



CABRA PBSA

Preliminary Ecological Appraisal (PEA) Report

R & D Developments Limited (in Receivership) Grant Thornton

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Customer:	R & D Developments Limited (in Receivership) Grant Thornton	Block 71, The Plaza, Parkwest, Dublin
Customer contact:	Andrew Anderson	Tel: 01 565 4730
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Objective:

Prepared by:

Verified by:

Approved by:

Charith Rakesh Kumar
Ecologist

William McCauley
Ecologist

Shea O'Driscoll
Principal Ecologist

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1 INTRODUCTION

DNV was commissioned by R & D Developments Limited (in receivership) Grant Thornton to undertake a Preliminary Ecological Appraisal (PEA) in relation to a Proposed Large-scale Residential Development (student residence) at 2A Fassagh Avenue, Dublin 7, D07 TH77, Co. Dublin, hereafter referred to as 'Proposed Development' or 'Site' when referring to the site area of the Proposed Development.

This PEA provides a summary of ecological surveys carried out on Site in order to provide a rapid assessment of the features present e.g., habitats and species; particularly those protected by national and international legislation or those that are considered to be of particular nature conservation importance on or adjacent to the Site. This report will describe the baseline ecology of the Site, with emphasis on habitats, flora and fauna, and includes recommendations in relation to further survey works required, outline mitigation measures and outline enhancement measures required where appropriate. The report follows Guidelines for Preliminary Ecological Appraisal by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017) and supplemented by the National Roads Authority (2009) guidelines for Assessment of Ecological Impacts of National Road Schemes.

The purpose of this PEA is to:

- Set out the methodologies used to inform the ecological surveys.
- Identify Key Ecological Receptors (KERs) and ecological constraints within the Zone of Influence (ZOI) of the Proposed Development.
- Assess the impacts from the Proposed Development on the KERs and the resulting significant effects.
- Set out measures to avoid or mitigate negative impacts.
- Assess the residual effects after the incorporation of agreed avoidance or mitigation measures to ensure legal compliance and highlight measures to offset same.
- Identify further ecological surveys and investigation, where necessary, to inform a full Ecological Assessment (EcIA) of the Site.
- Highlight opportunities for ecological enhancement.

According to the best practice guidelines (CIEEM, 2017) a PEA is ordinarily only suitable for a planning submission where no ecological constraints are identified relating to the project. However, should ecological constraints be identified, then the effects of the Development on same should be assessed within a separate EcIA report, which would supersede this PEA. A flowchart (CIEEM, 2017) is included in section 9.1 below, which sets out the approach to ecological assessment, highlighting the role of PEA within that process.

1.1 Quality Assurance and Competence

All consultants involved carry scientific or engineering qualifications and have a wealth of experience working within the Environmental Consultancy sectors, having undergone extensive training and continued professional development.

DNV as a company remains fully briefed in European and Irish environmental policy and legislation. DNV staff members are highly qualified in their field. Professional memberships include the Chartered Institution of Wastes Management (CIWM), the Irish Environmental Law Association and Chartered Institute of Ecology and Environmental Management (CIEEM).

All surveying and reporting have been carried out by qualified and experienced ecologists and environmental consultants. EK, Ecologist with DNV supported the field surveys for this report. CRK, Ecologist with DNV authored this report and undertook the desktop research for this report. The bat surveys were undertaken by KM, graduate ecologist with DNV, CR, CM, And AD, ecologist interns with DNV also assisted with the bat surveys.

EK has a BSc in Psychology from the University of Maryland, USA and an MSc in Biodiversity and Conservation from Trinity College Dublin. His experience includes desktop research, literature-scoping review, and report writing as well as vegetation surveys, rare species surveys, and habitat mapping. EK has contributed to the preparation of several AA Screenings, Ecological Impact Assessments (EcIA) and EIAR Biodiversity Chapters, as well as Biodiversity Net Gain (BNG) Reports.

CRK is an Ecologist with a M.Sc. in Biodiversity and Conservation from Trinity College Dublin. CRK's experience as an ecologist is broad both variety of ecological reports and literature, and field surveys conducted. CRK has

experience in surveying habitats, birds, plants, bats, mammals and invasive species, with some experience in assessing welfare conditions of animals using behavioural repertoires as indicators. CRK's experience in ecological report writing extends from Research associated reporting to AA screening reports and Natura 200 Impact (NIS) reports.

KM is a Graduate Ecologist with DNV and has a B.Sc (Hons) in Environmental Biology from University College Dublin. KM has a range of fieldwork experience including mammal, bird, and amphibian surveys in addition to freshwater ecology research. KM has extensive experience in data collection and ecological report writing, including but not limited to appropriate assessment screening reports.

CR is a final year B.Sc. undergraduate in Sustainability and Environmental Science at University College Dublin, gaining skills in report writing, desktop research and literature review, alongside extensive laboratory and environmental and biological data analysis experience. Under the supervision of senior ecologists, CR has contributed to the preparation of Ecological Impact Assessments (EclAs) and AA Screening Reports, supporting the delivery of high-quality ecological reporting.

CM is an Intern Ecologist with DNV and has a B.Sc (Hons) in Zoology from University College Dublin. CM has experience in data collection, ecological modelling, report writing, animal handling, and field surveying, including invasive species sampling, animal behaviour monitoring, species identification, and habitat sampling. CM has partaken in projects across marine, freshwater and terrestrial systems, focusing on ecological impacts and invasive species, and has contributed to relevant reports and academic research.

AD is an Intern Ecologist with a B.Sc. (Hons) in Geoscience from Trinity College Dublin, and a MSc in Applied Environmental Science from University College Dublin. AD's experience includes both geological and ecological field and laboratory work, molecular biomarker analysis and ecological report preparation. AD is also a student member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

1.2 Relevant Legislation and Policy Context

A PEA is a process of identifying, quantifying, and evaluating potential effects of development-related or other actions on habitats, species and ecosystems (CIEEM, 2017).

