsite habitats and the presence of suitable habitats in the wider area and closer to the Cork Harbour SPA. Given the high mobility of bird species, it is anticipated that should birds be in the immediate area and are disturbed by the works during the Construction Phase these birds will move to alternative habitats and that the disturbance will only be temporary. It is anticipated that this species will not be directly affected during the Construction and Operational Phase of the Proposed Development. There is potential for indirect effects on this species to occur via the impairment of water quality within the Cork Harbour SPA. This could result in negative impacts to the foraging habitat and food supplies of Little Grebe and other designated bird species of the SPA. It is proposed to install two bridges across the Grange Hill River. The installation of these bridges will require in-river works, and therefore, mitigation measures will be required to ensure that impacts as a result of these works can be avoided. However, given the distance separating the Site from the SPA, it is considered highly unlikely that any potential pollutants could reach the SPA due to the fact that pollutants will either be diluted within the watercourse or, as sediment, will settle to the bottom of the watercourse. In addition, there will be no direct discharge into any watercourses during the Construction and Operational Phases of the Proposed Development.	**Screened In**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
			Nonetheless, water quality mitigation measures will be implemented as part of the proposed works to protect local water quality and therefore, no likely significant effects are considered likely during either construction or operation. As such, Little Grebe can be screened in for this assessment.	
Great Crested Grebe	The NBDC did not hold records for Great Crested Grebe within 2km of the Site [14]. Great Crested Grebe have a preference for breeding on large, shallow eutrophic loughs, but will also nest in aquatic vegetation within open waters [35]. In winter this species is typically found in coastal habitats [35]. The habitats within the Site were not considered suitable for this species, and this species was not identified during onsite wintering bird surveys.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Cormorant	The NBDC held records for Cormorant within 2km of the Site [14]. This species is known to breed in colonies around the Irish coastline. However, some birds have been noted nesting inland in tree-colonies [36]. In addition, cormorants are known to winter at sea, although this species has been observed wintering inland in Ireland [36]. The habitats / trees onsite were not considered suitable for this species and no cormorants were recorded onsite during onsite wintering bird surveys.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
Grey Heron	The NBDC held records for Grey Heron within 2km of the Site [14]. Grey heron are known to nest in large trees, sometimes with multiple birds in the same tree [37]. Also, grey herons are typically found wintering in the same areas they utilised for breeding purposes [37]. Grey heron were recorded flying over the Site during the breeding bird surveys.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Shelduck	The NBDC held records for Shelduck within 2km of the Site [14]. This species typically breeds in open areas associated with the Irish shoreline, large lakes and rivers [38]. Similarly, Shelduck are known to winter in estuaries and along tidal mudflats [38]. There is potential for this species to utilise the Grange Hill River. However, no shelduck were identified during the bird surveys onsite.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Wigeon	The NBDC did not hold records for Wigeon within 2km of the Site [14] at the time of writing this report. Wigeon is a wintering species that migrates from the Icelandic region to utilise the coastal marshes, lagoons, estuaries, bays, inland wetlands, lakes, rivers and turloughs [39]. There is potential for this species to utilise the Grange Hill River. However, no wigeon were identified during the bird surveys onsite..	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Teal	The NBDC held records for Teal within 2km of the Site [14].	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
	Small numbers of this species breed in Ireland, within thick cover in small freshwater lakes and upland streams [40]. The majority of teal migrate to Ireland in the winter to wetland areas with large reedbeds, which can include coastal lagoons, estuaries, marshes, or inland lakes, ponds and turloughs [40]. There is potential for this species to utilise the Grange Hill River. However, no teal were identified during the bird surveys onsite.			
Pintail	The NBDC did not hold records for Pintail within 2km of the Site [14]. This species migrates to Ireland to winter in brackish lagoons, estuaries and large inland lakes. This species is known to form large flocks of birds [41]. The Site is not considered suitable for this species, and this species was not identified during the onsite bird surveys.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Shoveler	The NBDC held records for Shoveler within 2km of the Site [14]. This species is known to breed in Ireland around the Lough Neagh and the Shannon basin [42] neither of which are located within close proximity to the Site. Shoveler are known to winter in eutrophic waters that are rich in plankton, however, they can also occur on inland lakes and callows [42]. The Site is not considered suitable for this species, and this species was not identified during the onsite wintering bird surveys.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
Red-breasted Merganser	The NBDC did not hold records for Red-breasted Merganser within 2km of the Site [14]. This species is known to nest in sheltered lakes and rivers typically in the west and north of Ireland and winters exclusively in brackish and marine waters [43]. The Site is not considered suitable for this species given its location, and this species was not identified during the onsite bird surveys.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Oystercatcher	The NBDC does not hold records for Oystercatcher within 2km of the Site [14]. This species breeds predominantly on the Irish coastline within beaches, dunes, salt marshes and rocky shores. However, it has been noted nesting on large inland lakes. Oystercatchers are also known to winter in coastal habitats, preferably on sandy coasts [44]. The Site is not considered suitable for Oystercatchers and this species was not identified during the onsite bird surveys.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Golden Plover	The NBDC held records for Golden Plover within 2km of the Site [14]. Golden Plover are known to breed in heather moors, blanket bogs and acidic grasslands predominantly in the west / northwest of Ireland [45]. This species typically winters in harvest fields, stubbles, mown grass, close-grazed pastures, fallows and other open farmland including flood lands [45]. Onsite habitats are not considered suitable for breeding Golden Plover. This species may utilise	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
	the Site for winter foraging however, given the availability of suitable habitat in close proximity to the Site, the Site is not considered of importance to this species. No Golden Plover were identified during the onsite bird surveys.			
Grey Plover	The NBDC did not hold records for Grey Plover within 2km of the Site [14]. This species breeds in the high artic regions of Russia and North America, and winters within coastal areas in Ireland [46]. The Site is not considered suitable for Grey Plover and this species was not identified during the onsite bird surveys.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Lapwing	The NBDC held records for Lapwing within 2km of the Site [14]. Lapwing are known to breed in open farmland and winter in large flocks in predominantly wetland, pasture and rough land [47]. The Site is not considered suitable for breeding Lapwing given that it is grazed by cattle, the Site is not considered of importance to this species. No Lapwing were identified during the onsite bird surveys.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Dunlin	The NBDC did not hold records for Dunlin within 2km of the Site [14]. Dunlin breed in sparse low vegetation and have shown a preference for machair habitats and typically winter along coastal areas, specifically mudflats and estuaries [48].	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
	The Site is not considered suitable for Dunlin and this species was not identified during the onsite bird surveys.			
Black-tailed Godwit	The NBDC did not hold records for Black-tailed Godwit within 2km of the Site [14]. This species breeds in lowland wet grassland and marshes, but predominantly in Iceland. In the winter, this species prefers estuarine coasts but can also be found in grasslands and river deltas [49]. The Site is not considered suitable for Black-tailed Godwit and this species was not identified during the onsite wintering bird surveys.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Bar-tailed Godwit	The NBDC did not hold records for Bar-tailed Godwit within 2km of the Site [14]. This species breeds in northern Europe, Norway and Finland, and winters entirely along Irish coastlines predominantly in sandy estuaries [50]. The Site is not considered suitable for Bar-tailed Godwit and this species was not identified during the onsite bird surveys.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Curlew	The NBDC held records of Curlew within 2km of the Site [14]. This species is not a common breeding bird, given the decline in the breeding population. However, the habitats utilised for breeding by this ground nesting bird include rough pastures, meadows and heather [51]. The wintering population of curlew is supplemented by Scottish and Scandinavian birds	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
	that typically winter in wetland habitats, both coastal and inland [51]. The Site is not considered suitable for Curlew and this species was not identified during the onsite bird surveys.			
Redshank	The NBDC did not hold records of Redshank within 2km of the Site [14]. Redshanks are a ground nesting bird that prefer to nest in grassy tussocks in wet marshy areas. However, this species has been noted occasionally nesting in heather. Redshank prefer to winter in mudflats, estuaries and inlets; however, small numbers have been noted in lakes and rivers [52]. The Site is not considered suitable for Redshank and this species was not identified during the onsite bird surveys.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Black-headed Gull	The NBDC held records of Black-headed Gull within 2km of the Site. This species typically nests in large colonies on the coasts and inland in wetland areas such as bogs, marshes, and manmade lakes [53]. However, it should be noted that inland breeding populations have declined dramatically due to predation [53]. The largest inland colonies are located in Galway, Monaghan and Mayo. This species is known to winter in both coastal and inland areas [53]. The Site is not considered suitable for Black-headed Gull and this species was not identified during the onsite bird surveys.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
Common Gull	The NBDC did not hold any records for Common Gull within 2km of the Site [14]. The Common gull breeds in colonies predominantly along the coastline. Inland breeding can occur on islands in lakes although these populations have declined due to predation [54]. Common gulls utilise a range of wintering habitats including coastal areas, heather moorlands, meadowlands and urban areas [54]. The Site is not considered suitable for Common Gull and this species was not identified during the onsite bird surveys.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Lesser Black-backed Gull	The NBDC held records for Lesser Black-backed Gull within 2km of the Site [14]. This ground-nesting species typically breeds in colonies often with other gull species. Most colonies are on the coastline; however, inland colonies have been recorded in Co. Mayo and Co. Donegal [55]. The habitats utilised by lesser black-backed gulls include offshore islands, islands in lakes, sand dunes and coastal cliffs. This species winters both inland and on coastal habitats [55]. The Site is not considered suitable for Lesser Black-backed Gull and this species was not identified during the onsite bird surveys.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**
Common Tern	The NBDC did not hold records for Common Tern within 2km of the Site [14]. This ground nesting species breeds in colonies along the Irish coastline and colonies have been recorded in Co. Dublin, Co. Wexford and Co. Galway [56]. It should be noted that some birds have been noted breeding on islets in freshwater	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**

Qualifying Feature of Interest	Baseline	Potential Significant Effects	Screening Rationale	Screening Conclusion
	lakes in Co. Galway and Co. Mayo. This species also winters in west and south Africa [56]. The Site is not considered suitable for Common Tern and this species was not identified during the onsite bird surveys.			
Wetlands and Waterbirds	It should be noted that the NBDC holds records for the following waterbirds: Black-headed Gull, Common Kingfisher, Common Moorhen, Common Greenshank, Common Shelduck Common Snipe, Curlew, Cormorant, Grey Heron, Mallard, Mute swan, Little Egret, Northern Shoveler and White-throated Dipper [14]. The Site is considered to be of low suitability for wetland and waterbird species as it contains no marsh vegetation. Snipe were identified during the onsite wintering bird surveys. However, no further wetland and waterbird species were identified onsite.	See above as per Little Grebe.	See above as per Little Grebe.	**Screened In**

6.2 Stage 1 – Analysis of 'In-Combination' Effects

The Habitats Directive requires competent authorities to make an appropriate assessment of any plan or project which is likely to have a significant effect alone or in-combination with other plans and projects.

A review of CCC Planning Portal [11] did not identify any current or previous granted plans or projects in the immediate vicinity that are considered likely in-combination with the Proposed Development to result in significant impacts on Cork Harbour SPA.

However, the following planning applications listed in Table 6-3 have previously been assessed by CCC within the planning system, all of which are located within the vicinity of the Site.

Table 6-3: Planning Applications within the vicinity of the Site

Application Ref	Decision	Development Description	Appropriate Assessment
CCC Planning Ref: 2342446	Granted – 19/08/2024	*Permission for a Large-Scale Residential Development (LRD) of 162 no. residential units, landscaping and all ancillary site works. The proposed development will consist of: 84 no. two storey dwellings including 26 no. 4-bedroom semi-detached dwellings, 28 no. 3-bedroom semi-detached dwellings, 20 no. 3-bedroom terraced dwellings and 10 no. 2-bedroom terraced dwellings. The proposed development also contains 56 no. duplex units provided in 6 no. 2 - 3 storey buildings comprising 23 no 2-bedroom units and 33 no. 1-bedroom units and 1 no. 4-5 storey apartment building consisting of 22 no. apartment units including 17 no. 2-bedroom units and 5 no. 1-bedroom units. Access to the proposed development will be principally via the existing access road and entrance serving Cois Caisleán from Maglin Road, with additional connectivity provided via Maglin Grove. The proposed development also provides for the continuation of the permitted pedestrian and cycle path in Cois Caisleán (ABP ref. TA28.308111) along the northern, western and southern perimeter of the site and 2 no. new pedestrian access points located on the northern and western boundaries. Site development works include the regrading and integration of public open space serving Maglin Green permitted under Cork County Council ref. 17/4567/ABP ref. PL04.300861 with pedestrian link. The proposed development makes provision for cycle storage facilities, surface car parking, bin storage, boundary treatments, public lighting and surface water management*	A Natura Impact Statement was submitted as part of this planning application. The planners report stated that *'The FI response provided updated Report in support of Appropriate Assessment (AA Screening) and updated Natura Impact Statement (NIS). Ecologist on behalf of City Council acknowledges winter bird surveys were carried out and that no Special Conservation Interests listed for Cork Harbour Special Protection Area (SPA) were recorded. Ecologist on behalf of City Council is satisfied that the site is unlikely to support important numbers of waterbirds listed for Cork Harbour SPA.'*

Application Ref	Decision	Development Description	Appropriate Assessment
		features including 2 no. outfalls along the southern boundary and all other ancillary works necessary to facilitate the development.	
CCC Planning Ref: 1938923	Granted – 04/08/2020	*Permission for the construction of 80 no. dwelling houses, a single storey 80 no. child crèche and all ancillary site works at Heathfield, Carriganarra, Carrigrohane, Ballincollig, Cork. The proposed development consists of the construction of 2 no. 4 bedroom detached dwelling houses, 48 no. 4 bedroom semi-detached dwelling houses, 18 no. 3 bedroom semi-detached houses, 6 no. 3 bedroom townhouses and 6 no. 2 bedroom houses. The proposed development is a change of plan from that originally permitted under Cork County Council Planning Reference 15/6813 (as amended by Cork County Council Planning References 19/4188 & 19/5258) and Cork County Council Planning Reference 17/4270 and will result in the construction of an additional 23 no. residential units. Access to the proposed development will be provided via the junction from the Killumney Road and internal road network which was permitted by Cork County Council Planning References 15/6813 and 17/4270.*	The Planners Report states that '*having regard to the location of the proposed development site relative to these European sites and related watercourses and to the nature and scale of the proposed development it is considered that the proposed development would not affect the integrity of the European sites referred to above. Accordingly, it is considered that appropriate assessment is not needed*'
CCC Planning Ref: 195257	Granted – 23/08/2019	Five-year planning permission for 'The construction of 88 no. dwelling houses consisting of 6 no. 4 bedroom detached dwelling houses, 42 no. 4 bedroom semi-detached dwelling houses, 36 no. 3 bedroom semi-detached dwelling houses, 2 no. 3 bedroom townhouses and 2 no. 2 bedroom townhouses and all ancillary site works. The proposed development is a change of plan and change of house type from that permitted under Cork County Council Planning Reference 17/4270 as amended by 18/7345. Access to the proposed development will be provided via the junction from the Killumney Road and internal road network which was permitted by Cork County Council Planning References 15/6813 & 17/4270'.	The Planners report states that *'Having regard to the location of the proposed development, it can be concluded that there is no potential for the proposed development to give rise or contribute to negative impacts on any Natura 2000 site which could be significant.'*
CCC Planning Ref: 187408	Granted – 13/5/2019	Five-year planning permission for *'Construction of a honey production and storage facility, and ancillary site development works. The proposed*	In the CCC Application for Planning Permission form it is stated that the site does not '*relate to work within or affecting*

Application Ref	Decision	Development Description	Appropriate Assessment
		two-storey structure will accommodate storage and production facilities on the ground floor and ancillary offices on the ground floor and partial first floor. The proposed development makes provision for the demolition of an existing agricultural shed and prefabricated structures and the removal of 6 no. storage containers. Ancillary works will include a car parking area, wastewater treatment system and percolation area, surface water attenuation tank, water storage tank and landscaping works. Access to the proposed development will be via a new entrance and access road from the Maglin Road to allow closure of the existing access road and entrance'.	*a European Site or a Natural Heritage Area'.*

In addition to the development listed in table 6-3, other small developments around the vicinity of the Site include small scale residential dwellings (Planning Ref: 2341768, 2140641), two small scale agricultural developments (Planning Ref: 2039066 and 2140525) and retention of a building (Planning Ref: 2443305). These applications did not require an appropriate assessment to be completed. These projects are considered to be localised in scale. Overall, it is considered that these developments will not result in any potential for in-combination effects with the Proposed Development. This conclusion is based on the small-scale nature of these developments, the works involved and the date of grant.

Therefore, it is considered that the Proposed Development is unlikely to have any significant in-combination contribution to possible significant effects on Cork Harbour SPA.

This statement is supported by:

- The distances separating the Site from European sites;
- The agricultural setting of the local environment; and,
- The localised nature of the proposed works.

6.3 Stage 1 – AA Screening Conclusion

A detailed assessment of the layout and nature of the Proposed Development, the construction methods to be employed and the overall activities that will occur at the Site during construction and operation has been carried out and the potential for significant effects on European sites and qualifying features of interest within the zone of influence of the Site has been examined in detail.