A PEA is not a statutory requirement; however, it is a best practice evaluation process for rapid (preliminary) ecological assessment of a Proposed Development. The PEA will inform the applicant on baseline ecological conditions at the Site, and if any mitigations, recommendations, or ecological surveys and reporting are required.

There are several pieces of legislation, regulations and policies specific to ecology which underpin this assessment. These may be applicable at a European, National or Local level. Legislation at the International level relevant to the Proposed Development are listed below:

- *Council Directive 92/43/EEC* on the Conservation of Natural Habitats and of Wild Fauna and Flora; hereafter the 'Habitats Directive'.
- *Directive 2009/147/EEC*, hereafter the 'Birds Directive'.
- *Directive 2011/92/EU*, hereafter the 'EIA Directive'.
- EU Regulation 1143/2014, on Invasive Alien Species.
- *Convention on the Conservation of European Wildlife and Natural Habitats 1982*, hereafter the 'Bern Convention'.
- *The Convention on the Conservation of Migratory Species of Wild Animals 1983*, hereafter the 'Bonn Convention'.
- *Ramsar Convention on Wetlands 1971*, hereafter referred to as 'Ramsar'.
- *Water Framework Directive 2000/60/EC*, hereafter the 'WFD'.

National legislation and policy relevant to the Proposed Development are listed below:

- Wildlife Act 1976, as amended in 2000.
- Flora (Protection) Order 2022.
- The Planning and Development Act 2000 (in effect till the Planning and Development Act 2024 comes into effect in 2026).
- National Biodiversity Plan 2023-2030.

Additionally, Natural Heritage Areas (NHAs) are designations under the Wildlife Acts to protect habitats, species, or geology of national importance. The boundaries of many of the NHAs in Ireland overlap with Special Areas of



Conservation (SAC) and/or Special Protection Area (SPA) sites designated under the Habitats Directive. Although many NHA designations are not yet fully in force under this legislation (referred to as 'proposed NHAs' or pNHAs), they are offered protection in the meantime under planning policy which normally requires that planning authorities give recognition to their ecological value.

Further details on legislation and policy relevant to the Proposed Development are detailed in section 9.2.

2 DESCRIPTION OF THE PROPOSED DEVELOPMENT

2.1 Site Location

The Site of the Proposed Development is situated on the Site of the former Matt's of Cabra public housing at 2A Fassagh Avenue, Dublin 7, D07 TH77, Co. Dublin. Cabra is an inner-city suburb located on the Northside of Dublin, approximately 2km northwest of the city centre. The Proposed Development comprises of the redevelopment of the vacant site located along Faussagh Avenue, oriented longitudinally from south to north. It is bounded to the east by a residential area and to the west by a railway line. On the southern end of the site lies a derelict structure, formerly a local pub Matts of Cabra, now in a state of ruin. The southern boundary consists of the derelict building, access gates, and site hoarding. The western boundary along the Irish Rail line is defined by a tall palisade fence, which is supplemented by hoarding in certain areas. The northern boundary is marked by a light timber fence, while the eastern boundary, adjoining to residential properties, is primarily defined by a 2 m high blockwork wall or the backs of buildings. The Royal Canal flows 210m north of the Site, flowing in a south-eastward direction in relation to the Proposed Development (see Figure 1).



FIGURE 1. SITE LOCATION

2.2 Proposed Development Description

The proposed development provides for a Large-Scale Residential Development, which in summary, shall consist of:

- Demolition of the former 'Matts of Cabra' public house and associated structures.
- Construction of a purpose-built student accommodation scheme consisting of 249 no. student bedspaces arranged in 32 no. clusters of 4, 7, 8, 9 and 10-bedroom units (including 13 no. accessible units and 10 no. studio units) each with associated shared kitchen/living/dining areas in 2 no. blocks ranging in height from 4-6 storeys;
- Internal amenity spaces (approx. 347.1 sqm) including a student lounge area, laundry room, postal room and a reception / office / kitchen / tearoom across the ground floor and first floor levels;

- d) External amenity areas (approx. 2,971.4 sqm) including 1 no. outdoor terrace at fourth floor level of Block A (193.1 sqm);
- e) Approx. 405.5 sqm of public open space in the form of a public plaza fronting Fassaugh Avenue;
- f) Switch room, ESB substation, sprinkler room and bin storage all in a single storey services building along the eastern site boundary;
- g) A total of 308 no. bicycle parking spaces at surface level (258 no. long term, covered bicycle parking spaces including 12 no. cargo bicycle parking spaces and 50 no. visitor bicycle parking spaces);
- h) Vehicular access to be provided from Fassaugh Avenue;
- i) 1 no. accessible car parking space proposed within the site;
- j) It is proposed that the development will be used for short term tourist or visitor accommodation outside of academic term times, in accordance with the definition of student accommodation.

The development will also provide for all associated service connections, public lighting, cold water storage and thermal store room, hard and soft landscaping, planting, formal activity equipment, removable bollards, tactile paving, boundary treatments, nature-based SuDS features, green and blue roofs, and all associated site clearance, excavation and development works above and below ground.

2.2.1 Drainage and Water Supply

The following information is extracted from the Engineering Service Report for the Proposed Development (Lohan & Donnelly, 2025).

Surface water

Existing Surface Water Drainage

A review of the Irish Water drainage record map showed no existing surface water sewer in the vicinity of the Site. However, after consultation with DCC, they have confirmed the existence of a surface water sewer with sufficient capacity for the proposed development to connect into.

Proposed Surface Water Drainage

The proposed surface water drainage infrastructure for the Proposed Development has been designed and is to be constructed in accordance with “Greater Dublin Strategic Drainage Study (GDSDS) Regional Drainage Policies Technical Document – Volume 2, New Developments, 2005, “Greater Dublin Regional Code of Practice Works” and the Building Regulation requirements.