A hydrological connection was identified between the Great Island Channel SAC, Cork Harbour SPA and the Site, via Grange Hill River. Given the distance between the Site and the great Island Channel SAC, the dilution factor, tributaries and tides, the Great Island Channel SAC was screened out from further consideration. Given the high mobility of bird species and potential for them to be impacted by water quality impairment, Cork Harbour SPA was taken forward for further detailed consideration, Stage 2 appropriate assessment. Using professional experience, guidance and judgement, the following factors have been taken into account in identifying potential significant effects on the identified European site:

- Qualifying interests;

- Special conservation interests;
- Conservation objectives;
- The nature of the on-site habitats; and,
- The location of the Site.

The screening process has examined the potential for the Proposed Development to cause significant effects on European sites and the qualifying features of interest as per the screening determination in Section 4.

Based on the above factors and taking a precautionary approach, the screening exercise has identified the following designated habitats and species as potential receptors of significant likely effects as a result of the Proposed Development, in the absence of appropriate mitigation:

Cork Harbour SPA

Taking a precautionary approach, the screening exercise has identified the following designated species:

Species

- Little Grebe
- Great Crested Grebe
- Cormorant
- Grey Heron
- Shelduck
- Wigeon
- Teal
- Pintail
- Shoveler
- Red-breasted Merganser
- Oystercatcher
- Golden Plover
- Grey Plover
- Lapwing
- Dunlin
- Black-tailed Godwit
- Bar-tailed Godwit
- Curlew
- Redshank
- Black-headed Gull
- Common Gull
- Lesser Black-backed Gull
- Common Tern
- Wetlands and Waterbirds

Therefore, the European site associated with these qualifying features of interest has been brought forward for further consideration.

Therefore, progression to Stage 2 of the Appropriate Assessment process is required in the light of current case law on mitigation measures.

Section 7 below further addresses potential issues arising from the Proposed Development and the mitigation measures required to negate any potential significant likely effects on this European Site.

7 STAGE 2 NIS

7.1 Assessment of Potential Significant Effects

This section provides recommendations for measures which will mitigate against any adverse effects on the integrity of the identified European site as a result of the Proposed Development. The following effects with the potential to adversely affect the conservation objectives of the Cork Harbour SPA were considered:

- Potential impairment of water quality during the Construction Phase.

The screening exercise did not identify any other factors that will result in any likely significant effects.

7.1.1 Construction Phase

7.1.2 Potential Impairment of Water Quality during Construction

7.1.2.1 Installation of Culverts on the Grange Hill River

As the Proposed Development will require the Grange Hill River to be culverted in two separate locations, the following design and mitigation measures will be implemented throughout the works associated with the culverts to prevent any adverse impacts to species in the wider river system and also the water quality of the Grange Hill River. All works associated with the installation of culverts will be in line with the NRA (now TII) '*Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes'* [57]. These include:

- The Contractor / ECoW shall establish contact with Inland Fisheries Ireland ('IFI') before works commence and all works will be carried out to their approved design and method statement;
- The Contractor shall make sure that all staff are trained in the use of pollution spill kits and are aware of their locations;
- The culvert to be installed will have mammal ledges installed to allow for continued access up and downstream of the culverts;
- All works involving the Grange Hill River will be undertaken during the dryer months of the year (usually July to September) when water levels are at their lowest. However, the timing of the works will be confirmed with IFI prior to any works;
- Works will not take place within or immediately adjacent to the rivers after a heavy rainfall event or if heavy rainfall is forecast;
- Sediment control measures will be implemented on any areas of bare soil along or immediately adjacent to the Grange Hill River until new vegetation is established. An example of suitable sediment control measures includes jute mesh and erosion control blankets;
- Stockpiles will be protected during the construction works and will not be located in areas where sediment-laden runoff may enter the Grange Hill River or drainage ditches;
- If silt or other contamination is noted within the Grange Hill River, construction works will be stopped and will not recommence until the issue is resolved and the cause of the elevated source is remedied. The ECoW will be consulted for advice; and,
- The ECoW will be present for the installation of the culverts and all associated piling works. Additionally, the ECoW will undertake monthly inspections of all surface water treatment measures to ensure that these features have been installed appropriately.

Prior to any works taking place along the Grange Hill River, an updated otter survey will be undertaken 250m upstream and downstream of the Site, and the entire length of the Grange Hill River between the two culverts will be surveyed. Should any holts be identified within this area, consultation with the NPWS will be undertaken.

7.1.2.2 Reduction & Prevention of Suspended Solids and Contaminant Pollution

During the Construction Phase, all works will comply with all relevant legislation and best practice to reduce potential environmental impacts of the works. Furthermore, as a precautionary principle, the following mitigation measures will be put in place to ensure that water quality will be protected within the vicinity of the Site and further downstream. The measures that will be put in place to remove the risk from potential contamination and emergency procedures to be implemented in the event of an accidental release or spill of potentially contaminating substances are outlined below.

These procedures will be communicated to all relevant site staff. The following best practice guidelines will be followed, which are based on Inland Fisheries Ireland [58] and National Roads Authority ('NRA'), now known as the Transport Infrastructure Ireland ('TII'), [59] guidance documents:

- Construction stage works will be undertaken in accordance with an approved CEMP;
- All plant and machinery will be serviced before being mobilised to the Site;
- Where the Grange Hill River and drainage ditches are crossed, the release of sediment over baseline conditions will be prevented by the use of silt traps, check dams and / or bunds. These will be put in place in advance of construction works and monitored on a regular basis;
- Preventative maintenance and relevant maintenance logs will be kept for all onsite plant and equipment;
- All materials shall be stored at the main contractor compound and transported to the works zone immediately prior to construction;
- Excavations will be left open for minimal periods to avoid acting as a conduit for surface water flows;
- Where drainage ditches are crossed, the release of sediment over baseline conditions will be prevented by the use of silt traps, check dams and / or bunds. These will be put in place in advance of construction works and monitored on a regular basis;
- No surface water runoff will be discharged onto public roads, foul sewers or adjacent property;
- Weather conditions will be considered when planning construction activities to minimise risk of run off from the Site;
- Provision of exclusion zones and barriers between any stockpiled materials and any surface water features to prevent sediment washing into the receiving water environment;
- Entry by plant, equipment, machinery, vehicles and construction personnel into watercourses, wet drainage ditches or the river riparian zones shall not be permitted;
- An ECoW shall be engaged to periodically inspect all elements of the works for their entire duration;
- Emergency response procedures will be put in place;
- All concrete pours will be carefully planned to avoid any impacts;

- Any pouring of concrete will only be carried out in dry weather;
- Chemicals used will be biodegradable where possible;
- Where concrete is to be placed by means of a skip, the opening gate of the delivery chute will be securely fastened to prevent accidental opening;
- Where possible, concrete skips, pumps and machine buckets will be prevented from slewing over water when placing concrete;
- Surplus concrete will be returned to batch plant or offsite concrete wash facility after completion of a pour;
- Any spillage of cementitious materials will be cleaned-up immediately; and,
- Measures will be implemented to minimise waste and ensure correct handling, storage and disposal of waste.

Additionally, an ECoW will be appointed to the project to ensure that the mitigation and best practice measures will be implemented.

7.1.2.3 Escapement of Oil from Storage or Construction Vehicles

Oil pollution is known to cause significant damage to aquatic communities, and loss of bulk stored oil or oil from construction vehicles is likely to have an adverse impact, the severity of which would depend on the volumes of oil involved. Minor leaks have the potential to have negligible impacts, whereas larger leaks and spills could have significant negative short-term adverse impacts if not controlled.

However, these impacts are highly unlikely to occur due to the small section of the Site within the Grange Hill river, and given that best practice measures will be employed to reduce these potential impacts to an absolute minimum. The proposed measures to remove the risk from potential contamination and emergency procedures to be implemented in the event of an accidental release or spill of potentially contaminating substances are outlined below.

These procedures will be communicated to all relevant site staff. At a minimum, the following measures will be in place:

- Any chemical / oils to be stored onsite will be placed within a bund on an area of hardstanding to ensure there is no seepage of pollutants into groundwater or surface water;
- All bunds will have the capacity of the largest tank volume plus 10 percent, at a minimum, with additional capacity to hold 30mm of rainfall;
- All drainage from bund areas will be directed to secure containment prior to suitable disposal;
- Fuel will be delivered onsite by a dedicated tanker or in a delivery bowser dedicated to that purpose;
- The Appointed Contactor will put in place a specific, step-by-step refuelling procedure which will be communicated to all relevant employees onsite;
- Fuels, lubricants and hydraulic fluids for equipment used in the construction site will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment according to current best practice;
- Vehicle or equipment maintenance work will be carried out in a designated area on the Site. In the event that refuelling is required outside this area a spill tray will be employed during the refuelling operation;

- Prior to any works commencing, all construction equipment will be checked to ensure that they are mechanically sound, to avoid leaks of oil, fuel, hydraulic fluids and grease;
- Adequate spill kits including absorbent booms and other absorbent material will be maintained on-site;
- All contractor workers will be appropriately trained in the use of spill kits;
- Any sediments impacted by contamination will be excavated and stored in appropriate sealed containers for disposal off-site in accordance with all relevant waste management legislation;
- Appropriate containment facilities will be provided to ensure that any spills from vehicles are contained and removed off-site. Adequate stocks of absorbent materials, such as sand or commercially available spill kits shall be available;
- The Contractor shall ensure that all personnel working on-site are trained in pollution incident control response;
- A regular review of weather forecasts of heavy rainfall is required;
- No storage of hydrocarbons or any polluting chemicals will occur within 10m of watercourses or surface water features;
- Design and installation of fuel bowsers to be in accordance with best practice guidelines;
- Drip trays and spill kits will be kept available onsite;
- Cabins, containers, workshops, plant, materials storage and storage tanks shall not be located within 10m of any watercourse;
- Fuel and oil stores, including tanks and drums, will be regularly inspected for leaks and signs of damage;
- Drip trays will be used for fixed or mobile plant, such as pumps and generators in order to retain oil leaks and spills; and,
- Only designated trained operators will be authorised to refuel plant on-site.

Also, an Ecological Clerk of Works ('ECoW') will be appointed to the project to ensure that the mitigation and best practice measures will be fully implemented. Therefore, the mitigation measures outlined above will minimise the identified potential risks to water quality associated with the Construction Phase of the Proposed Development.

7.2 Stage 2 - Analysis of 'In-Combination' Effects

Based on the mitigation measures as described in Section 7.1, the Proposed Development alone will not have any direct or indirect adverse effects on the integrity of any European Sites.

Following a review of the Cork City Council Planning Files, and the Department of Housing, Local Government and Heritage's planning portal – the National Planning Application Database as listed in Table 6-3, no current or previously granted plans or projects were identified in the immediate vicinity that are considered to have the potential to have any in-combination with the Proposed Development to result in significant impacts on the integrity of European Sites.

It is therefore considered that the Proposed Development will not result in any likely significant effects in-combination with any other plans or projects on Cork Harbour SPA.

This statement is supported by:

I. The localised nature of the proposed works;

II. The distances separating the Site from European Sites;

III. The dilution factor between the Site and European Sites;

IV. The agricultural setting of the local environment;

V. The mitigation measures that will be put in place; and,

VI. The best practice guidelines which will be implemented during the construction and operational phase of the proposed development.

Taking the above into account and given the fact that the aforementioned projects will not result in any adverse effects on European sites, it can be concluded that the Proposed Development will not result in any in-combination contribution to adverse effects on the integrity of any European sites.

8 NIS CONCLUSIONS AND STATEMENT

A detailed assessment of the layout and nature of the Proposed Development, the construction methods to be employed and the overall activities that will occur at the Site during both the construction and operational phases has been carried out and the potential for significant effects on European sites and qualifying features of interest within the zone of influence of the Site has been examined in detail.

As detailed in Section 6.3, the Stage 1 AA Screening conclusion states that a hydrological connection was identified between The Great Island Channel SAC and Cork Harbour SPA and the Site, via the Grange Hill River discharging into the Curragheen stream which discharges into the Lee (Cork) Estuary Upper and drains to Cork harbour and estuary where the European sites are located. The Great Island Channel SAC was screened out due to the dilution factor and distance. Given the mobility of bird species and the potential for them to be impacted by water quality impairment, Cork Harbour SPA was taken forward for further detailed consideration.

Mitigation measures are detailed within this NIS, which will ensure that any impacts on Cork Harbour SPA or any other European site, having regard to their conservation objectives, will be avoided during all phases of the Proposed Development, such that there will be no adverse effects on the integrity of any European sites.

Following an examination, analysis and evaluation of the relevant information, including the nature of the predicted impacts from the Proposed Development and all associated works, it has been objectively concluded that with the implementation of the proposed mitigation measures, the Proposed Development will not, either alone or in combination with other plans or projects, adversely affect the integrity or conservation status of any of the qualifying interests of Cork Harbour SPA or any other European site in light of best scientific knowledge. No reasonable scientific doubt exists in relation to this conclusion.

Accordingly, progression to Stage 3 of the Appropriate Assessment process (i.e. Assessment of Alternatives Solutions) is not considered necessary.

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APPENDICES

APPENDIX A

July 2025

Bird Report

Proposed Large-Scale Residential Development

at

Maglin, Ballincollig, Co. Cork

On behalf of

O’Flynn Construction Co. Unlimited Company

MALONE O'REGAN ENVIRONMENTAL

MALONE O'REGAN

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NSAI Certified

Form ES - 04

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Job Number: E2174

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Approved By: Amelia Keane **Signed:** Amelia Keane

Revision Record

Issue No.	Date	Description	Remark	Prepared	Checked	Approved
01	08/07/25	Bird Report	Final	AC	HT	AK

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Bird Report

Proposed Large-Scale Residential Development

O'Flynn Construction Co. Unlimited Company

Maglin, Ballincollig, Co. Cork

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1 INTRODUCTION

Malone O'Regan Environmental ('MOR Environmental') has been commissioned by O'Flynn Group ('the Applicant') to undertake breeding and wintering bird surveys in respect of a proposed Large-Scale Residential Development ('LRD') and all ancillary works ('the Proposed Development') at Maglin, Co. Cork (OS ITM Reference: X: 559844 Y: 569377).

The Proposed Development is located on a site within the townlands of Maglin, Ballincollig, Carrigrohane and Ballynora, Co. Cork ('the Site'). The Site is located circa ('ca.') 870m south of Ballincollig Town Centre and ca. 7.2km southwest of Cork City Centre and is shown in Figure 1-1.

Figure 1-1: Site Location



1.1 Site Context

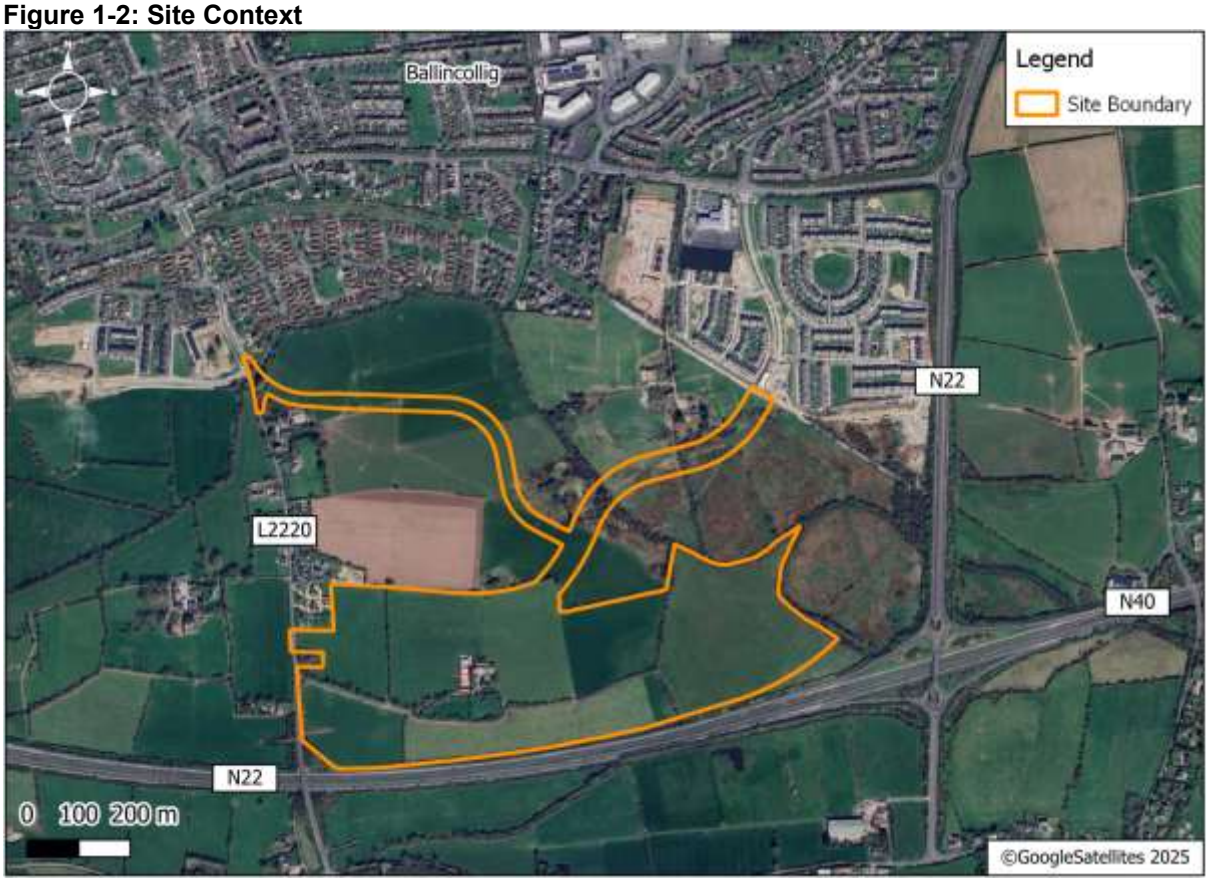
The Site has a relatively flat topography with some sloped areas along the southern and eastern boundaries. The Site is currently accessed via L2220 ('Maglin Road') to the west, with ca. 170m of the land fronting onto Maglin Road.

The lands comprise agricultural fields. Maglin House, a late 18th / early 19th-century house, sits centrally within the lands. The two-storey, L-shaped farmhouse is currently surrounded by a farmyard with associated farm buildings located to the rear of the house and an overgrown orchard to the south. The primary field boundaries are made up of hedgerow / treelines that border the Site to the north, south, east and west, and bisect the fields. The Grange Hill River intersects the northwestern and northeastern portions of the Site and borders the northeastern boundary of the Site.

A small area of mixed broadleaved woodland lies adjacent to the Grange Hill River on the southeastern branch of the Site and lies adjacent to Maglin Road on the northwestern branch of the Site.

The Site is primarily surrounded by agricultural land. The town of Ballincollig is located generally to the north of the Site. The N22 National Road runs adjacent to the southern boundary of the Site, which connects the lands to Cork City's enviros and major employment hubs. Residential properties are located on the northwestern Site boundary. The area to the east of the Site is dominated by wet grassland with a construction site for a residential housing development to the northeast.

Figure 1-2: Site Context



1.2 Relevant Legislation

All wild birds are protected by law under the Wildlife Act 1976 and subsequent amendments. All species are afforded full protection under this Act, which makes it a criminal offence for anyone without a licence to:

- Kill or injure a wild bird;
- Disturb, damage or remove a wild bird nest or eggs; and,
- Disturb any wild bird while at the nest.

In addition to domestic legislation birds are also protected under the EU Birds Directive (2009/147/EC). The Birds Directive provides for a network of sites to protect birds at their breeding, feeding, roosting and wintering areas.

For the purposes of this report, a species was considered to be of 'conservation concern' should it be included in one or more of the following:

- Annex 1 of the EU Birds Directive;
- Part 1 of the Fourth Schedule of the Wildlife Act, 1976 (as amended);
- Birds of Conservation Concern in Ireland ('BoCCI') red list; and,

- BoCCI amber list.

1.3 Objectives

The bird surveys aimed to assess the following:

Breeding Birds

- To identify and assess the number of active breeding bird territories within the Site;
- To map active nests, where present, within the Site;
- To evaluate the overall bird community within the Site by recording all behavioural activity of birds;
- Utilise the information in order to identify and assess any areas of the Site that may require special consideration during the breeding bird season;
- Assess all potential impacts, if any, of the Proposed Development on breeding bird species; and,
- Provide additional mitigation measures, should they be required.

Wintering Birds

- To identify, if any, overwintering bird species utilise the Site;
- To determine the potential of overwintering bird species, especially wetland bird species, to utilise the Site as an inland feeding / roosting Site; and,
- To assess all potential impacts, if any, of the Proposed Development on overwintering wetland bird species; and,
- To provide additional mitigation measures, should they be required.

Barn Owl

- Determine the suitability of the Site for barn owl;
- Determine the use of the Site, if any, by barn owl (e.g., hunting, commuting, roosting);
- To map active nests, where present, within the Site;
- Identify any potential roost sites within the Site;
- Assess all potential impacts, if any, of the Proposed Development on barn owl; and,
- Provide additional mitigation measures, should they be required.

1.4 Statement of Authority

This report was reviewed by Mr. Henry Tennyson, Senior Environmental Consultant. Henry is a qualifying member of the Chartered Institute of Ecology and Environmental Management ('CIEEM') with four years of experience working in the environmental consultancy sector. As part of his role, Henry regularly conducts ecological surveys and assessments for various projects across Ireland and has experience in conducting surveys in accordance with Best Practice Guidelines.

This report was approved by Ms. Amelia Keane, Principal Environmental Consultant - Ecology. Amelia Keane has a B.Sc. (Hons) Zoology and an M.Sc. Wildlife Conservation and Management. Amelia is a full member of CIEEM and has over 6 years' experience working in the ecological consultancy with a specialisation in ornithology. Amelia co-authored the publication 'Conservation conflict: Managing forestry versus hen harrier species under Europe's Birds Directive' [1]. As part of her role, Amelia regularly conducts ornithological

surveys for various projects across Ireland and has experience in conducting vantage point surveys, including for receptors such as raptors (specifically hen harrier), owls, geese, swans and waders, etc., wintering and breeding farmland bird transect surveys, ground nesting bird surveys, breeding woodcock surveys, barn swallow surveys, breeding bird habitat suitability assessments, and winter bird habitat suitability assessments. Amelia regularly prepares specialist ornithological assessments and reports.

2 METHODOLOGY

The methodologies used to establish the presence / potential presence of breeding birds and wintering birds are summarised below.

2.1 Desk-based Studies

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

- Review of aerial maps of the Site and surrounding area;
- The National Parks and Wildlife Service ('NPWS') website was consulted to obtain the most up-to-date details on conservation objectives for the Natura 2000 sites relevant to this assessment [2];
- Bird Watch Ireland – The Irish Wetland Bird Survey ('I-WeBS') data was reviewed with regard to wintering waterbird population within the vicinity of the Site [3]; and,
- The National Biodiversity Data Centre ('NBDC') website was consulted with regard to species distributions within 2km of the Site [4].

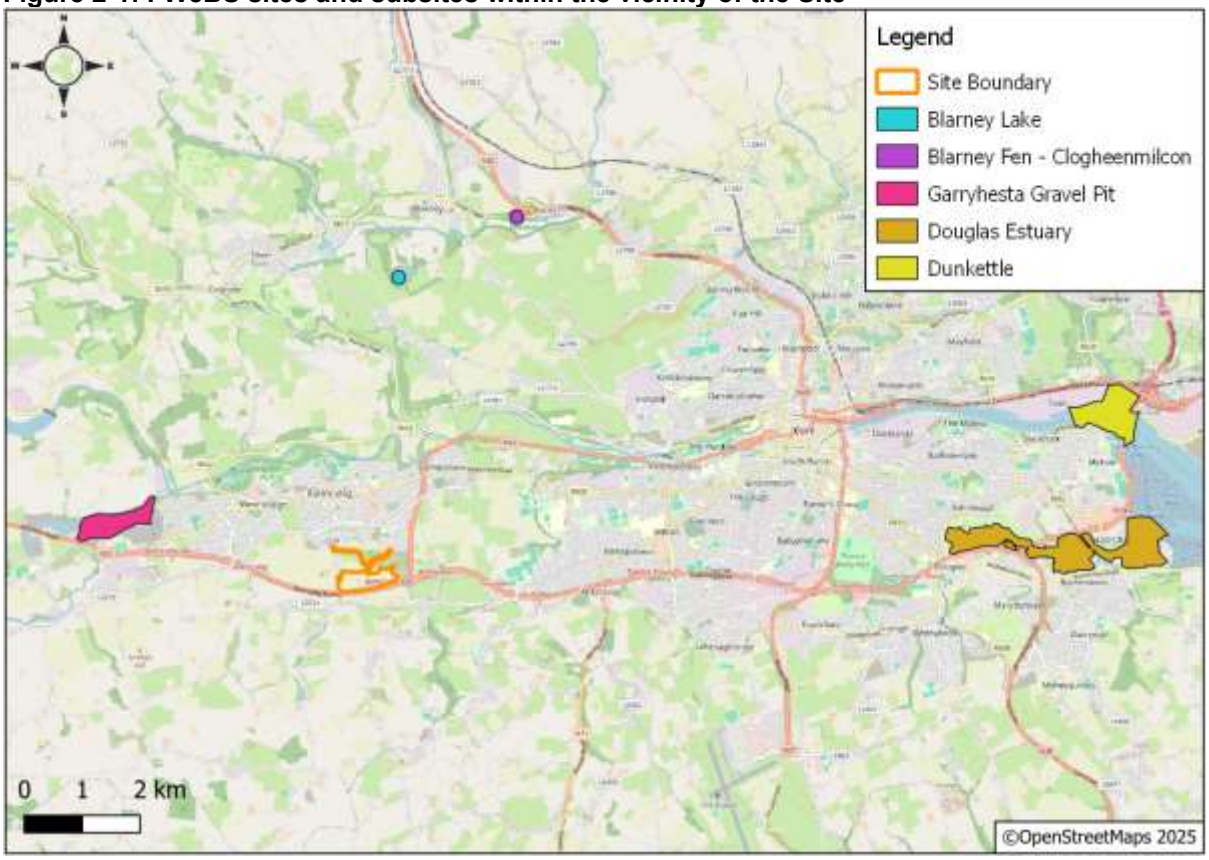
2.1.1 I-Webs Data Request

As mentioned above, I-WeBS data was reviewed in order to understand the potential assemblages of wintering bird populations that tend to occur within the vicinity of the Site.

As part of this review, a data request was submitted to the I-WeBS on the 7th March 2025, which is coordinated by BirdWatch Ireland and under contract to the NPWS. The data request was for all available data from the I-WeBS sites within close proximity to the Site. This included three sites and two subsites, see Figure 2-1:

- Garryhesta Gravel Pit (Site code: 0L202) – located 3.1km northwest of the Site;
- Blarney Lake (Site code: 0L040) – located ca. 4.5km north of the Site;
- Blarney Fen - Clogheenmilcon (Site code: 0L320) – located ca. 6km northeast of the Site;
- Cork Harbour – Douglas Estuary (Site Code: 0L403, Subsite Code: 0L488) – located 9.5km east of the Site; and,
- Cork Harbour – Dunkettle (Site Code: 0L403, Subsite Code: 0L486 – located 12km northeast of the Site.

Figure 2-1: I-WeBS sites and subsites within the vicinity of the Site



2.2 Field-based Studies

2.2.1 Habitat Assessment

An initial site walkover was undertaken on the 31st August 2023, by two suitably qualified and experienced MOR Environmental Ecologists, to assess the extent and the quality of habitats present on the Site and to identify any potential ecological receptors associated with any European Designated sites (i.e., Natura 2000 sites).

During the initial site walkover, a habitat survey was undertaken for the Site utilising the Heritage Council's – '*A Guide to Habitats in Ireland*' [5]. This is the standard habitat classification system used in Ireland and includes both a desk-based and field-based assessment.

Updated habitat surveys were undertaken on the following dates:

- 13th September 2024;
- 25th October 2024; and,
- 13th May 2025.

These surveys were undertaken by a team of suitably qualified and experienced MOR Environmental Ecologists to confirm that the extent and quality of habitats present onsite and the potential ecological receptors on-site had not changed from the previous assessments.

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

Following the initial Site assessment, it was deemed necessary to undertake specialist breeding bird and wintering bird surveys on-site.

2.2.2 Bird Surveys

2.2.2.1 Wintering Bird Surveys

Typically, the wintering bird season encompasses mid-September to mid-March. Three wintering bird surveys were undertaken on 21st November 2023, 12th December 2023 and 17th January 2024. These surveys were undertaken to determine whether or not wintering birds were utilising the Site and the area within the immediate vicinity of the Site. Additionally, it was also to assess the potential use of the Site by wintering bird species associated with European sites within 15km of the Site.

The surveys utilised adapted methods from the Scottish Natural Heritage ('SNH') bird survey methods [6] and Bird Monitoring Methods [7]. Two pre-determined vantage points ('VPs') were selected that had sufficient views of the Site (see Figure 2-3). See Figure 2-3 for the viewshed from the VPs. All species observed utilising the Site were recorded, and their locations were marked on the maps. It should be noted that a portion of the fields to the south of the VP were not covered by the viewshed, given the topography of the Site. However, this is not considered a survey limitation due to the fact that these fields are located directly adjacent to the busy N22 National Road and are subject to high levels of traffic noise emissions and regular cattle disturbances. Furthermore, the viewshed from the VPs did have views over the treelines of any birds that would be flying in or out of the fields.

Following the completion of the survey at VP1, a transect survey was undertaken to flush out any birds that may not have been visible during the vantage point survey (see Figure 2-3). The fields in the east of the Site were inaccessible at the time of the surveys due to the presence of livestock, including bulls, see Section 2.2.2.5. During the transect survey, the surveyor walked a set route between VP1 and VP2, and all of the open areas were observed for the presence of birds. Where a flock of birds feeding was encountered, long stops were taken in order to ensure accurate species recording and counting.

During the surveys, all birds were recorded using a standard BTO code through sight and sound and optical equipment, such as telescopes and binoculars, was used to minimise disturbance to wintering birds. The behaviours and activities of the birds were recorded to identify whether the birds were roosting or feeding within the Site. Any roosts identified within the Site were recorded.

The metadata recorded during the surveys is presented in Table 2-1.

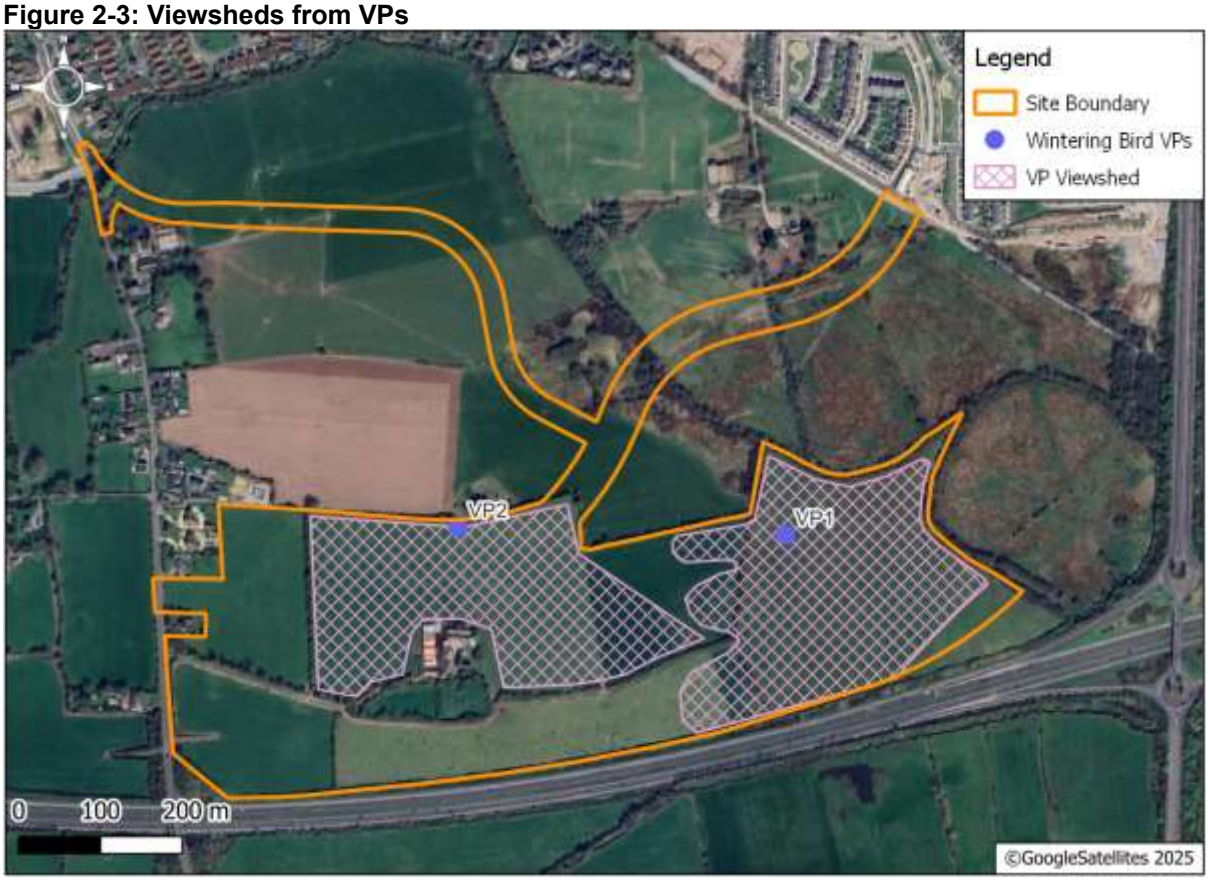
Table 2-1: Metadata for Wintering Bird Surveys

Visit No.	Date	Time	High Tide	Temperature (°C) (Start – End)	Rain	Cloud Cover	Visibility
1	20/11/2023	09:50 – 13:00	11:21	9°C - 10°C	No rain	80%	100%
2	12/12/2023	09:40 – 12:40	11:10	6°C - 8°C	No rain	90%	80%
3	17/01/2024	09:00 – 12:00	10:30	-1°C – 0°C	No rain	30%	100%

Figure 2-2: Wintering Bird VP and Transect Locations



Figure 2-3: Viewsheds from VPs



2.2.2.2 Breeding Bird Surveys

The Site was assessed for its potential to support important assemblages of birds of rare or notable species. Surveys aimed to identify and examine areas where wintering and breeding birds might occur. Any activity and potential nesting habitats onsite were noted.