It is proposed to provide 225mm diameter surface water pipes to service the Site. Surface water collected from within the site boundary will flow into the last manhole on site “SW01”. From the last manhole on site “SW01” the surface water will flow out into the existing water sewer adjacent to the southern boundary of the Site.

Sustainable Drainage Systems (SuDS)

The Proposed Development will incorporate the design principles of Sustainable Drainage Systems (SuDS). The SuDS elements which were found applicable to the proposed scheme design and layout include the following:

- **Extensive Green-Blue Roof** – It is proposed to provide a green-blue roof system that covers approximately 1662m² of the roof area of the Proposed Development. The blue roof will act as a roof level attenuation tank which removes the need for an in-ground attenuation tank with the green roof typically installed above the blue roof. Rainwater on the green-blue roof will be absorbed by the vegetation layer. For heavier storm events, when the vegetation layer is no longer capable of retaining any more water, it will then be deposited into a 100mm deep “Bauder attenuation cell 100” and used by the vegetation layer once it has recovered. In heavy 1 in a 100-year storm event, when the water can no longer be held within the vegetation layer or attenuation cells it will discharge into the surface water sewer located at ground level at a controlled rate via flow restrictors.
- **Permeable Paving** – It is proposed to incorporate a permeable paving system into the paved areas within the Proposed Development, with the aim of reducing run-off from the site in times of precipitation and improving the quality of run-off generally. The quality of run-off from the Site shall also be improved due to the filtering process of the paving, which retains silts and degrades hydrocarbons. In a 1 in 100-year

storm event, with 20% increase in storage volume to allow for climate change and total permeable paving area of 1790m², the total required attenuation volume equates to 52.329m³. The total provided attenuation by the permeable paving is 161.09m³.

- Hydrobrake (Site Run-off Control) control will be used to avoid over capacitating the existing surface water sewer. This will be installed adjacent to the 'SW01' manhole on Site, where it will control the flow rate of water.

The aforementioned SuDS will also undergo maintenance during the extent of the Operational Phase of the Proposed Development to ensure they continue to function in an optimal and efficient state.

Foul Drainage

Existing Foul Drainage

There is an existing 225mm diameter concrete sewer located in close vicinity to the Proposed Development along Faussagh Avenue. The sewer originates a small distance South of the site boundary, before travelling South-East down Faussagh Avenue.

Proposed Foul Drainage

Foul water from the Proposed Development will discharge into a 225mm diameter foul water pipe, commencing from a location along the Easterly boundary of the site, before extending to the last foul water manhole of the site 'FW01' located just South of the site beside Faussagh Avenue, before discharging all the foul water generated from the proposed development into an existing foul water manhole located further South-East down Faussagh Avenue. All foul water from this network will be treated at Ringsend Wastewater Treatment Plant (WwTP).

2.2.2 Landscape Plan

The proposed landscape design of the Site has been prepared by ait (ait, 2025a).

The landscaping design outlines details of the proposed landscaping at the Proposed Development, which includes pedestrian footpath networks, a vehicular access road along the eastern section of the Site, hard landscaping for these areas, public open space, communal open space, soft landscaping across the Site, boundary treatment, and SuDs proposed for the Site (see Figure 2).

Along the southern section of the Site, public open space is proposed, where a mix of ornamental flowering trees and native mix will be used for a pollinator-friendly planting scheme. The communal open spaces in the southern, northern and western sections of the Site will also adhere by the aforementioned planting scheme. Pedestrian access is provided via two gentle gradients from the east and west.

Given the lack of trees currently present at the Site, light-canopy native trees such as birch are proposed along the western boundary of the Site, and native hedgerow planting along the western and parts of the eastern boundary have been proposed. In addition, multi-stem flowering trees and flowering species have been proposed for the vegetation in the central areas of the Site.

2.2.3 Lighting Plan

A Lighting plan for the Site was developed by O'Connor Sutton Cronin Multidisciplinary Consulting Engineers (OCSC, 2025).

This lighting report outlines details such as the design criteria, luminaire types proposed for the development and how the proposed design will meet the relevant public lighting standards. The lighting system was designed to achieve the level of Lux and set up a plan to bring up the overall to the desired limits. A section of this report focuses on the biodiversity and environmentally friendly strategy employed by the lighting plan, where the strategies are as follows:

- Do not over light - Where relevant guidance gives a range of illumination levels the lowest one which is appropriate shall be utilised. No lighting is directly at the open water or trees or the canal frontage.
- Luminance distribution - The spread of light shall be kept near to or below the horizontal where possible.
- Minimise UV light – Selected luminaires shall emit minimal UV light. This can be achieved by selecting LED luminaires.

- Colour temperature of lamps – All light sources shall be 3000K maximum.
- Lighting controls – Consideration shall be made to when lighting is operational to reduce detrimental impacts on nocturnal animals
- Light spill - The lighting calculations were conducted to examine if the light spill from the fittings. It was concluded that the levels were appropriately low. As an E4 zone a lux average level below 5 lux would be considered appropriate. To achieve these levels back baffles were installed on the luminaires in question.

These strategies will ensure that all installations meet the requisite specifications for safety, efficiency, and environmental considerations, while providing optimal illumination for public areas.

2.3 Description of the Construction Phase

The Construction Phase is expected to last for about 24 - 36 months and will operate under normal site working hours from 07:00 to 19:00, Monday to Friday (excluding bank holidays), and 08:00 to 14:00 on Saturdays subject to the restrictions imposed by the local authority. No working will be allowed on Sundays and Public Holidays.

2.4 Description of the Operational Phase

The Operational Phase of the Proposed Development will see the continuation of normal use of the large-scale residential development by its tenants and businesses. It is anticipated that human activity at the central and southern sections of the Site will be increased from the baseline due to the communal open space and public open space that have been incorporated in these regions respectively, and the pedestrian access routes that connect these features. It is also anticipated that road use (vehicular, cyclists and pedestrian activity) along Faussagh Avenue will increase from baseline.

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3 METHODOLOGY

This PEA has been undertaken to identify any ecological constraints to development of the Site, identify further ecological surveys and investigations necessary to inform a full EcIA of the Site, and highlight opportunities for ecological enhancement. Where potential for a risk to the environment is identified, recommendations for avoidance and/or mitigation measures are made on the basis that by deploying these measures the risk is eliminated or reduced to an insignificant level.

This section details the steps and methodology employed to undertake a PEA of the Site.

3.1 Scope of Assessment

The specific objective of this PEA is to:

- Set out the methodologies used to inform the ecological surveys;
- Identify the likely ecological constraints within the Zone of Influence (ZOI) of the Proposed Development;
- Identify further ecological surveys and investigation, where necessary, to inform a full Ecological Impact Assessment (EcIA) of the Site;
- Highlight opportunities for ecological enhancement; and
- Identify any mitigation measures likely to be required.

3.2 Desk Study

A desktop study was carried out in August 2025 to collate and review available information, datasets and documentation sources pertaining to the Site's natural environment. The desk study, completed in August 2025, relied on the following sources:

- Information on species records¹ and distributions, obtained from the National Biodiversity Data Centre (NBDC) at maps.biodiversityireland.ie;
- Information on waterbodies, catchment areas and hydrological connections obtained from the Environmental Protection Agency (EPA) at gis.epa.ie;
- Information on bedrock, groundwater, aquifers and their statuses, obtained from Geological Survey Ireland (GSI) at www.gsi.ie;
- Information on the network designated conservation sites, site boundaries, qualifying interests and conservation objectives, obtained from the National Parks and Wildlife Service (NPWS) at www.npws.ie;
- Satellite imagery and mapping obtained from various sources and dates including Google, Digital Globe, Bing and Ordnance Survey Ireland; and,
- Information on the extent, nature and location of the Proposed Development, provided by the applicant and/or their design team.

A comprehensive list of all the specific documents and information sources consulted in the completion of this report is provided in Section 8, References.

3.3 Zone of Influence

The 'zone of influence' (ZOI) for a project is the area over which ecological features may be affected by changes as a result of the Proposed Development and associated activities. This is likely to extend beyond the development site, for example where there are ecological or hydrological links beyond the site boundaries (CIEEM, 2018). The ZOI will vary with different ecological features, depending on their sensitivities to an environmental change.

The ZOI of the Proposed Development is largely confined to habitats within and immediately adjacent to the Site due to the scale, nature and location of the Proposed Development.

3.4 Identification of Relevant Designated Sites

To determine the ZOI of the Proposed Development for designated sites, reference was made to the OPR Practice Note PN01 - 'Appropriate Assessment Screening for Development Management' (OPR, 2021), a practice note

¹ The Site of the Proposed Development lies within the 10km grid square (O13), and 2km grid square (O13I). Records from the last 20 years from available datasets are given in the relevant sections of this report.

produced by the Office of the Planning Regulator, Dublin. This note was published to provide guidance on screening for AA during the planning process, and although it focuses on the approach a planning authority should take in screening for AA, the methodology is also readily applied in the preparation of PEA reports such as this to identify all relevant designated sites potentially linked to the Proposed Development.

The most recent guidance advises against the use of arbitrary distances that serve as precautionary ZOI (e.g., 15km), and instead recommends the application of the Source-Pathway-Receptor (S-P-R) model in the identification of designated sites, stating that *“This should avoid lengthy descriptions of European sites, regardless of whether they are relevant to the proposed development, and a lack of focus on the relevant European sites and issues of importance”*. Although this statement refers to European sites, it is also applicable to other designated sites.

The methodology used to identify relevant designated sites comprised the following:

- Identification of potential sources of effects based on the Proposed Development description and details;
- Identification of potential pathways between the Site of the Proposed Development and any designated sites within the ZOI of any of the identified sources of effects.
 - Water catchment data from the EPA (www.epa.ie) were used to establish or discount potential hydrological connectivity between the Proposed Development and any designated sites.
 - Groundwater and bedrock information used to establish or discount potential hydrogeological connectivity between the Proposed Development and any designated sites.
 - Air and land connectivity assessed based on Proposed Development details and proximity to designated sites.
 - Consideration of potential indirect pathways, e.g., impacts to flight paths, *ex-situ* habitats, etc.
- Review of Ireland’s designated sites to identify those sites which could potentially be affected by the Proposed Development in view of the identified pathways, using the following sources;
 - European sites and nationally designated sites (e.g., NHAs and pNHAs) from the NPWS (www.npws.ie);
 - Ramsar sites from the Irish Ramsar Wetland Committee (<https://irishwetlands.ie/irish-sites/>);
 - Other internationally designated sites e.g., UNESCO Biosphere’s; and
 - Regional development plans to identify any remaining sites or areas designated for nature conservation at a local level.

Note that due to lack of details on the design of the Proposed Development, apart from the anticipated scale and intended use (i.e., residential, commercial, etc), a precautionary approach is adopted in this PEA in relation to potential pathways.

3.5 Field Surveys

To determine the likely ecological constraints at the Site, a multidisciplinary walkover survey was carried out on 17th June 2025. This survey covered the following aspects:

- Habitat mapping to level 3 (Fossitt 2000)
- Preliminary Bat Roost Assessment and Habitat Suitability Survey
- Bird Scoping Survey
- Invasive Flora Survey
- A search for signs of protected fauna (e.g., mammals, reptiles, amphibians)

The list of surveys conducted for the Site of the Proposed Development have been presented in the table below.

TABLE 1. FIELD SURVEYS UNDERTAKEN AT THE PROPOSED DEVELOPMENT SITE.