Three breeding bird transect surveys were undertaken on 24th April, 16th May and 20th June 2024 by two suitably qualified MOR Environmental Ecologists. The breeding bird surveys were conducted in line with the methodology described in:

- British Trust for Ornithology ('BTO') – *A Field Guide to Monitoring Nests* [8]; and,
- Common Bird Census in Bird Monitoring Methods [9].

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

All birds were recorded through sight and sound. Optical equipment was used, such as binoculars, in order to minimise disturbance to potentially breeding birds. The hedgerows, treelines and woodland habitats onsite were examined for the presence of nests. During the survey, the behavioural activity of the recorded birds was noted using the BTO breeding status codes [10]. Birds that displayed non-territorial behaviours were recorded as well (i.e., birds that were flying over the Site, birds that were foraging and not calling, birds that were loafing).

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

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

The metadata for the breeding bird surveys are described in Table 2-2. The location of the transects is in Figure 2-4. At the time of the surveys, the Site Boundary had not included the most northern section of the Site (the proposed access roads), as the Site Boundary was modified to include these sections following consultation with Cork City Council ('CCC') to include roads accessing the Site. Given the similarity of the habitats in the extended area and similar agricultural practices, it can be assumed that the bird species utilising the area surveyed will be similar to those in the extended area.

Please note that updated breeding bird surveys are taking place in the 2025 survey season, and the results will be submitted to CCC following completion.

Table 2-2: Breeding Bird Survey Metadata

Visit No.	Date	Time	Temperature (°C) Start - End	Wind (Beaufort Scale	Rain	Cloud Cover
1	24/04/2024	7:40 – 9:50	7-11°C	1	None	80%
2	16/05/2024	7:30 -9:30	12-15	0	None	30-40%

Visit No.	Date	Time	Temperature (°C) Start - End	Wind (Beaufort Scale	Rain	Cloud Cover
3	20/06/2024	6:50 – 8:50	10-13	1	None	15%

Figure 2-4: Breeding Bird Transect Locations



2.2.2.3 Building Suitability Assessment

During the initial site walkover, the buildings onsite were assessed for the presence of nesting birds – including barn swallows, house martins and barn owls.

The assessment for barn swallows and house martins included assessing the buildings for any active or inactive nests, evidence of remnant nests, whitewash, moulted feathers or feeding remains.

The assessment for barn owls included an inspection of the buildings and adjacent trees for the following signs of potential barn owl presence:

- Male barn owl calling prior to laying season;
- Display flights over territory;
- Pellets, feathers and/or white streaking;
- Holes in the outside wall of buildings (minimum 75mm wide); and,
- Mature trees which are isolated, within treelines or on the edge of woodland with a diameter over 50cm and large, visible cavities.

Barn owl surveys were undertaken in conjunction with the bat surveys conducted on-site by suitably qualified and experienced MOR Environmental Ecologists on 13th and 29th

September 2023, 29th May and 29th June 2024, and 15th May, 22nd May and 16th June 2025. Any observations of barn owl were recorded through sightings and where possible, through sound.

An updated building assessment was completed during the habitat survey on 13th May 2025.

2.2.2.4 Barn Owl Surveys

Barn owl surveys were undertaken during bat surveys in the 2023, 2024 and 2025 breeding seasons in conjunction with the bat surveys. The barn owl surveys were conducted in line with the methodology described in:

- Raptors: A Field Guide for Surveys and Monitoring [11];
- Barn Owl (*Tyto alba*) Survey Methodology and Techniques for use in Ecological Assessment [12]; and,
- Transport infrastructure Irelands '*Barn Owl Surveying Standards for National Road Projects'* [13].

The VPs utilised during these surveys changed to get a different observation of activity onsite from the previous year. The metadata for these surveys is outlined in Table 2-3. See Figures 2-5 to 2-8 for VP and transect locations.

Table 2-3: Barn Owl Survey Metadata

Date	Survey Type	Sunset	Survey Times (Start-End)	Weather	Temperature (°C) Start - End
2023 Surveys					
13/09/2023	Dusk	19:57	19:42 – 20:47	Rain at 20:47, gentle breeze	16°C-16°C
26/09/2023	Dusk	19:24	19:09 – 21:24	Dry, gentle breeze	13°C - 11°C
2024 Surveys					
29/05/2024	Dusk	21:41	21:26 – 23:41	Dry, light breeze	13°C - 11°C
25/06/2024	Dusk	21:58	21:43 – 23:58	Dry, light breeze	17°C - 15°C
2025 Surveys					
13/05/2025	Dusk	21:17	21:17 – 23:17	Dry, light breeze	14°C - 12°C
22/05/2025	Dusk	21:32	21:25 – 23:35	Dry, no breeze	16°C - 13°C
16/06/2025	Dusk	21:58	21:40 – 23:55	Dry, gentle breeze	16°C - 15°C

Figure 2-5: Bat and Barn Owl VP and Transects in 2023

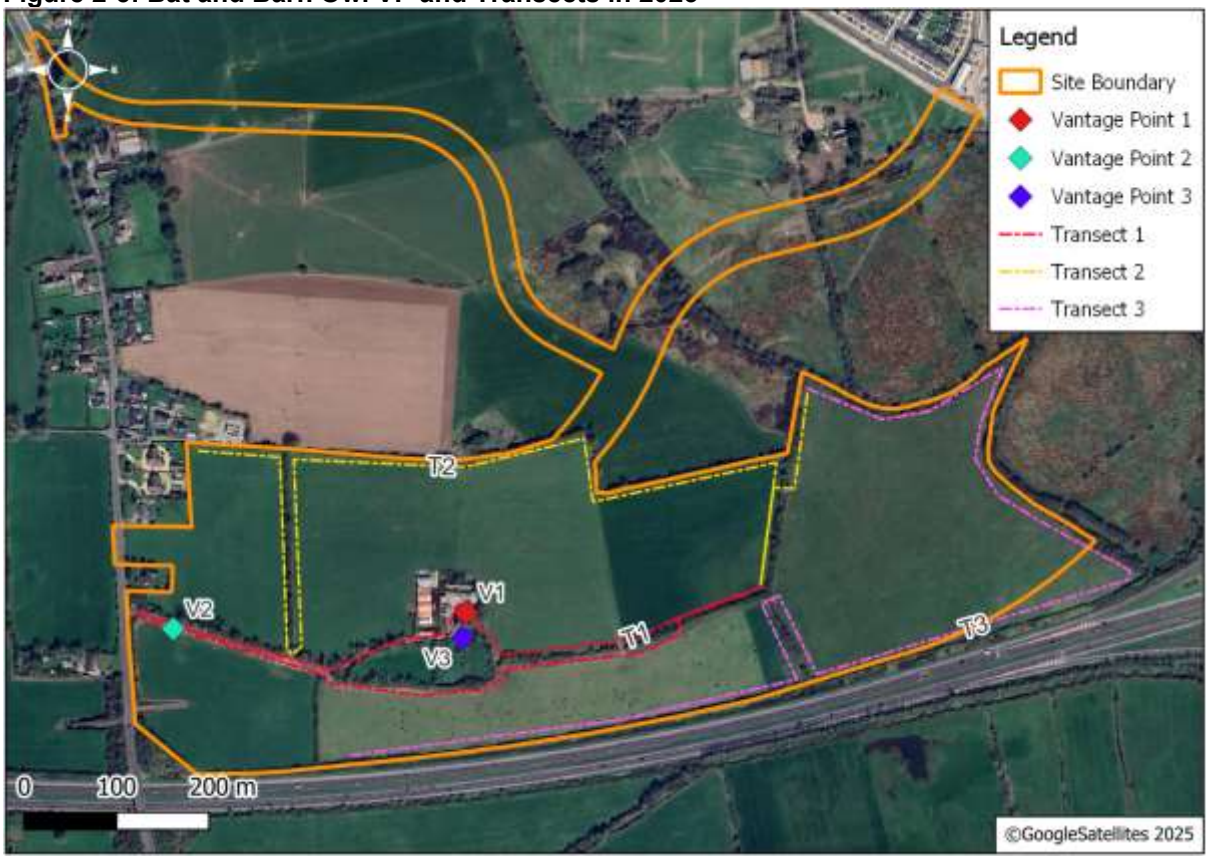


Figure 2-6: Bat and Barn Owl VP and Transect on 29/05/2024

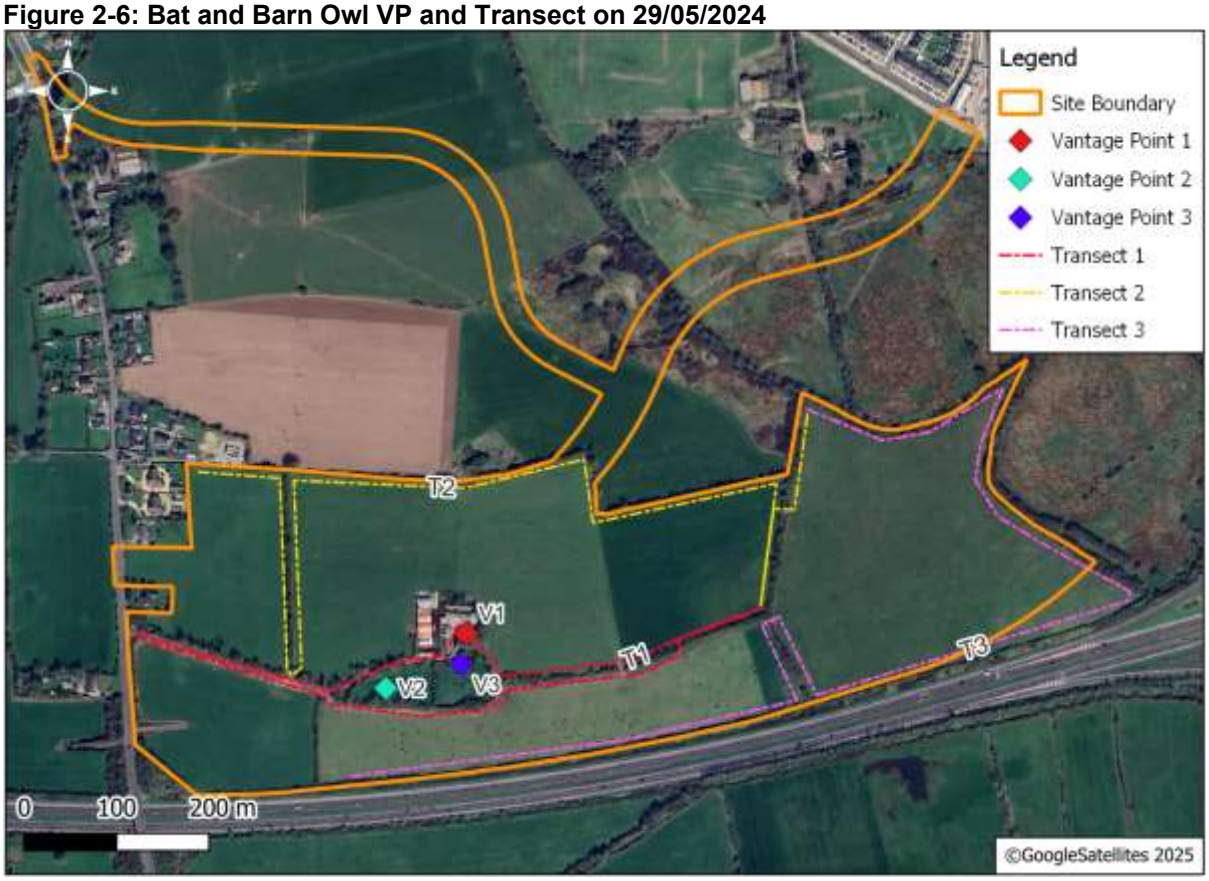


Figure 2-7: Bat and Barn Owl VP and Transects on 25/06/2024

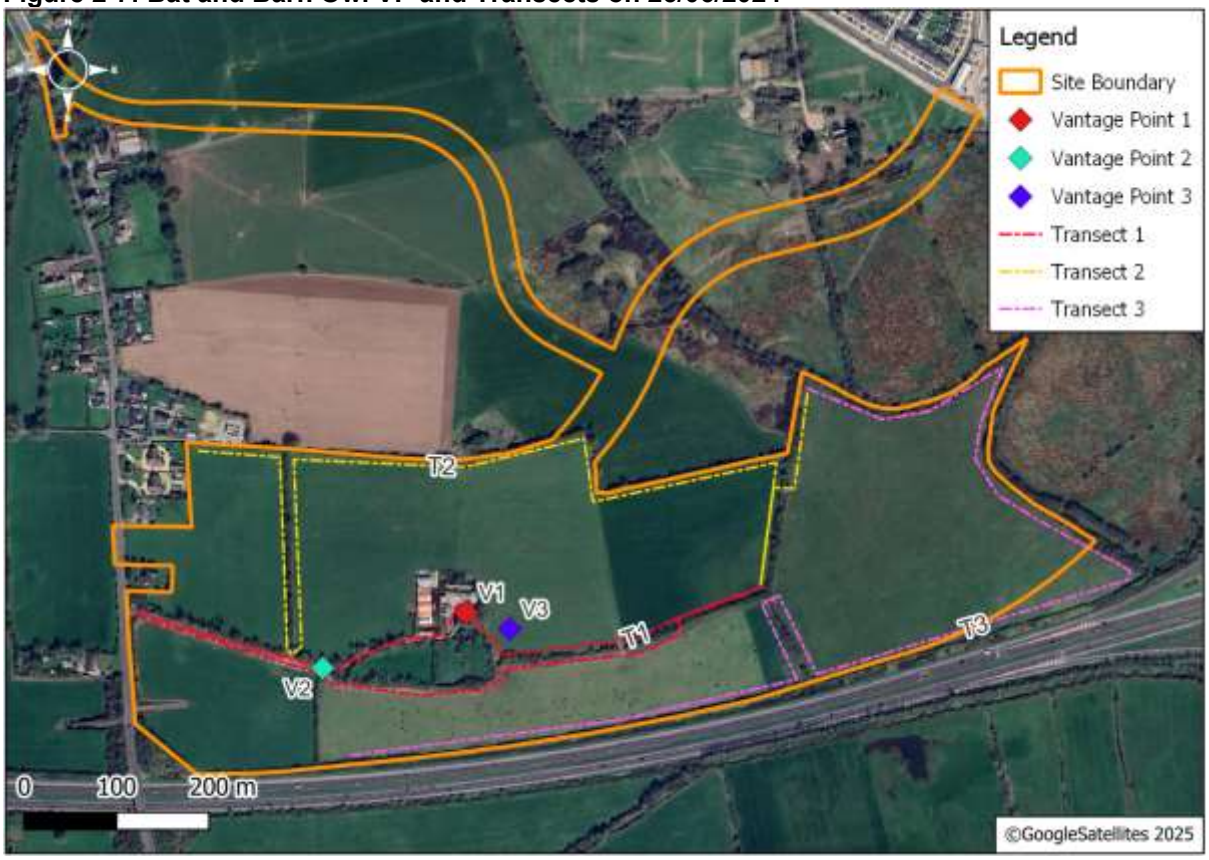
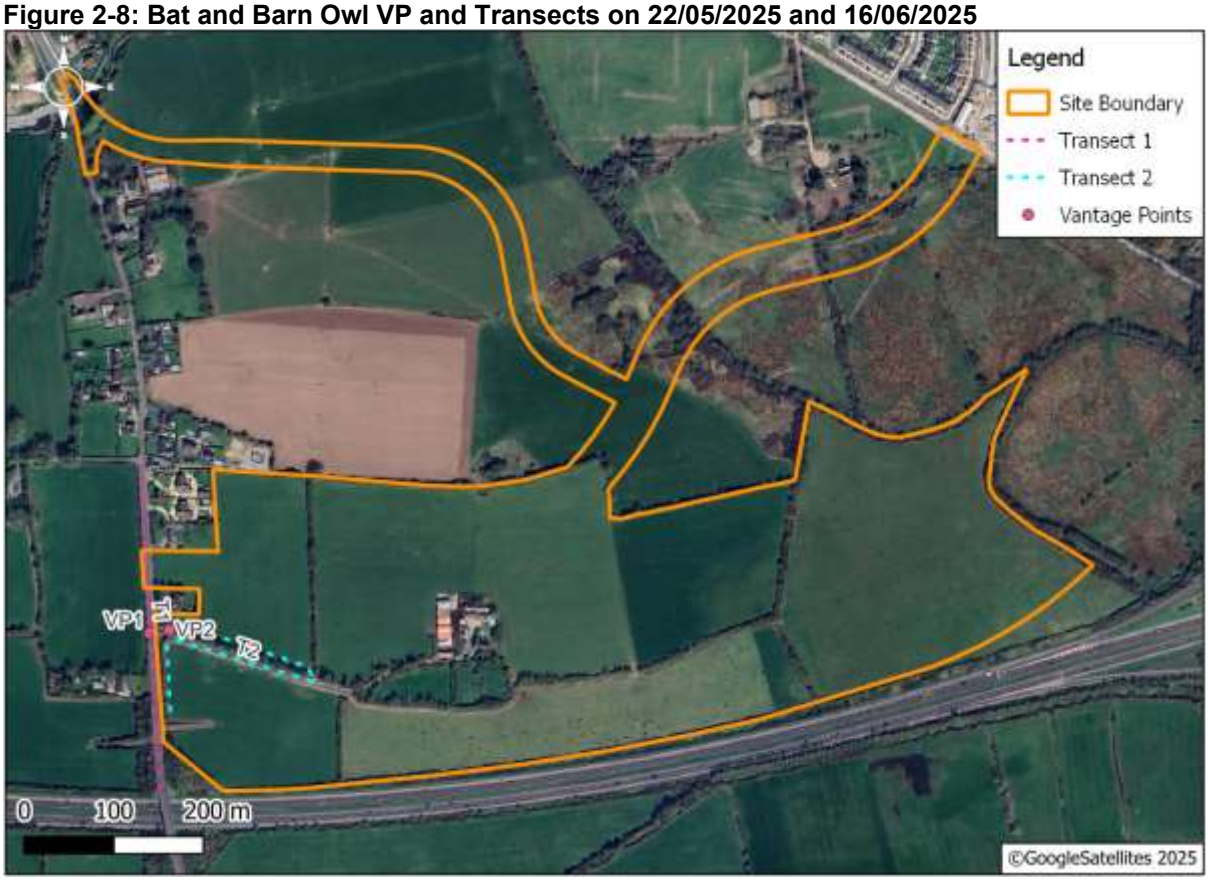