Survey	Surveyor	Dates
Preliminary Habitat and Flora Survey (incl. invasive species)	DNV (EK)	17 th June 2025
General Mammal Survey		
Bird Scoping Survey		
Bat Activity Survey	DNV (CRK, AD, KM)	23 rd July 2025 12 th August 2025
Bat Emergence Survey	DNV (CRK, CR, CM, AD, KM)	22 nd July 2025 12 th August 2025
Bat Static Survey	DNV (CRK)	22 nd to 28 th July 2025 12 th to 18 th August 2025

Details of the survey methods are given in the below sections.

3.5.1 Habitat Surveys

Habitat surveys of the Site were conducted by DNV on 17th June 2025. Habitats were categorised according to the Heritage Council's 'A Guide to Habitats in Ireland' (Fossitt, 2000) to level 3. The habitat mapping exercise had regard to the 'Best Practice Guidance for Habitat Survey and Mapping' (Smith *et al.*, 2010) published by the Heritage Council.

The habitats at the Site were also assessed for their potential to support protected and/or notable fauna.

3.5.2 Invasive Species Survey

An invasive species surveys was carried out in conjunction with the habitat surveys on 17th June 2025. This included a detailed search for signs of any invasive flora or fauna, with any incidental observations of evidence for invasive species recorded whenever on Site.

3.5.3 Bat Surveys

3.5.3.1 Preliminary Bat Roost Assessment

A daytime inspection of the Site was undertaken on 17th June 2025. The aim of the inspection was to search for indication of the presence of roosting bats, and to assess the habitat for its ability to support commuting and foraging bats. Buildings and trees on Site were visually assessed from the ground with the aid of a torch and binoculars. The roost inspection comprised a detailed inspection of structures and trees on Site. These were subject to exterior and interior inspections (where possible) to search for evidence of bat use. This includes live and dead specimens, droppings, feeding remains, oil staining and noise (Collins 2023). Buildings were assessed for cracks and crevices, or entry points to the roof that might support roosting bats, while trees were searched for Potential Roosting Features (PRFs) such as hollow trunks, knot holes, peeling bark, splits, cracks, and crevices (Collins 2023; Andrews 2018). Collins (2023) recommends that structures and trees are assessed for their ability to support roosting bats under separate categorisations using professional judgement and sub-categories as presented in Table 4.1 (Collins, 2023):

- Negligible – No suitable features observed, however, a small element of uncertainty remain;
- Low – A structure with one or more roost features as used by individual bats opportunistically at any time of year;
- Moderate – A structure with one or more roost features that could be used by bats on a regular basis or by a larger number of bats; and
- High – A structure with one or more roost features that are obviously suitable for use by a larger number of bats on a regular basis, and potentially for longer periods of time. These features have the potential to support high conservation status roosts.

Trees are categorized separately accordingly to Table 4.2 of Collins (2023). These classifications are:

- NONE – Either no PRFs in the tree or highly unlikely to be any;
- FAR – Further assessment required to establish if PRFs are present in the tree; and
- PRF – A tree with at least one PRF present.
- Where a tree contains at least one PRF, each PRF is further assessed according to Table 6.2 (Collins 2023). PRF's are scored as either:
 - PRF-I – PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
 - PRF-M – PRF is suitable for multiple bats and may therefore be used by a maternity colony.

For trees with PRF-I's only, no further surveys may be required, but appropriate compensation for all PRF-I's must be designed and incorporated in advance of impacts along with a Precautionary Working Method Statement (PWMS). As the Site increases in suitability for roosting bats e.g., PRF-M's present, the survey effort increases accordingly. A PRF-M will require a detailed inspection, such as aerial inspection, conducted over three survey visits, a minimum of three weeks apart, which should be carried out between May and September with at least two in the period May to August. Where features are inaccessible by ladder, climbing, or MEWP, or too extensive for a PRF inspection, the aerial inspection should be replaced with emergence surveys carried out between May and September with Night Vision Aids (NVA) where possible or otherwise surveyed using Advanced Licence Bat Survey Techniques (ALBST), such as trapping, tagging, and radio-tracking to inform of the importance of a roost.

3.5.3.2 Preliminary Bat Habitat Suitability Assessment Survey

A Bat Habitat Suitability Assessment was carried out in conjunction with the roost assessment on 17th June 2025. This assessment evaluated the habitats present on Site and in the wider area for bat foraging and commuting suitability. Habitat suitability is assessed qualitatively from Negligible to High:

- Negligible – No suitable foraging or commuting habitats on Site
- Low – Suitable but isolated habitats that could be used by small numbers of commuting and/or foraging bats, such as poorly connected gappy hedgerows, lone trees, unvegetated streams, etc.
- Moderate – Suitable continuous habitat connected to the wider landscape that could be used by commuting and/or foraging bats, such as treelines, scrub, grassland, water, etc.
- High – Continuous high-quality habitat that is well-connected to the wider landscape, and is likely used regularly by commuting and/or foraging bats, such as river valleys, broadleaved woodland, woodland edge, grazed parkland, etc.

3.5.3.3 Bat Emergence Surveys

The surveys were conducted by experienced surveyors who were situated in locations that gave good views of the PRFs identified within the Site. The methodology of the emergence/re-entry surveys followed best practice guidelines (Collins, 2023 and Marnell et al., 2022) with dusk surveys commencing 15 minutes before sunset and lasting until approximately 1.5 – 2 hours after sunset and dawn surveys commencing 2 hours prior to sunrise and ending at sunrise. PRFs in the form of gaps in masonry of the existing buildings on Site were identified and surveyed for emergence. Details of the date, times and weather conditions are presented below.

TABLE 2. WEATHER CONDITIONS RECORDED DURING BAT EMERGENCE SURVEYS

Date	Sunset	Survey Start & End	Weather at Start	Weather at End
22/07/2025	21:30	21:30 to 23:10	16 °C, dry, 75% cloud cover, light breeze (wind speed of 7km/hr), visibility 4/4	16 °C, dry but very light drizzle towards the end of survey, 100% cloud cover, gentle breeze (wind speed of 7km/hr), visibility 4/4
12/08/2025	20:59	20:44 to 22:34	20 °C, dry, 25% cloud cover, light breeze	18 °C, dry, 50% cloud cover, light

Date	Sunset	Survey Start & End	Weather at Start	Weather at End
			(wind speed of 7km/hr), visibility 4/4	breeze (wind speed of 5km/hr), visibility 1/4

3.5.3.4 Bat Activity Surveys

The Site was assessed by an experienced ecologist in relation to the potential bat foraging habitat and commuting routes. The surveys were undertaken to best practice guidance (Collins, 2023 and Marnell et al., 2022) during times of suitable weather conditions, as detailed below. The surveyor was equipped with a Elekon Batlogger M2 detector and powerful L.E.D. torch and head torches. Surveys started at sunset and continued for 2-3 hours, along a predesigned transect route with regular point counts, as presented in Figure 3.

TABLE 3. WEATHER CONDITIONS RECORDED DURING BAT TRANSECT SURVEY

Date	Sunset	Survey Start & End	Weather at Start	Weather at End
23/07/2025	21:34	21:24 to 23:05	17 °C, dry, 100% cloud cover, light breeze (wind speed of 9km/hr), visibility 4/4	16 °C ,dry, 100% cloud cover, light breeze (wind speed of 4km/hr), visibility 1/4
12/08/2025	20:59	20:44 to 22:34	20 °C, dry, 25% cloud cover, light breeze (wind speed of 7km/hr), visibility 4/4	18 °C, dry, 50% cloud cover, light breeze (wind speed of 5km/hr), visibility 1/4



FIGURE 3. TRANSECT ROUTE EMPLOYED FOR THE TRANSECT SURVEYS

Data Analysis

Species were identified from recordings using Elekon's BatExplorer software (version 2.1.10.1). Bat data was analysed and species assigned to each record with reference to species identification guides such as Russ (2012). Each record i.e., a sequence of bat calls/pulses, is noted as a bat pass; to indicate the level of bat activity for each species recorded. Each bat pass does not correlate to an individual bat but is representative of bat activity levels. Some bats such as *Pipistrelle* species may continuously fly around a habitat or feature, therefore, it is possible that a series of bat passes within a similar time frame is representative of an individual bat. On the other hand, Leisler's bats (*Nyctalus leisleri*) tend to travel through an area quickly, and as such, an individual sequence or bat pass is more likely to be indicative of individual bats.

3.5.4 Bat Static Survey

Static bat detectors of the 'SM4Bat FS' model were deployed on Site between 22nd to 28th July 2025 and 12th to 18th August 2025, during which the static detectors were deployed on Site for a duration of multiple days to ensure that robust data of bat species utilising the Site were recorded. The methodology of the static survey followed best practice guidelines (Collins, 2023 and Marnell et al., 2022) where the static detector deployed on Site was scheduled to start and end 30min before sunset and after sunset respectively.

Data Analysis

Species were identified from recordings using Kaleidoscope Pro software. Bat data was analysed and species assigned to each record with reference to species identification guides such as Russ (2012). Each record i.e., a sequence of bat calls/pulses, is noted as a bat pass; to indicate the level of bat activity for each species recorded. Each bat pass does not correlate to an individual bat but is representative of bat activity levels. Some bats such as *Pipistrelle* species may continuously fly around a habitat or feature, therefore, it is possible that a series of bat passes within a similar time frame is representative of an individual bat. On the other hand, Leisler's bats (*Nyctalus leisleri*) tend to travel through an area quickly, and as such, an individual sequence or bat pass is more likely to be indicative of individual bats.

3.5.5 Bird Scoping Survey

A bird scoping survey was carried out 17th June 2025 to scope out the breeding and non-breeding bird potential at the Site based on habitats. Additionally, all bird species encountered during the survey were recorded and activity noted where possible.

The survey methodology employed was based on that recommended in standard literature used by for example the British Trust for Ornithology (BTO) (Gillings et al, 2007; Bibby et al, 1992 and Gilbert et al, 1998), which has subsequently been adapted into guidelines for ecological consultants by the Bird Survey & Assessment Steering Group (2022). During the surveys, the Site was walked slowly, approaching all habitats within and adjacent to the Proposed Development and scanning and listening for birds.

3.5.6 Fauna Survey

A general fauna survey of the Site was carried out in conjunction with the other field surveys on 17th June 2025. The habitat types recorded throughout the survey area were used to assist in identifying the fauna considered likely to utilise the area. The Site was searched for tracks and signs of mammals as per Bang and Dahlstrom (2001) and other fauna as per the National Road Authority (NRA, 2005; NRA.2009a).

3.6 Preliminary Ecological Appraisal

3.6.1 Identification of Ecological Constraints

The evaluation and assessment of ecological features is beyond the scope of a PEA and has therefore not been undertaken here. Where required, formal evaluation and assessment of any identified important ecological features should be undertaken as part of either a full EclA, or receptor – specific survey and assessment in accordance with the published CIEEM method (CIEEM, 2018).

Following the desk study and field survey(s), likely ecological constraints to the Proposed Development were identified based on the following information:

- Perceived sensitivity of the recorded ecological features;
- Level of uncertainty in assessing the status of an ecological feature (e.g., where a pond is observed but it is not known whether it supports breeding amphibians due to seasonal limitations); and
- Likely impacts on the recorded ecological features based on current knowledge of Proposed Development design (e.g., removal of treeline)

3.6.2 Mitigation and Further Survey Recommendations

Identification of likely ecological constraints will inform an EclA and/or the design of appropriate avoidance, mitigation and/or compensation measures through the planning process. Additionally, further surveys to address any remaining uncertainties are recommended for the identified ecological constraints.