Figure 2-8: Bat and Barn Owl VP and Transects on 22/05/2025 and 16/06/2025



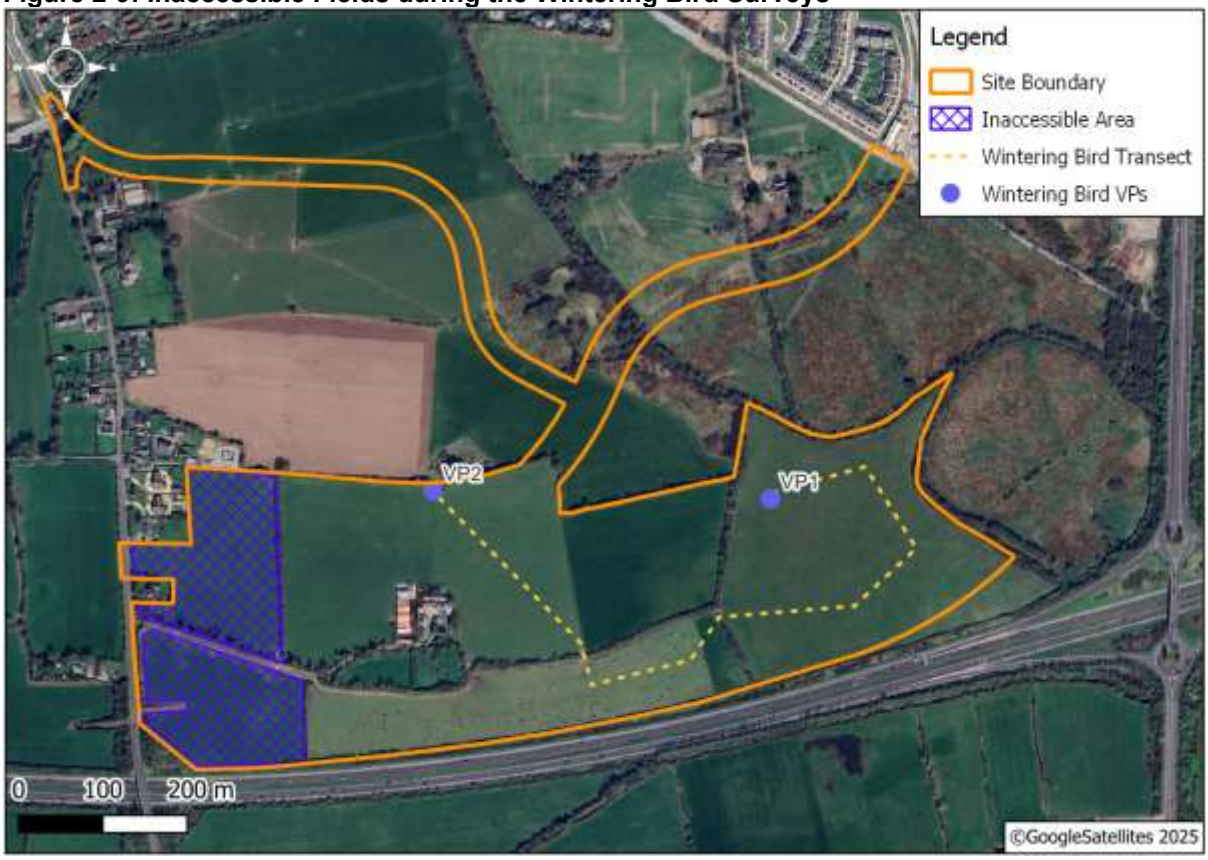
2.2.2.5 Survey Limitations

According to CIEEM Advice Note on the Lifespan of Ecological Reports and Surveys, survey data that is 12-18 months old can still remain valid following an updated survey by a professional ecologist and updated desk-based assessment to confirm that the Site has not experienced significant change and the local distribution of species in the wider area around the Site has not changed [14]. Following the updated surveys undertaken on 13th September 2024, 25th October 2024 and,13th May 2025 it was concluded that onsite habitats and the habitats in the wider area had not changed since 2023 and that the results of the 2023 / 2024 wintering surveys and 2024 breeding bird surveys remain valid.

During the wintering bird surveys, the fields in the east of the Site were inaccessible at the time of the surveys due to the presence of livestock, including bulls, see Figure 2-9.

Additionally, please note that updated breeding bird surveys are currently ongoing during the 2025 breeding survey season, and results will be submitted to CCC following completion.

Figure 2-9: Inaccessible Fields during the Wintering Bird Surveys



2.3 Avian Receptor Evaluation

The value of the avian receptors at the Site was evaluated using the ecological evaluation guidance given in the National Roads Authority ('NRA') guidance on the assessment of ecological impacts of National Road Schemes [15]. This guidance provides ratings for resources based primarily on geographic context and allows for resources at International, National, County and Local (higher and lower value) levels. Key ecological receptors for assessment are those deemed to be above the 'Local Importance (lower value)' evaluation (see Table 2-4).

Table 2-4: NRA Guidance for Evaluation Criteria relevant to Avian Fauna

Resource Evaluation	Criteria
International Importance	'European Site' including Special Area of Conservation ('SAC'), Site of Community Importance ('SCI'), Special Protection Area ('SPA'), proposed Special Area of Conservation, or Proposed Special Protection Area ('pSPA'). 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). Site hosting significant species populations under the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals, 1979). Resident or regularly occurring populations (assessed to be important at the national level) of the following: • Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive.
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, or National Park, Resident or regularly occurring populations (assessed to be important at the national level) of the following: • Species protected under the Wildlife Acts; and / or • Species listed on the relevant Red Data list.
County Importance	County important populations of species, or viable areas of semi-natural habitats or natural heritage features identified in the National or Local Biodiversity Action Plan ('BAP') (if this has been prepared). Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level. Resident or regularly occurring populations (assessed to be important at the County level) of the following: • Species of bird, listed in Annex I and / or referred to in Article 4(2) of the Birds Directive. • Species protected under the Wildlife Acts; and / or, • Species listed on the relevant Red Data list.
Local Importance (High 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) of the following: • Species of bird, listed in Annex I and / or referred to in Article 4(2) of the Birds Directive. • Species protected under the Wildlife Acts; and / or, • Species listed on the relevant Red Data list.
Local Importance (Low Value)	Species that remain common and widespread. Green-listed species.

3 RESULTS

3.1 Desk-Based Results

3.1.1 National Biodiversity Data Centre

The NBDC was consulted for records of protected species within 2km of the Site. The NBDC records were checked on 6th May 2025. The following NBDC 2km grids have been checked: W56T, W56U, W56Y, W56Z, W57V, W66D, W66E, W66I, W66J, W67A and W67F [4]. These records are collated in Table 3-1.

Only species recorded within the past 10 years were included in Table 3-1. The parameter of 10 years was chosen based on habitat adaption and modification; it is considered that any records over 10 years old are not representative of the current distribution of species populations.

Table 3-1: Protected Bird Species within 2km of Site

Species	**Scientific Name**	**Date of Last Record**	**Protected Status / BoCCI Status** [16]
Barn Owl	*Tyto alba*	24/11/2021	Wildlife Acts 1976 / 2000 Birds of Conservation Concern – Red List
Barn Swallow	*Hirundo rustica*	16/05/2021	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Black-billed Magpie	*Pica pica*	05/05/2020	Birds of Conservation Concern Green List
Black-headed gull	*Larus ridibundus*	28/12/2021	Wildlife Acts 1976 / 2000 Birds of Conservation Concern – Amber List
Blackcap	*Sylvia atricapilla*	29/06/2022	Birds of Conservation Concern Green List
Blue Tit	*Cyanistes caeruleus*	13/04/2021	Birds of Conservation Concern Green List
Cattle Egret	*Bubulcus ibis*	03/02/2008	Birds of Conservation Concern Green List
Canada Goose	*Branta canadensis*	25/10/2018	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex II Section I Bird Species Invasive Species: High Impact Invasive Species
Chaffinch	*Fringilla coelebs*	11/02/2024	Birds of Conservation Concern Green List
Coal Tit	*Periparus ater*	11/02/2024	Birds of Conservation Concern Green List
Common Blackbird	*Turdus merula*	21/04/2023	Birds of Conservation Concern Green List
Common Bullfinch	*Pyrrhula pyrrhula*	19/03/2023	Birds of Conservation Concern Green List
Common Buzzard	*Buteo buteo*	10/08/2021	Birds of Conservation Concern Green List
Common Chiffchaff	*Phylloscopus collybita*	19/05/2020	Birds of Conservation Concern Green List
Common Greenshank	*Tringa nebularia*	25/10/20218	Wildlife Acts 1976 / 2000

Species	**Scientific Name**	**Date of Last Record**	**Protected Status / BoCCI Status** [16]
			Birds of Conservation Concern Green List
Common Kestrel	*Falco tinnunculus*	30/09/2018	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Red List
Common Kingfisher	*Alcedo atthis*	29/03/2021	Wildlife Acts 1976 / 2000 Birds of Conservation Concern - Amber List
Common Linnet	*Carduelis cannabina*	17/06/2020	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Common Moorhen	*Gallinula chloropus)*	04/03/2020	Wildlife Acts 1976 / 2000 Birds of Conservation Concern - Green List
Common Pheasant	*Phasianus colchicus*	17/04/2020	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex II Section I and Annex III and Section I Bird Species Birds of Conservation Concern Green List
Common Raven	*Corvus corax*	17/04/2020	Birds of Conservation Concern Green List
Common Starling	*Sturnus vulgaris*	31/07/2021	Wildlife Acts 1976 / 2000
Common Shelduck	*Tadorna tadorna*	28/04/2020	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Common Snipe	*Gallinago gallinago*	28/03/2020	Wildlife Acts 1976 / 2000 EU Birds Directive Annex II & III Birds of Conservation Concern – Amber List
Common Swift	*Apus apus*	16/07/2023	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Red List
Common Wood Pigeon	*Columba palumbus*	19/05/2020	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex II Section I and Annex III Section I Bird Species Birds of Conservation Concern Green List
Cormorant	*Phalacrocorax carbo*	05/05/2020	Wildlife Acts 1976 / 2000 Birds of Conservation Concern - Amber List
Eurasian Collared Dove	*Streptopelia decaocto*	21/04/2023	Birds of Conservation Concern Green List
Eurasian Curlew	*Numenius arquata*	17/11/2021	Wildlife Acts 1976 / 2000 EU Birds Directive Annex II Birds of Conservation Concern – Red List
Eurasian Jackdaw	*Corvus monedula*	25/06/2019	Birds of Conservation Concern Green List

Species	**Scientific Name**	**Date of Last Record**	**Protected Status / BoCCI Status** [16]
Eurasian Jay	*Garrulus glandarius*	11/04/2018	Birds of Conservation Concern Green List
Eurasian Siskin	*Carduelis spinus*	19/03/2024	Birds of Conservation Concern Green List
Eurasian Sparrowhawk	*Accipiter nisus*	25/10/2018	Birds of Conservation Concern Green List
Eurasian Teal	*Anas crecca*	11/04/2024	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex II Section I and Annex III Section II Bird Species Birds of Conservation Concern Amber List
Eurasian Treecreeper	*Certhia familiaris*	17/02/2024	Birds of Conservation Concern Green List
European Shag	*Phalacrocorax aristotelis*	11/04/2021	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
European Golden Plover	*Pluvialis apricaria*	18/01/2021	Wildlife Acts 1976 / 2000 EU Habitats Directive Annex I Annex II Section II and Annex III and Section III Bird Species Birds of Conservation Concern Red List
European Goldfinch	*Carduelis carduelis*	25/04/2023	Birds of Conservation Concern Green List
European Greenfinch	*Carduelis chloris*	05/05/2020	Birds of Conservation Concern Green List
European Robin	*Erithacus rubecula*	06/09/2017	Birds of Conservation Concern Green List
Fieldfare	*Turdus pilaris*	04/03/2018	Birds of Conservation Concern Green List
Goldcrest	*Regulus regulus*	10/02/2024	Birds of Conservation Concern Amber List
Great Spotted Woodpecker	*Dendrocopos major*	11/02/2024	Birds of Conservation Concern Green List
Great Tit	*Parus major*	01/02/2021	Birds of Conservation Concern Green List
Grey Heron	*Ardea cinerea*	15/06/2020	Wildlife Acts 1976 / 2000 Birds of Conservation Concern - Green List
Grey Wagtail	*Motacilla cinerea*	29/06/2024	Birds of Conservation Concern Red List
Hedge Accentor	*Prunella modularis*	19/05/2020	Birds of Conservation Concern Green List
Hooded Crow	*Corvus cornix*	25/10/2018	Birds of Conservation Concern Green List
House Martin	*Delichon urbicum*	04/06/2020	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
House Sparrow	*Passer domesticus*	08/03/2021	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List

Species	**Scientific Name**	**Date of Last Record**	**Protected Status / BoCCI Status** [16]
Lesser Black-backed Gull	*Larus fuscus*	28/04/2020	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Little Egret	*Egretta garzetta*	15/06/2020	Wildlife Acts 1976 / 2000 EU Birds Directive Annex I Birds of Conservation Concern - Green List
Long-eared Owl	*Asio otus*	08/07/2018	Birds of Conservation Concern - Green List
Long-tailed Tit	*Aegithalos caudatus*	11/02/2024	Birds of Conservation Concern - Green List
Mallard	*Anas platyrhynchos*	11/04/2021	Wildlife Acts 1976 / 2000 EU Birds Directive Annex II & III Birds of Conservation Concern – Amber List
Mistle Thrush	*Turdus viscivorus*	18/01/2024	Birds of Conservation Concern Green List
Mute Swan	*Cygnus olor*	11/04/2021	Wildlife Acts 1976 / 2000 Birds of Conservation Concern - Amber List
Northern Lapwing	*Vanellus vanellus*	18/01/2018	Wildlife Acts 1976 / 2000 EU Birds Directive Annex II Section II Bird Species Birds of Conservation Concern Red List
Northern Shoveler	*Anas clypeata*	19/05/2020	Wildlife Acts 1976 / 2000 EU Birds Directive Annex II & III Birds of Conservation Concern –Red List
Pied Wagtail	*Motacilla alba subsp. yarrellii*	02/05/2020	Birds of Conservation Concern Green List
Red Kite	*Milvus milvus*	29/06/2021	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Redwing	*Turdus iliacus*	18/01/2024	Birds of Conservation Concern Red List
Rook	*Corvus frugilegus*	06/09/2017	Birds of Conservation Concern Green List
Sand Martin	*Riparia riparia*	11/04/2021	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Amber List
Song Thrush	*Turdus philomelos*	11/02/2024	Birds of Conservation Concern Green List
Stonechat	*Saxicola torquata*	01/01/2018	Birds of Conservation Concern Green List
White-throated Dipper	*Cinclus cinclus*	16/05/2020	Wildlife Acts 1976 / 2000 Birds of Conservation Concern Green List

Species	Scientific Name	Date of Last Record	Protected Status / BoCCI Status [16]
Winter Wren	*Troglodytes troglodytes*	19/06/2018	Birds of Conservation Concern Green List

3.1.2 I-WeBS

I-WeBS data was requested for nearby sites within the vicinity of the Site. The records were reviewed in order to gain an understanding into the potential assemblage of bird populations that may utilise the areas within the vicinity of the Site.

Data from three sites and two subsites, was received (refer to Section 2.1.1).

Garryhesta Gravel Pit (Site Code: 0L202)

The I-WeBS data for wintering seasons between the years 1995/1996 and 1998/1999, and between the years 2005/2006 and 2008/2009, were available for the Garryhesta Gravel Pit site. A total of 20 species were recorded during this period. However, during the most recent counts available for the 2008/2009 season, only a total of 10 species were recorded.

None of the species recorded were recorded in numbers that would be considered of international importance. However:

- Teal were recorded in numbers that would be considered to be of national importance during the 1995/1996 season; and,
- Pochard were recorded in numbers that would be considered to of national importance during the 2007/2008 season.