3.7 Limitations

Every effort has been made to provide a comprehensive description of the site; however, the following specific limitations apply to this assessment:

- An extensive search of available datasets for records of rare and protected species within proximity of the Proposed Development has been undertaken as part of this assessment. However, the records from these datasets do not constitute a complete species list. The absence of species from these datasets does not necessarily confirm an absence of species in the area.
- No dedicated breeding bird surveys were carried out for this application. However, due to the highly disturbed nature of the habitats at the Site and the limited impacts predicted on adjacent natural habitats, the Site is unlikely to support significant breeding populations of notable bird species. As such, the lack of dedicated breeding bird surveys is not considered to be a significant limitation in combination with the application of a precautionary approach.

No other potential limitations were encountered during the preparation of this report. It is therefore considered that an appropriate evaluation of the habitats, species and other ecological features and the potential impacts that could arise from the Proposed Development has been carried out in this assessment.

4 ECOLOGICAL BASELINE CONDITIONS

This section sets out the baseline conditions for the ecological features within the Site using the findings of the desk study and field surveys.

4.1 Geology, Hydrogeology and Hydrology

The Site is located in the *Liffey and Dublin Bay Catchment* (I.D.: 09) and in the *Tolka_SC_020* sub-catchment (I.D.: 09_4).

The *Royal Canal Main Line (Liffey and Dublin Bay)* canal (IE_09_AWB_RCMLE) is the closest waterbody to the Site of the Proposed Development, located 250m north of the Site boundary. This canal ultimately flows into the *Irish Sea* via the *Liffey Estuary Lower* transitional waterbody (IE_EA_090_0300) at a distance of approximately 4.5 kilometres (km) from the Proposed Development, and the *Dublin Bay* coastal waterbody (IE_EA_090_0000) at a distance of approximately 8km. The closest river/stream to the Proposed Development is the *Tolka_060* river (IE_EA_09T011150) located approximately 900m north of the Site boundary.

The Site is situated on the *Dublin* groundwater body (IE_EA_G_008), and the vulnerability to contamination of said groundwater from human activities is currently under the 'review' process (GSI, 2025). The aquifer type in the surrounding area is 'Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones' (LI) (GSI, 2025).

The soil underneath the Site of the Proposed Development is classified as 'Urban – soil concerted over', and the sub-soil underneath the Site is 'Limestone till (Carboniferous)' (TLs) for the predominant area, with a small section along the southeast section of the Site classified as 'Man made'. The underlying quaternary sediments are predominantly 'Tills derived from limestone' (TLs) (GSI, 2025). The waterbody status from the waterbodies relevant to the Site as recorded by EPA (EPA, 2025) in accordance with European Communities Regulations 2003 (SI no. 722/2003) are provided in Table 4 below.

TABLE 4. EPA MONITORING STATIONS AND ASSIGNED Q VALUES

EPA Monitoring Station name	Station Code	Location from Site	Distance from Site	Assigned value Q
TOLKA-Cardiff'd Br	RS09T011050	North upstream	1.13km	3 "Poor"
Violet Hill Drive Finglas	RS09T011100	Northeast upstream	0.9km	3 "Poor"

TABLE 5. WFD RISK AND WATER BODY STATUS

Waterbody Name	Water body; EU code	Location from Site	Distance from Site (km)	WFD water body status (2016-2021)	WFD 3 rd cycle Risk Status	Hydraulic Connection to the Site
Surface Water Bodies						
Royal Canal Main Line (Liffey and Dublin Bay)	IE_09_AWB_RCMLE	North	0.25	Good	Review	In the vicinity of the Site
Tolka_060	IE_EA_09T011150	North	0.90	Poor	At Risk	None
Transitional Water Bodies						

Waterbody Name	Water body; EU code	Location from Site	Distance from Site (km)	WFD water body status (2016-2021)	WFD 3 rd cycle Risk Status	Hydraulic Connection to the Site
Liffey Estuary Lower	IE_EA_090_0300	Southeast	4.5	Moderate	At risk	Downstream of Royal Canal Main Line Canal
Coastal Water Bodies						
Dublin Bay	IE_EA_090_0000	Southeast	8	Good	Not at Risk	Downstream of Royal Canal Main Line Canal and connected to Liffey Estuary Lower
Groundwater Bodies						
Dublin	IE_EA_G_008	N/A	N/A	Good	Review	Underlying groundwater-body

4.2 Designated Sites

The impacts of the Proposed Development on designated European sites have been discussed in a separate Appropriate Assessment Screening Report (DNV, 2025a). The report concluded that there would be no significant impacts on such sites as a result of the Proposed Development.

As such, European sites are not considered further in this report.

The section below discusses pathways to other nationally important designated sites and the potential impacts on the Proposed Development.

4.2.1 S-P-R links to Designated Sites

Potential impact pathways are discussed in the following sections in the context of the Proposed Development as described in Section 2.

4.2.1.1 Direct Pathways

Hydrological pathways

The closest watercourses to the Site of the Proposed Development are the Royal Canal and Tolka_060 River located approximately 0.25km and 0.90km north of the Site respectively. The nearest designated site along these watercourses is the *Royal Canal pNHA (002103)* designated for the Royal Canal, located 200m from the Site of the Proposed Development. However, there are no water courses present on Site that connect to the Royal Canal Main Line stream that flows in this pNHA, and the existing train line north and northeast of the Site that will act as a buffer to surface water flow between the Site and the pNHA. In addition, the embedded mitigations for the Construction Phase of the Proposed Project will negate any impacts via this pathway. Therefore, hydrological pathways to the *Royal Canal pNHA (002103)* are deemed to be weak, and no significant impacts are envisaged.