Blarney Lake (Site Code: 0L040)

The I-WeBS data for wintering seasons between 1994/1995 to 2023/2024 was available the Blarney Lake site. However, it should be noted that data from 2005/2006, 2007/2008, between 2009/2010 and 2013/2014 and between 2025/2016 and 2022/2023 was unavailable. A total of 24 species were recorded during this period. However, during the most recent counts available for the 2022/2024 season, a total of 15 species were recorded. No species were recorded at numbers of national or international importance at this site.

Blarney Fen – Clogheenmilcon (Site Code: 0L320)

The I-WeBS data for wintering seasons between the years 1995/1996 and 2003/2004, 2006/2007, 2014/2015 and 2023/2024 were available for the Blarney Fen – Clogheenmilcon site. A total of 23 species were recorded during this period. However, during the most recent counts available for the 2023/2024 season, only a total of 12 species were recorded.

None of the species recorded were recorded in numbers that would be considered of international importance. However:

- Shoveler were recorded in numbers that would be considered to be of national importance during the 2023/2024 season.

Cork Harbour – Douglas Estuary (Site Code: 0L403, Subsite Code: 0L488)

The I-WeBS data for wintering seasons for 1995/1996, 1997/1998, 1998/1999 and between the years 2005/2006 and 2008/2009 were available for the Douglas Estuary subsite site. A total of 20 species were recorded during this period. However, during the most recent counts available for the 2008/2009 season, only a total of 10 species were recorded.

None of the species recorded were recorded in numbers that would be considered of international importance. However, several species were recorded in numbers that would be considered to be of national importance, including:

- Shelduck were recorded at numbers of national importance between the 1994/1995, 1995/1996, 1996/1997 and 2000/2001, 2001/2002, 2003/2003, 2003/2004, 2004/2005, 2005/2006, 2006/2007, 2007/2008, 2009/2010, 2010/2011, 2011/2012 seasons;
- Wigeon were recorded at numbers of national importance during the 1994/1995 season;
- Teal were recorded at numbers of national importance during the 1995/1996, 2000/2001 and the 2003/2004 seasons;
- Great crested grebe were recorded at numbers of national importance during the 1995/1996, 1996/1997 and 2001/2002 seasons;
- Little egret were recorded at numbers of national importance during the 2004/2005, 2007/2008, 2009/2010 and 2014/2015 seasons;
- Oystercatcher were recorded at numbers of national importance during the 1996/1997 season;
- Golden plover were recorded at numbers of national importance during the 1994/1995, 1996/1997, 2000/2001, 2001/2002, 2003/2003, 2003/2004, 2004/2005, 2005/2006, 2006/2007, 2007/2008, 2009/2010, 2010/2011, 2011/2012, 2012/2013, 2013/2014, 2014/2015, 2015/2016, 2017/2018, 2018/2019 and 2021/2022 seasons;
- Lapwing were recorded at numbers of national importance during the 1994/1995, 1995/1996, 1996/1997, 2000/2001, 2002/2003, 2003/2004, 2004/2005, 2005/2006, 2007/2008, 2010/2011, 2011/2012, 2013/2014 and 2014/2015 seasons;
- Knot were recorded at numbers of national importance during the 2010/2011 season;
- Dunlin were recorded at numbers of national importance during all seasons with data available (1995/1996, 1997/1998, 1998/1999 and between the years 2005/2006 and 2008/2009);
- Bar-tailed godwit were recorded at numbers of national importance during all seasons with data available except the 1994/1995 and 2023/2021 seasons;
- Curlew were recorded at numbers of national importance during the 1995/1996, 1996/1997, 2002/2003, 2003/2004, 2004/2005, 2005/2006, 2007/2008, 2010/2011, 2011/2012, 2013/2014, 2014/2015 and 2021/2022 seasons; and,
- Redshank were recorded at numbers of national importance during the 1995/1996, 1996/1997, 2002/2003, 2003/2004, 2004/2005, 2005/2006, 2006/2007, 2007/2008, 2009/2010, 2011/2012, 2012/2013, 2013/2014, 2014/2015, 2016/2017, 2019/2020, 2020/2021, 2021/2022 and 2022/2023 seasons.

Cork Harbour – Dunkettle (Site Code: 0L403, Subsite Code: 0L486)

The I-WeBS data for wintering seasons between the years 1994/1995 and 2023/2024 were available for the Dunkettle subsite, with the exception of the 2005/2006 and 2020/2021 seasons. A total of 43 species were recorded during this period. However, during the most recent counts available for the 2023/2024 season, only a total of 15 species were recorded.

None of the species recorded were recorded in numbers that would be considered of international importance. However, several species were recorded in numbers that would be considered to be of national importance, including:

- Cormorant were recorded at numbers of national importance during the 1996/1997 season;
- Dunlin were recorded at numbers of national importance during the 1994/1995, 1995/1996, 1996/1997, 1997/1998, 1998/1999, 1999/2000, 2000/2001, 2001/2002, 2008/2009 and 2021/2013 seasons;
- Black-tailed godwit were recorded at numbers of national importance during the 1996/1997, 2001/2002, 2002/2003, 2008/2009, 2010/2011, 2011/2012, 2013/2014, 2015/2016, 2016/2017, 2019/2020 and 2021/2022 seasons;
- Bar-tailed Godwit were recorded at numbers of national importance during the 1994/1995, 1995/1996 and 2001/2002 seasons;
- Curlew were recorded at numbers of national importance during the 2014/2015 season; and,
- Greenshank were recorded at numbers of national importance during the 2013/2014 season.

3.2 Field-Based Results

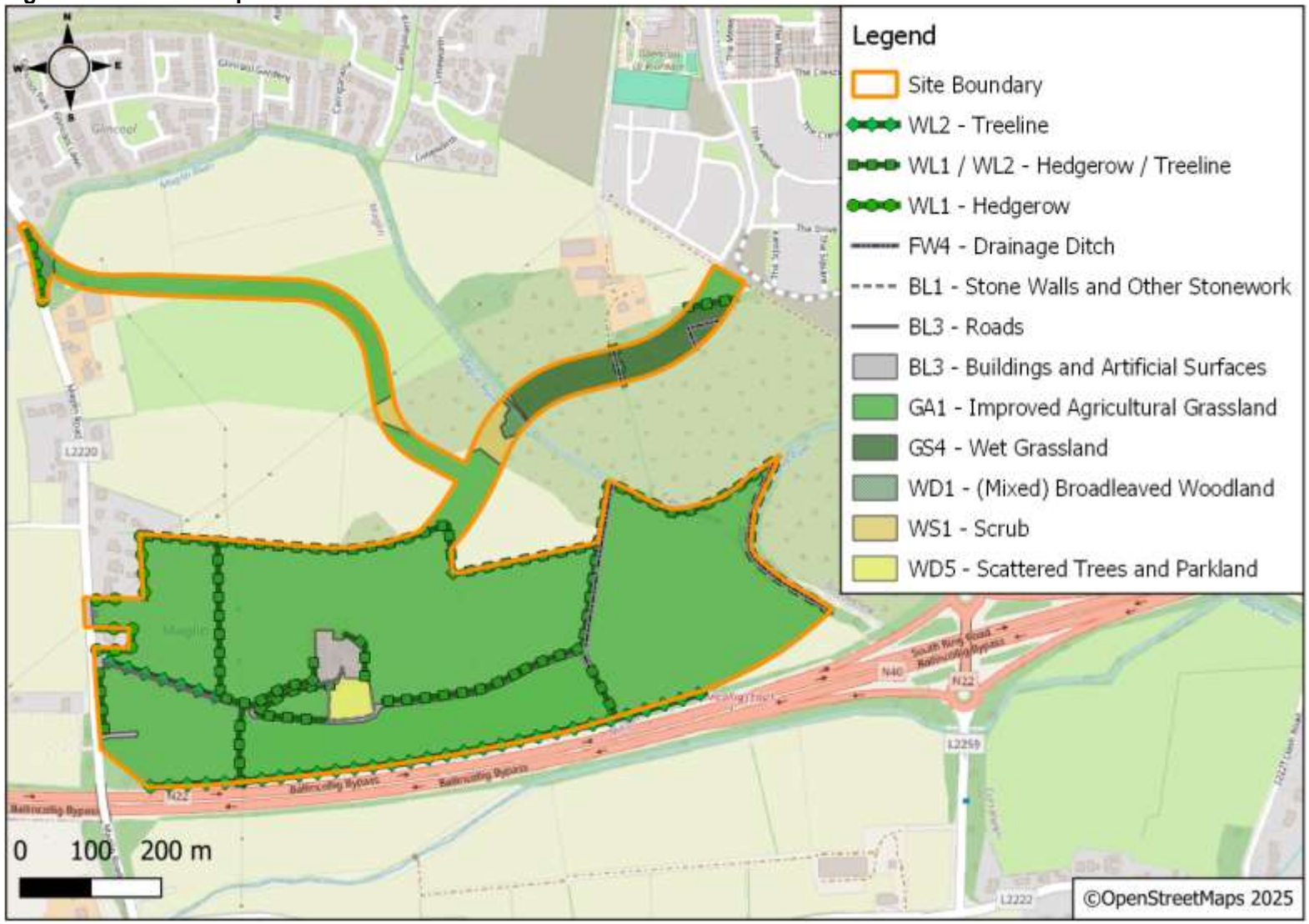
3.2.1 Habitat Survey

The habitat assessment identified the following habitats onsite:

- Buildings and Artificial Surfaces (BL3);
- Depositing / lowland River (FW2) – Grange Hill River
- Drainage Ditch (FW4);
- Hedgerow/Treeline (WL1 / WL2);
- Improved Agricultural Grassland (GA1);
- Mixed Broadleaved Woodland (WD1);
- Scattered Trees and Parkland (WD5) – the old orchard;
- Scrub (WS1);
- Stone Walls and Other Stonework (BL1); and,
- Wet Grassland (GS4).

The distribution of habitats is illustrated below in Figure 3-1.

Figure 3-1: Habitat Map



3.2.2 Wintering Bird Survey

Three wintering bird surveys were undertaken on the 20th November 2023, 12th December 2023 and 17th January 2024.

During the surveys, eight bird species were recorded:

- Three green-listed species – buzzard (*Buteo buteo*), fieldfare (*Turdus pilaris*) and sparrowhawk (*Accipiter nisus*);
- One amber-listed species – herring gull (*Larus argentatus*); and,
- Four red-listed species – curlew (*Numenius arquata*), kestrel (*Falco tinnunculus*), redwing (*Turdus iliacus*) and snipe (*Gallinago gallinago*).

No Annex I bird species were recorded during the surveys. Of the species recorded, one is a designated species under the Cork Harbour SPA – curlew. Additionally, there were two species recorded on-site that would fall under the classification of 'Wetland and Waterbirds [A999]' under the Cork Harbour SPA – herring gull and snipe.

Table 3-2 provides a record of the bird species identified during the wintering bird surveys, the number of individuals recorded during the surveys and the species' designation under the BoCCI 2020-2026, which is the third assessment of the status of all regularly occurring birds on the island of Ireland [16].

During the wintering bird surveys, no large flocks of wintering bird species were recorded on the Site. No winter roosts or foraging sites were identified on-site.

It is important to note that while curlew and herring gull were recorded during the surveys, these species were recorded flying over the Site and were not recorded interacting with the Site at any point.

Table 3-2: Birds recorded during Wintering Bird Surveys

BoCCI Conservation Status	Species	Scientific Name	Number Recorded			Notes
			Visit 1	Visit 2	Visit 3	
Green-listed	Buzzard	*Buteo buteo*	1	0	0	Visit 1: An individual was heard calling and seen flying and circling over the agricultural grassland. Visit 2 and 3: No individuals were recorded during this survey.
	Fieldfare	*Turdus pilaris*	0	0	2	Visit 1 and 2: No individuals were recorded during this survey. Visit 3: Two individuals were noted perching on the northern hedgerow / treeline.
	Sparrowhawk	*Accipiter nisus*	0	1	0	Visit 1: No individuals were recorded during this survey. Visit 2: An individual was observed flying west over the centre of the Site. This individual did not land or interact with the Site. Visit 3: No individuals were recorded during this survey.
Amber-listed	Herring Gull	*Larus argentatus*	8	0	0	Visit 1: Individuals were noted flying northwest and south over the Site but did not land or interact with the Site. Visit 2 and 3: No individuals were recorded during this survey.
Red-listed	Curlew	*Numenius arquata*	0	0	20	Visit 1 and 2: No individuals were recorded during this survey. Visit 3: A flock of 17 individuals was observed flying southeast over the eastern field above the trees. Three individuals were observed flying northwest over the eastern field. None of these species landed or interacted with the Site.
	Kestrel	*Falco tinnunculus*	1	1	0	Visit 1: An individual was observed perching on a pole along the track in the centre of the Site. Visit 2: An individual was observed flying northeast over the eastern field of the Site. This individual did not land or interact with the Site. Visit 3: No individuals were recorded during this survey.

BoCCI Conservation Status	Species	Scientific Name	Number Recorded			Notes
			Visit 1	Visit 2	Visit 3	
	Redwing	*Turdus iliacus*	1	0	8	Visit 1: An individual was heard calling from the hedgerow / treeline in the northeast of the Site. Visit 2: No individuals were recorded during this survey. Visit 3: Individuals were foraging in the northern field and flew north.
	Snipe	*Gallinago gallinago*	1	1	7	Visit 1: An individual was flushed from the eastern agricultural grassland field and flew north. Visit 2: An individual was flushed from the eastern field and flew northwest. Visit 3: Individuals were flushed from the eastern field and flew northwest, southeast and south.

Table 3-3 illustrates the distribution of each species within the zones of the fields of the survey area.

Table 3-3: Distribution of the Recorded Species within each Zone during the Winter Bird Surveys

BoCCI Conservation Status	Species	Latine Name	Presence within each Zone		
			Boundary	Margin	Interior
Green	Buzzard	*Buteo buteo*	Flying over the Site		
	Fieldfare	*Turdus pilaris*	Present		
	Sparrowhawk	*Accipiter nisus*	Flying over the Site		
Amber	Herring-gull	*Larus argentatus*	Flying over the Site		
Red	Curlew	*Numenius arquata*	Flying over the Site		
	Kestrel	*Falco tinnunculus*			Present
	Redwing	*Turdus iliacus*	Present	Present	
	Snipe	*Gallinago gallinago*			Present

3.2.3 Breeding Bird Survey

Table 3-4 contains a summary of the birds recorded in the Site during the breeding bird surveys, the behaviours exhibited during the surveys, their status according to BoCCI and the breeding status of all birds noted.

A total of 33 species were recorded either within the Site or flying over the Site during the surveys.

Of the 33 species that were recorded:

- 26 Green-listed BoCCI, non-Annex I species were recorded – blackbird, blackcap, blue tit, bullfinch, buzzard, chaffinch, chiffchaff, dunnock, feral pigeon, goldfinch, grasshopper warbler, great tit, grey heron, hooded crow, jackdaw, long-tailed tit, magpie, mistle thrush, pheasant, pied wagtail, robin, rook, song thrush, treecreeper, woodpigeon and wren;
- Seven Amber-listed BoCCI, non-Annex I species were recorded – goldcrest, greenfinch, house sparrow, mallard, starling, swallow and willow warbler; and,
- No Red-listed BoCCI, Annex or non-Annex I species were recorded.

During the surveys, no species were exhibiting behaviours that would be classified as '*Confirmed Breeding*', and no active nests nor signs of nest building were recorded within the Site. However, 23 species were observed displaying territorial behaviours and were classified as '*Possible Breeding'* - blackbird, blackcap, blue tit, bullfinch, chaffinch, chiffchaff, dunnock, goldcrest, goldfinch, grasshopper warbler, great tit, greenfinch, hooded crow, long-tailed tit, magpie, mistle thrush, robin, rook, song thrush, treecreeper, willow warbler, woodpigeon and wren. Whereas, ten species were classified as non-breeding – buzzard, feral pigeon, grey heron, jackdaw, pied wagtail, pheasant, house sparrow, mallard, starling and swallow.

No Annex I bird species were recorded during the surveys. Of the species recorded, two species recorded onsite that would fall under the classification of 'Wetland and Waterbirds [A999]' under the Cork Harbour SPA – grey heron and mallard.

Table 3-4: Birds recorded within the Site during the Breeding Bird Season

BoCCI Status	Species	Latin Name	Numbers Recorded			Notes	Breeding Status
			Visit 1	Visit 2	Visit 3		
Green-Listed	Blackbird	*Turdus merula*	14	13	17	Visit 1: Individuals were observed flying southeast over the Site, perched in hedgerow / treeline and foraging in grassland and farmyard and orchard. Visit 2: Individuals were noted perched, calling and singing from the hedgerow / treelines and foraging in the agricultural grassland throughout the Site. Visit 3: Individuals were noted perching and flushed from the hedgerow / treelines, foraging in the agricultural grassland and flying over the Site. Two juveniles were noted perching in the hedgerow / treeline south of the orchard.	Possible Breeding
	Blackcap	*Sylvia atricapilla*	2	3	0	Visit 1: Individuals were noted calling from the hedgerow / treeline on the eastern boundary of the Site. Visit 2: Individuals were noted calling from the internal hedgerow / treelines and orchard. Visit 3: No individuals were recorded during this survey.	Possible Breeding
	Blue Tit	*Cyanistes caeruleus*	10	7	4	Visit 1: Individuals were noted perching, calling and foraging from the hedgerow / treelines throughout the Site and the orchard. Visit 2: Individuals were noted calling, singing and foraging in the hedgerow / treelines throughout the Site. Visit 3: Individuals were noted singing and calling in the northern boundary of the Site and along the internal access track to the farmyard.	Possible Breeding
	Bullfinch	*Pyrrhula pyrrhula*	0	2	0	Visit 1 and 3: No individuals were recorded during these surveys. Visit 2: An individual was noted perching and calling from the fence in the northwestern boundary of the Site and another individual was noted calling from the internal hedgerow / treeline in the eastern field.	Possible Breeding
	Buzzard	*Buteo buteo*	1	0	1	Visit 1: An individual was noted circling over the agricultural grassland in the centre of the northern section of the Site. Visit 2: No individuals were recorded during this survey. Visit 3: An individual was noted flying and soaring over the southwest of the Site.	Non-breeding

BoCCI Status	Species	Latin Name	Numbers Recorded			Notes	Breeding Status
			Visit 1	Visit 2	Visit 3		
	Chaffinch	*Fringilla coelebs*	5	6	3	Visit 1: Individuals were noted foraging in the agricultural grassland and farmyard and perching and calling from the internal hedgerow / treelines onsite. Visit 2: Individuals were noted calling, perching in the hedgerow / treelines in the eastern field and around the farmyard. Two individuals were flushed in from the hedgerow / treeline in the southeastern field. Visit 3: Two individuals were noted calling from the hedgerow / treeline in the northeast of the Site and one individual was noted calling from the hedgerow / treeline surrounding the farmyard.	Possible Breeding
	Chiffchaff	*Phylloscopus collybita*	1	1	3	Visit 1: An individual was noted calling from the centre of the hedgerow / treeline along the southern boundary of the Site. Visit 2: An individual was noted calling from the area of woodland adjacent to the southwestern corner of the Site. Visit 3: Individuals were noted calling from the internal hedgerow / treelines in the east of the Site and an individual was noted flying northeast over the eastern field.	Possible Breeding
	Dunnock	*Prunella modularis*	4	5	8	Visit 1: An individual was noted foraging in the scrub on the northern boundary of the Site. Individuals were noted calling from the hedgerow / treelines on the northern boundary of the Site. Visit 2: Individuals were noted calling and perching along the hedgerow treelines onsite. An individual was flushed from the western hedgerow / treeline. Visit 3: Individuals were noted calling, foraging, and perching on the hedgerow / treelines throughout the Site.	Possible Breeding
	Feral Pigeon	*Columba livia f. domestica*	3	0	1	Visit 1: Individuals were observed perching on shed in the farmyard. Visit 2: No individuals were recorded during this survey. Visit 3: An individual was noted perching in the farmyard.	Non-breeding
	Goldfinch	*Carduelis carduelis*	10	10	1	Visit 1: Individuals were noted foraging in the agricultural grassland and calling and singing from the hedgerow / treelines throughout the Site. Visit 2: Individuals were noted calling and foraging from the hedgerow / treelines throughout the Site. An individual was flushed from the internal hedgerow / treelines along the internal boundary of the eastern field.	Possible Breeding

BoCCI Status	Species	Latin Name	Numbers Recorded			Notes	Breeding Status
			Visit 1	Visit 2	Visit 3		
						Visit 3: An individual was noted singing in the hedgerow / treeline along the northern boundary of the Site.	
	Grasshopper Warbler	*Locustella naevia*	0	1	0	Visit 1 and 3: No individuals were recorded during these surveys. Visit 2: An individual was noted calling from the boundary of the orchard.	Possible Breeding
	Great Tit	*Parus major*	6	5	2	Visit 1: Individuals were noted calling and foraging from the hedgerow / treelines and orchard onsite. Visit 2: Individuals were noted singing in the orchard, foraging in the hedgerow/ treeline on the eastern boundary, and calling from internal hedgerow / treeline in centre of the Site and flying south. Visit 3: Individuals were noted calling in the hedgerow / treeline in the centre of the Site.	Possible Breeding
	Grey Heron	*Ardea cinerea*	1	0	0	Visit 1: An individual was noted flying northwest over the eastern field of the Site. Visit 2 and 3: No individuals were recorded during this survey	Non-breeding
	Hooded Crow	*Corvus cornix*	6	6	3	Visit 1: Individuals were noted perching on the hedgerow / treelines throughout the Site and an individual was noted carrying nest building materials in its beak in the eastern field. Visit 2: Individuals were noted flying over the Site, flushed from the internal hedgerow / treelines and foraging in the agricultural grassland. Visit 3: Individuals were noted flying east over the Site and calling from the hedgerow / treeline in the centre of the Site.	Possible Breeding
	Jackdaw	*Coloeus monedula*	0	20	11	Visit 1: No individuals were recorded during this survey. Visit 2: Individuals were noted flying over the Site, perching in the hedgerow / treeline and foraging in groups in the agricultural grassland. Visit 3: Individuals were noted flying over the Site, perching in the farmyard and western hedgerow / treeline.	Non-breeding
	Long -tailed Tit	*Aegithalus caudatus*	2	1	0	Visit 1: Individuals were noted calling from the orchard and the internal hedgerow / treeline. Visit 2: An individual was noted calling from the internal hedgerow / treeline in the southwest of the eastern field.	Possible Breeding

BoCCI Status	Species	Latin Name	Numbers Recorded			Notes	Breeding Status
			Visit 1	Visit 2	Visit 3		
						Visit 3: No individuals were recorded during this survey.	
	Magpie	*Pica pica*	1	2	5	Visit 1: An individual was noted perching on a shed in the farmyard. Visit 2: An individual was flushed from the agricultural grassland in the northwest of the Site and another individual was noted perching in the farmyard. Visit 3: Individuals were noted flying over the Site, flushed, calling, perching in the hedgerow / treelines.	Possible Breeding
	Mistle Thrush	*Turdus viscivorus*	0	1	0	Visit 1 and 3: No individuals were recorded during these surveys. Visit 2: An individual was noted calling from the hedgerow / treeline along the eastern boundary of the Site.	Possible Breeding
	Pied Wagtail	*Motacilla alba yarrellii*	1	0	0	Visit 1: An individual was noted foraging in the farmyard. Visit 2 and 3: No individuals were recorded during these surveys.	Non-breeding
	Pheasant	*Phasianus colchicus*	1	0	0	Visit 1: An individual was noted walking east along the access track in the east of the Site. Visit 2 and 3: No individuals were recorded during these surveys.	Non-breeding
	Robin	*Erithacus rubecula*	16	16	10	Visit 1: Individuals were noted perching, calling and foraging throughout the Site. Visit 2: Individuals were noted calling, singing and perching throughout the Site. Visit 3: Individuals were noted foraging, calling and perching throughout the Site.	Possible Breeding
	Rook	*Corvus frugilegus*	13	12	16	Visit 1: Individuals were noted flying over the Site throughout the survey. One individual was noted flying with nest building materials. Visit 2: Individuals were noted calling from the hedgerow /treelines and flying over the Site. Visit 3: Individuals were noted flying over the Site, foraging in the agricultural grassland in the south of the Site and calling and perching in the hedgerow / treelines.	Possible Breeding
	Song Thrush	*Turdus philomelos*	8	2	3	Visit 1: Individuals were noted calling from the hedgerow / treelines onsite and flying over the orchard. Visit 2: An individual was noted singing in the northern hedgerow / treeline boundary and another individual was noted singing in the orchard.	Possible Breeding

BoCCI Status	Species	Latin Name	Numbers Recorded			Notes	Breeding Status
			Visit 1	Visit 2	Visit 3		
						Visit 3: Individuals were noted calling in the hedgerow / treelines in the north and northeast of the Site and foraging along the access track near the entrance of the Site.	
	Treecreeper	*Certhia familiaris*	0	0	1	Visit 1 and 2: No individuals were recorded during these surveys. Visit 3: An individual was noted calling from the northwestern hedgerow / treeline of the eastern field.	Possible Breeding
	Woodpigeon	*Columba palumbus*	17	16	11	Visit 1: Individuals were noted perching on the hedgerow / treelines and flushed from them. Individuals were also noted flying over the Site. Visit 2: Individuals were flushed from and perching in the hedgerow / treelines throughout the Site and observed flying over the Site. Visit 3: Individuals were noted flying over the Site, perching, calling and flushed from the hedgerow / treelines throughout the Site.	Possible Breeding
	Wren	*Troglodytes troglodytes*	18	21	18	Visit 1: Individuals were noted calling from the hedgerow / treelines throughout the Site. Visit 2: Individuals were noted calling from the hedgerow / treelines throughout the Site. Visit 3: Individuals were noted calling from the hedgerow / treelines throughout the Site.	Possible Breeding
Amber-Listed	Goldcrest	*Regulus regulus*	1	6	4	Visit 1: An individual was noted calling from the hedgerow in the northwest of the Site. Visit 2: Individuals were noted calling and singing from the hedgerow / treelines in the northern and western boundaries and the eastern field. Visit 3: Individuals were noted calling and singing from the hedgerow / treelines in the north, northeast and west of the Site.	Possible Breeding
	Greenfinch	*Chloris chloris*	2	1	0	Visit 1: An individual was noted calling from the internal hedgerow / treeline in the west of the Site and another individual was noted calling from the hedgerow / treeline in the northeast of the Site. Visit 2: An individual was noted calling from the hedgerow / treeline along the access track to the farmyard. Visit 3: No individuals were recorded during this survey.	Possible Breeding
	House Sparrow	*Passer domesticus*	3	4	4	Visit 1: Individuals were noted perching and calling from the western hedgerow / treeline south of the access track	Non-breeding

BoCCI Status	Species	Latin Name	Numbers Recorded			Notes	Breeding Status
			Visit 1	Visit 2	Visit 3		
						Visit 2: Four individuals were noted foraging in the agricultural grassland in the northwest corner of the Site boundary. Visit 3: Four individuals were noted calling in the northwestern hedgerow / treeline.	
	Mallard	*Anas platyrhynchos*	1	0	0	Visit 1: An individual was noted flying south over the eastern field. Visit 2 and 3: No individuals were recorded during these surveys	Non-breeding
	Starling	*Sturnus vulgaris*	22	34	41	Visit 1: Individuals were noted foraging in the agricultural grassland, calling from the hedgerow / treelines and flying over the Site. Visit 2: No individuals were recorded during these surveys. Visit 3: A group of 20 individuals were noted foraging in the southwestern filed, 18 individuals were noted perching on the telephone wire in the north of the Site and the remaining individuals were noted foraging in the northwestern field and perching on the western hedgerow / treeline.	Non-breeding
	Swallow	*Hirundo rustica*	1	18	4	Visit 1: An individual was noted perching on a telephone wire in the farmyard. Visit 2: Groups of individuals were noted foraging in the northwestern fand central north fields. Three individuals were noted perching in the farmyard. Visit 3: Individuals were foraging in the southwestern field and central northern field.	Non-breeding
	Willow Warbler	*Phylloscopus trochilus*	1	6	3	Visit 1: An individual was noted calling from the northeastern hedgerow / treeline. Visit 2: Individuals were noted calling from the boundaries of the eastern field. Visit 3: Individuals were noted calling and perching in the hedgerow / treeline on the eastern boundary of the Site.	Possible Breeding

3.2.4 Building Suitability Assessment

During the initial walkover, the buildings were noted as having gaps / holes that could allow entrance for small birds to enter. Therefore, the buildings were inspected in details to determine whether or not birds were utilising the buildings for nesting purposes.

The 2023 building inspections did not identify any evidence of birds nesting. There were no remnant nests indicated barn swallow, house matin or barn owl had utilised the buildings for nesting. Additionally, no nests of any other species were identified within the buildings.

Furthermore, the updated building inspection in 2025 did not identify any evidence of nesting birds.

In addition, during the barn owl / bat surveys, there was no evidence of swifts utilising the buildings or the airspace above the Site.

3.2.5 Barn Owl Survey

2023 Surveys

13/09/2023

No evidence of barn owl utilising the Site.

26/09/2023

The surveyor at VP1 observed an adult barn owl flying across the farmyard below the level of the house and trees, ca. 2-3m high.

2024 Surveys

29/05/2024

No evidence of barn owl utilising the Site. Furthermore, there were no observations of barn owl recorded during the survey.

25/06/2024

The survey identified evidence of barn owl was identified in the presence of a pellet on a fencepost.

Additionally, all three surveyors observed barn owls. At VP3, an adult barn owl was observed flying from behind the hedgerow / treeline and into the farmyard. The surveyor at VP1 observed the same barn owl flying across the farmyard below the levels of trees, ca. 2-3m high, and appeared to be hunting over the Site.

During the transects, two barn owls were identified. One barn owl was observed perching on a water trough, and another was observed flying over the field to the east of the Site.

2025 Surveys

13/05/2025, 22/05/2025 & 16/06/2025

No evidence of barn owl or observations of barn owl were identified during the 2025 surveys.

The buildings on-site had no evidence of barn owls nesting. It is considered that barn owl may utilise the Site for foraging and commuting purposes.

Anecdotal Evidence

The farmer onsite has mentioned that barn owls are seen foraging and commuting over the Site; however, the farmer has not seen any evidence of nesting barn owls and does not believe that they are nesting within the landholding.

4 SITE ASSESSMENT

During the breeding bird surveys undertaken at the Site, a total of 33 species were identified utilising the Site. During the wintering bird surveys, a total of eight species were recorded onsite and flying over the Site. Furthermore, during the building inspections, no evidence of nesting was recorded; however, barn owl were recorded commuting through and hunting over the Site.

4.1 Wintering Bird Site Assessment

The majority of the Site is comprised of agricultural grassland. The Site is also surrounded and bisected by a number of mature hedgerow / treelines.

Of the species recorded, in the I-WeBS data, at numbers of national importance, eight of these species have also been recorded by the NBDC within 2km of the Site within the 10 years – cormorant, curlew, golden plover, lapwing, little egret, shelduck, shoveler and teal [4]. It should be noted that only one of these species was observed during the wintering bird surveys – curlew. However, this species was noted flying over the Site and did not interact with it.

Curlew are designated under Cork Harbour SPA. This species typically winters in a wide range of wetland habitats (coastal and inland) and will also utilise wet grassland / damp fields as feeding habitat [17].

The Grange Hill River borders and intersects the Site. The Grange Hill River had a moderate flow and a depth of ca. 0.3m to 0.7m. The width is between 1-2m in sections, with a bank height ranging from 0.4m to 1.5m. The substrate was predominantly comprised of gravel and mud, and some cobbles. This river is not considered to be suitable for wintering wetland birds due to its small size and the fact that it is currently encroached by hedgerow / treelines and adjacent to agricultural grassland used for cattle grazing.

In addition, the fields in the northeastern portion of the Site were wetter in nature than those in the main portion of the Site. Although the agricultural grassland in the northeastern section of the Site does have the potential to provide suitable foraging habitat to wintering bird species, livestock were noted within this area throughout the year. As such, this has the potential to reduce the suitability of this habitat for wintering bird species. Livestock were not present in the fields during surveys, as the livestock had been moved for the duration of the surveys; however, evidence of livestock was noted through the fields, and the livestock were returned to the fields on completion of the surveys. The northeastern section of the Site extends into an area of wet grassland, which has the potential to support wintering birds. However, these fields are also grazed by cattle.

Overall, during the winter bird surveys undertaken at the Site, a total of eight bird species were recorded. These species were considered to be common species typically found in agricultural landscapes. Four red-listed species, curlew, kestrel, redwing and snipe, were recorded within the Site; however, the curlew were only noted flying over the Site while the kestrel, redwing and snipe were recorded in low abundances. Furthermore, during the surveys, there were no significant numbers of bird species utilising the Site, likely due to the agricultural uses of the Site and the presence of livestock within the Site. It should be noted that four of the bird species observed during the wintering bird surveys were flying over the Site and did not interact with the Site – buzzard, sparrowhawk, herring gull and curlew.

The only wetland / waterbird recorded onsite during the wintering bird surveys were snipe. Snipe were flushed on approach to VPs and during the transect survey carried out between VPs. Snipe were recorded in low numbers during each survey.

None of the species recorded were considered to be of International, National or County Importance, according to the receptor evaluation set out in Table 2-3. However, based on one

Amber-listed and four Red-listed species listed as possible breeding onsite, the Site can be concluded to be of Local Importance (High Value).

The Site provides suitable foraging habitat for countryside / farmland bird species; however, the Site is not considered to be a site of importance for any overwintering bird species. This conclusion is based on the fact that only low numbers of birds were recorded onsite and based on a review of aerial imagery, which shows that there are suitable foraging habitats present in the surrounding countryside.

In addition, wintering birds and wildfowl species tend to prefer habitats similar to those in Cork Harbour SPA, such as mudflats and salt marshes, none of which were located within the Site. The wet grasslands on-site may provide suitable habitat; however, as mentioned, the regular use by cattle means the habitats are considered suboptimal.

Therefore, it is concluded that the onsite habitats were not optimal for wintering bird species. Furthermore, suitable habitats within Cork Harbour are separated from the Site by Cork City and its suburbs, along with associated road infrastructure and agricultural fields.

4.2 Breeding Bird Site Assessment

A total of 33 bird species were recorded onsite and of these species, 23 species displayed territorial behaviours that were classified as '*Possibly Breeding*' and 10 species identified onsite were classified as '*Non-breeding.'* These species were noted as possibly breeding based on their behaviours exhibited at the time of the surveys; however, breeding could not be confirmed in these species. However, no species were classified as '*Confirmed Breeding*' and no active or used nests were identified within the Site boundary.

None of the species recorded were considered to be of International, National or County Importance, according to the receptor evaluation set out in Table 2-3. However, based on three Amber-listed species listed as possible breeding onsite, the Site can be concluded to be of Local Importance (High Value).

The majority of the birds identified during the surveys were observed within the hedgerow / treelines for possible nesting and were observed foraging in the agricultural grassland. It should be noted that the majority of the hedgerow / treelines will be retained as part of the Proposed Development.

The hedgerow / treelines, scattered trees within the orchard, mixed broadleaved woodland and scrub areas located onsite and within the immediate surroundings of the Site are considered to provide suitable nesting and foraging habitat for breeding birds. These habitats are not exclusive to the Site and are common within the wider landscape. The majority of the hedgerow / treelines onsite will be retained and protected, and the scattered trees within the orchard will be retained as part of the Proposed Development. However, the areas of scrub will be removed, and some sections of the woodland area will be removed.

Additionally, it should be noted that the Site is located adjacent to the N22 National Road. As such, it can be concluded that the Site, which is located adjacent to this section of road, is subject to high levels of traffic noise emissions. Studies have shown that traffic noise can result in acoustic interference or masking of bird songs, which is a reduction in the distance over which bird songs can be detected by conspecifics [18]. Therefore, the masking of bird songs can make it more difficult for birds to establish and maintain their territories, attract potential mates, and maintain pair bonds, all of which can result in decreased breeding success [18]. Overall, it has been shown that bird abundance, occurrence and species richness are reduced near roads and have the largest reductions when traffic levels are high [19, 20].

Overall, the habitats onsite were considered to be suitable for a range of countryside bird species; however, no active nests or confirmed breeding were identified onsite. Furthermore, it is considered that the noise emissions from the N22 National Road reduce the suitability of

the Site for breeding bird species. Therefore, although the Site provides suitable habitat for breeding bird species, it is considered that the Site is not a site of importance for any breeding bird populations.

4.3 Barn Owl Site Assessment

Barn owls were identified onsite in 2023 and 2024; however, no barn owl activity was noted in the 2025 surveys. The buildings and trees on-site were not considered suitable for breeding barn owls. Therefore, it is concluded that barn owls were not utilising the Site for breeding purposes. However, given the records of barn owl within 2km of the Site and sightings in 2023 and 2024, it is considered that barn owl may use the Site for commuting and foraging purposes.

5 ASSESSMENT OF POTENTIAL IMPACTS

5.1 Potential Impacts

This section will assess potential impacts, if any, on breeding and wintering bird species within the Site and the vicinity of the Site.

5.1.1 Construction Phase

5.1.1.1 Wintering Bird Species

It is not anticipated that the Proposed Development will have any significant impact on wintering birds in the vicinity of the Site, given the absence of any significant numbers of bird species recorded onsite and the ongoing agricultural activities onsite and within the vicinity of the Site. Therefore, it is considered that the Site is not a site of importance for any wintering or breeding bird species. It is anticipated that bird species would prefer areas with lower levels of disturbance away from the Site.

Whilst the Site is currently utilised by common countryside bird species and occasional water / wetland bird species, the numbers of these species that were recorded were low. Similarly, these species were noted moving into nearby fields to forage as well.

As birds are highly mobile species, it can be concluded that any species utilising the Site during the wintering season will move away to similar habitats to the north, east and south.

Therefore, no mitigation is considered necessary for wintering birds as part of the Proposed Development.

5.1.1.2 Breeding Bird Species

As previously mentioned, the Site is considered to provide suitable nesting habitats for breeding birds through the hedgerow / treelines, scrub and mixed broadleaved woodland. In addition, the Site provides suitable foraging habitat through the agricultural grassland, scrub and hedgerow / treelines. Given the number of species recorded utilising the Site and amber-listed species, the Site is considered to be of local importance for breeding birds.

It is considered that a bird utilising the southern boundary of the Site would be habituated to high levels of anthropogenic noise, given the close proximity to the busy N22 road. However, it is still considered that birds within the Site and immediate locality may be subject to temporary disturbance during the construction phase of the Proposed Development. However, this is not considered likely to be significant, given that birds are highly mobile and therefore will move away from disturbances. It can be concluded that, should any birds be disrupted during any of the works, they will move to a suitable area elsewhere.

However, as part of the Proposed Development, the following clearance / removal works will be required:

- Removal of hedgerow / treeline in the northern and eastern sections of the Site and to facilitate the connection of the new roads;
- Removal of mixed broadleaved woodland; and,
- Removal of scrub vegetation.

For full details, please refer to the Landscape Plan prepared by Brady Shipman Martin ('BSM') submitted as part of this planning application.

However, in order to ensure no impacts occur to nesting birds during the removal works, mitigation measures will be required.

5.1.1.3 Barn Owls

Barn owl are known to have high site fidelity to their breeding sites and territories through successive generations [9]. While the territory size of barn owls is dependent on the quality of habitat and abundance of prey, during the breeding season, most of the foraging typically occurs within ca. 1km of the nest [13]. However, it has been recorded in Ireland that barn owl can travel up to ca. 6km in search of food [14]. Barn owls are known to generally have favourite flight paths, perches and hunting patches, which are used routinely or even nightly [14]. It should be noted that during the winter season, barn owl may occupy nests within their territory [14].

Barn owls were identified onsite during the 2023 and 2024 surveys. It was concluded that barn owls are not using the Site for breeding purposes but use it for commuting and foraging. Therefore, it is considered that barn owls within the immediate vicinity of the Site may be subject to some temporary disturbance during construction; however, this is not considered likely to be significant. This conclusion is based on the fact that the Site is located adjacent to the busy N22, and the Site is currently subject to associated traffic noise emissions, and therefore, barn owl in the area are likely to be habituated to higher levels of anthropogenic noise emissions. Furthermore, given that no barn owl are nesting within the Site, it is considered that barn owl within the vicinity of the Site will move away from any disturbances. It can therefore be concluded that, should any birds be disrupted during any of the works, they will move to a suitable area elsewhere.

The Proposed Development will result in the loss of agricultural grassland and thus foraging habitat for barn owls in the vicinity of the Site. However, there are suitable habitats in close vicinity of the Site that can be utilised for commuting and foraging. Furthermore, barn owl were only identified on-site during two surveys and were there was no evidence of barn owl recorded during the 2025 surveys. Therefore, the potential loss of foraging habitat is not considered to be significant.

In addition, lighting will be included as part of the Proposed Development, and due to the fact that barn owl are a nocturnal species, in the absence of an appropriate lighting scheme this has the potential to impact on barn owl that may utilise the habitat within the vicinity of the Site.

5.1.2 Operational Phase

It should be noted that bird were species observed flying over the Site during the surveys – buzzard, sparrowhawk, herring gull, barn owl, curlew, etc.

The Proposed Development will be comprised of five apartment buildings up to five-storeys, 638 two-storey houses and 104 two-story duplexes. The highest apartments will be up to ca. 18.5m tall.

The buildings located on-site comprise one- and two-storey buildings. The Gaelscoil Uí Ríordáin, located ca. 350m north of the Site, has ca. three-storeys. The Westfield Office Centre, located ca. 1.5km northwest of the Site, is ca. four to five-storeys tall. In addition, Ballincolllig Town has multiple apartment blocks, ca. three-storeys tall. Therefore, it is considered unlikely that the Proposed Development will result in a significant collision risk to local bird species based on the fact that the majority of the buildings are of a similar height to those in the vicinity of the Site and the apartments will be similar in height to those in the locality.

Furthermore, the external building style and materials that will be utilised in the Proposed Development will be similar to those in the surrounding area (brick, windows, etc.). Therefore, the Proposed Development has been designed in order to reduce the potential risk of collision with local bird species.

In addition, the Site is surrounded and bisected by treelines, hedgerows and hedgerow / treelines. Following a review of the Tree Survey Report prepared by South of Ireland Tree Surveys. and submitted in support of this application, trees within the hedgerow / treelines are up to 17m in height. Therefore, within the area, there are trees that are around a similar height to the tallest proposed apartments. Therefore, it is considered that there will be no proposed collision risk to birds within the area during the Operational Phase of the Proposed Development.

Although birds are known to sometimes aggregate around and occasionally collide with illuminated objects, the Proposed Development is located close to an urban environment and is in close proximity to illuminated residential properties, road and streetlights, with the busy N22 to the south of the Site. Overall, it is considered that the Proposed Development will not stand out in its landscape and thus not impact the flight patterns of birds flying over the Site.

Appropriate lighting mitigation measures will be implemented for nocturnal species, including barn owl. Therefore, no other mitigation measures are considered necessary for breeding or wintering birds during the Operational Phase.

Furthermore, enhancement measures for local bird species will be implemented as part of the Proposed Development, see Section 6.3 below.

6 PROPOSED MITIGATION AND ENHANCEMENT MEASURES

6.1 Breeding Birds

Construction Phase

In order to ensure no impacts occur to breeding bird species, the following measures will be implemented:

- As per Section 40 of the Wildlife Act 1976, as amended by Section 46 of the Wildlife (Amendment) Act 2000, the cutting, grubbing, burning or destruction by other means of vegetation growing on uncultivated land or in hedges or ditches will be restricted during the nesting and breeding season for birds and wildlife, from 1st March to 31st August;
- In the event that works need to be undertaken within the main breeding season, the following measures will be implemented:
    - Prior to the works commencing, consultation with the NPWS will be undertaken by the Ecological Clerk of Works ('ECoW');
    - Prior to the vegetation removal, the ECoW will inspect the Site; and,
    - All vegetation clearance works will be undertaken in a systematic way under the direction of the ECoW.
- In the unlikely event birds nest within the active working area during the works, all works will stop within the immediate area and the project ECoW will be consulted; and,
- During the Construction Phase, annual breeding bird monitoring will be undertaken by the project ECoW to ensure no impacts occur to breeding birds within the vicinity of the Site.

Operational Phase

It is considered that there will be no impacts to breeding birds during the Operational Phase, and as such, no mitigation measures will be required.

6.2 Barn Owls

Construction Phase

In order to ensure no impacts occur to barn owl, the following mitigation measures will be implemented:

- Prior to vegetation removal or demolition of any onsite buildings, all trees and buildings to be removed will be assessed by the ECoW for the presence of barn owl;
    - If any barn owl signs are identified on Site, follow-up activity surveys must be carried out to establish the presence or absence of barn owl; and,
    - Should barn owl be identified utilising the Site, works will stop within the immediate area and consultation with the NPWS will be undertaken by the ECoW.
- Construction should be limited to daylight hours in order to minimise adverse effects on nocturnal fauna;
- Any construction lighting required will include the following:
    - Avoidance of excessive lighting;

- Light Emitting Diodes ('LED's') will be used, and the brightness will be set as low as possible;
- Lighting will be aimed only where it is needed, with no upward lighting;
- Lighting should be turned down / off when not required;
- Accessories such as baffles, hoods or louvres can be used to reduce light spill and direct light only where it is needed; and,
- The height of lighting columns should be reduced as much as possible, as lighting at a low level further reduces ecological impact.

Operational Phase

During the Operational Phase, mitigation measures will be implemented in order to ensure no impacts occur to nocturnal species (including barn owl).

An external lighting installation assessment has been prepared by Kellihers Electrical Ltd. for the Proposed Development and has been submitted as part of the overall planning application. This lighting plan has calculated the average and minimum illumination calculations for various areas of the Proposed Development, including the inner road, parking spaces and foot paths. This report concluded that the average illuminance calculated for the Proposed Development will be between 8.57lx ('Lux') and 7.85 Lux.

The following lighting measures will also be implemented as part of the lighting plan:

- Avoidance of excessive lighting;
- Light Emitting Diodes ('LED's') will be used, and the brightness will be set as low as possible;
- Lighting will be aimed only where it is needed, with no upward lighting;
- Lighting should be turned down / off when not required;
- Lighting lux levels along retained trees will not exceed 1.0 Lux;
- Accessories such as baffles, hoods or louvres can be used to reduce light spill and direct light only where it is needed;
- The height of lighting columns should be reduced as much as possible, as lighting at a low level further reduces ecological impact; and,
- Following the installation of the lighting for the Proposed Development, the project ECoW will undertake a further site inspection in order to check the lighting patterns and lux levels throughout the Site.

Overall, the lighting plan has been designed to ensure that no impacts occur to nocturnal species (including barn owl).

6.3 Enhancement Measures

6.3.1 Landscaping Plan

A comprehensive Landscape Plan has been prepared for the entire Site by BSM that aligns with the current landscape. For full details, refer to the Landscape Plan submitted as part of this planning application.

6.3.2 Bird Boxes

A variety of bird nest boxes designed to attract a variety of nesting bird species will be erected on suitable trees within the Site. The creation of nesting habitat, along with the creation of

species-rich habitat will encourage an abundance of invertebrate life (a potential food source), which will be beneficial to local birds. General bird boxes designed to cater for a variety of species will be used, the number and location of which will be specified by an ecologist. Refer to the examples provided in Figure 6-1.

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

Different bird species require different entrance sizes as outlined below:

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

The exact location of the bird boxes will be determined by an experienced ecologist after the completion of the proposed works. This is to allow the ecologist to assess the exact conditions that have been created and thus to ensure that the bird boxes are sited in the most appropriate location possible. However, it is recommended that bird boxes be facing between north and south-east to avoid strong winds, rain and sunshine. In addition, bird boxes should be tilted slightly forward to ensure that rain runs off the top, and there should be a clear flight path to access the nestbox hole. Also, bird boxes with a hole should be placed ca. 2-4m off the ground, whereas open-fronted bird boxes should be placed lower than 2m among dense vegetation where predators won't easily see it.

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

Figure 6-1: Bird Box Examples



6.3.2.1 House Martin Nesting Cups

House martin nesting cups will be erected on suitable buildings throughout the Site – most likely commercial buildings that will not have overnight residents. The nesting cups will be installed underneath the eaves of the building, and a specialised sound system will play house martin calls in order to attract this species to the nest cups. The exact location of the bird

boxes will be determined by an experienced ecologist after the completion of the proposed works. See Figure 6-2 for house martin nest cup examples.

Figure 6-2: House Martin Nest Cups



7 CONCLUSIONS

Overall, 33 species were recorded during the breeding bird surveys, and eight species were recorded during the wintering bird surveys conducted on-site.

Of the 33 species that were recorded during the breeding bird surveys:

- 26 Green-listed BoCCI, non-annex species were recorded – blackbird, blackcap, blue tit, bullfinch, buzzard, chaffinch, chiffchaff, dunnock, feral pigeon, goldfinch, grasshopper warbler, great tit, grey heron, hooded crow, jackdaw, long-tailed tit, magpie, mistle thrush, pheasant, pied wagtail, robin, rook, song thrush, treecreeper, woodpigeon and wren;
- Seven Amber-listed BoCCI, non-annex species were recorded – goldcrest, greenfinch, house sparrow, mallard, starling, swallow and willow warbler; and,
- No Red-listed BoCCI, non-annex species were recorded.

During the surveys, no species were classified as '*Confirmed Breeding*', and no active nests were recorded within the Site.

Based on the breeding bird surveys, it was concluded that the hedgerow / treelines bordering and intersecting the Site are suitable for a range of common nesting bird species, and the agricultural grassland is suitable for foraging. The Proposed Development will require the removal of small sections of hedgerow / treeline, scrub and mixed broadleaved woodland and will be constructed on the agricultural grassland. However, appropriate mitigation measures will be implemented to ensure no impacts occur to breeding birds utilising the Site, and it is considered that the removal of these habitats will result in a short-medium term loss of nesting and foraging habitat. However, the landscape planning will provide additional foraging habitats once established, and the hedgerow / treelines can be utilised following completion of the works.

Two barn owls were observed utilising the Site in 2024. The barn owl surveys onsite did not identify any barn owl nests. It is considered that barn owls were using the Site for commuting and foraging purposes. Overall, it is considered that the Proposed Development will result in the loss of foraging habitat for barn owls; however, appropriate lighting mitigation measures will be implemented to not have a negative impact on barn owl commuting.

During the winter bird surveys, eight bird species were recorded:

- Three green-listed species – buzzard, fieldfare and sparrowhawk;
- One amber-listed species – herring gull; and,
- Four red-listed species – curlew, kestrel, redwing and snipe

Of the species recorded, one is a designated species under the Cork Harbour SPA – curlew. Additionally, under the EU Birds Directive, snipe are classified as an Annex II (Section I) & Annex III (Section III) bird species. However, this species was observed flying over the Site and did not interact with it.

The wintering bird surveys did not identify any roosting sites or potential roosting sites on the Site. It is considered that the Proposed Development will not have a negative impact on wintering birds, given that snipe were the only species to utilise the Site during wintering bird surveys. In addition, there are much more suitable habitat such as mudflats, salt marshes and wet grassland elsewhere.

Overall, it is concluded that the Site is not a site of importance for any breeding or wintering bird species, and following the implementation of appropriate mitigation measures, the Proposed Development will not result in any impacts to any breeding or wintering bird species.

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