The nearest designated site downstream of these watercourses is the *North Dublin Bay pNHA (000206)*, *North Bull Island Ramsar site (406)*, and *South Dublin Bay pNHA (000210)*. The boundaries of these designated sites correspond with the *North Dublin Bay SAC (000206)* and *South Dublin Bay SAC (000210)* respectively, which have been assessed and screened out in the accompanying AA Screening report. These designated sites are sufficiently distant (>7km) that the pathway between the Site of the Proposed Development and the designated sites are insignificant due to the dilution factor of potential pollutants that may enter the water during construction/operation. By extension, the same logic is applied to any designated sites further.

Additionally, the Dublin Bay Biosphere UNESCO (United Nations Educational, Scientific and Cultural Organisation) site is located downstream at the lower reaches of the Royal Canal. However, for reasons outlined above, the hydrological pathway between the Site of the Proposed Development and this designated site is deemed to be weak and insignificant.

Foul water from the Operational Phase of the Proposed Development will be treated at Ringsend Wastewater Treatment Plant (WwTP), which discharges into Dublin Bay at Ringsend (south of the Tolka depositing point). The designated sites located near the depositing point of the Ringsend WwTP are North Dublin Bay pNHA (000206), South Dublin Bay pNHA (000210), UNESCO Dublin Bay Biosphere, and North Bull Island RAMSAR site (406). Indirect hydrological pathways to designated sites connected to the Proposed Development, i.e., pollution of sites in Dublin Bay via foul water outflow from Ringsend WwTP has been assessed in full and screened out in the associated AA Screening Report (DNV, 2025a) accompanying this submission under separate cover. As such, indirect pathways to designated sites will not be considered further in this report.

Hydrogeological pathways

During groundworks and other construction activities, the ground will be exposed and any potential accidental discharges to ground could potentially migrate vertically downward to the underlying bedrock aquifer and laterally within the aquifer to the designated sites.

In the vicinity of the Site, the *Royal Canal pNHA (002103)* is the closest designated site to the Proposed Development. However, given the distance of 200m from this site to the Proposed Development, urban nature of the Site, the presence of railway lines and Luas lines west and north of the Site respectively, and the vulnerability of the area surrounding the Site of the Proposed Development to groundwater contamination ('Low') it is not

envisaged that there will be any significant impacts on these designated sites (and by proxy any other designated sites located further afield) as a result of the Proposed Development.

Air and land pathways

The Construction Phase of the Proposed Development could introduce dust and noise impacts transferable via air and land pathways, as well as increased lighting and human activity at the Site and in the vicinity of the Site during the Construction and Operational Phases. The *Royal Canal pNHA (002103)* located 200m north of the Site is the closest designated site to the Proposed Development. This is significant enough a distance that there is no potential for air/land pathways between this pNHA and the Site. As all other designated Sites are located further afield than *Royal Canal pNHA (002103)*, air and land pathways to all other designed sites further afield from the Site can be ruled out, by proxy.

4.2.1.2 Indirect Pathways

No indirect pathways to any nationally or internationally designated sites (excl. SACs/SPAs) were identified.

4.2.2 Relevant Designated Sites

As discussed in the preceding sections, no S-P-R link of note exists between the Proposed Development and any designated sites discussed herein (Figure 5).

TABLE 6. DESIGNATED SITES CONSIDERED WITH THE SOURCE-PATHWAY-RECEPTOR (S-P-R) METHOD TO ESTABLISH NOTABLE LINKS BETWEEN THE SOURCES OF EFFECTS ARISING FROM THE PROPOSED DEVELOPMENT, AND ANY RELEVANT DESIGNATED SITES. THOSE SITES WITH NOTABLE S-P-R LINKS THAT ARE FURTHER ASSESSED IN THIS REPORT ARE HIGHLIGHTED IN GREEN (IF ANY).

Site Name & Code (Receptor)	Distance to Site of Proposed Amendments	Qualifying Interests (* = priority habitats) / Designation Rationale	Potential Pathway to receptors
PROPOSED NATURAL HERITAGE AREAS (pNHAs)			
Royal Canal pNHA (002103)	0.20km	The Royal Canal is a man-made waterway linking the River Liffey at Dublin to the River Shannon near Tarmonbarry. The ecological value of the canal lies more in the diversity of species it supports along its linear habitats than in the presence of rare species. It crosses through agricultural land and therefore provides a refuge for species threatened by modern farming methods.	Weak hydrological pathway via Royal Canal. Deemed insignificant due to lack of watercourses on Site connecting to the Royal Canal, presence of railway lines north and northeast of the Site and embedded mitigation for the Construction Phase. No other potential pathways identified.
North Dublin Bay pNHA (000206)	3.8km	QI habitats and species overlap with the EU site of the same name— North Dublin Bay SAC (000206). As per (NPWS, 2013a) • Mudflats and sandflats not covered by seawater at low tide [1140] • Annual vegetation of drift lines [1210] • <i>Salicornia</i> and other annuals colonising mud and sand [1310] • Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330] • Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] • Embryonic shifting dunes [2110] • Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] • Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] • Humid dune slacks [2190] • <i>Petalophyllum ralfsii</i> (Petalwort) [1395]	Weak hydrological pathway via the Royal Canal, deemed insignificant due to distance. No other potential pathways identified.
South Dublin Bay pNHA (000210)	6.1km	QI habitats and species overlap with the EU site of the same name— South Dublin Bay SAC (000206). As per (NPWS, 2013b) • Mudflats and sandflats not covered by seawater at low tide [1140] • Annual vegetation of drift lines [1210]	Weak hydrological pathway via the Royal Canal, deemed insignificant due to distance. No other potential pathways identified.

Site Name & Code (Receptor)	Distance to Site of Proposed Amendments	Qualifying Interests (* = priority habitats) / Designation Rationale	Potential Pathway to receptors
		• <i>Salicornia</i> and other annuals colonising mud and sand [1310] • Embryonic shifting dunes [2110]	
OTHER DESIGNATED SITES (UNESCO, RAMSAR, ETC.)			
UNESCO Dublin Bay Biosphere	3.3km	UNESCO, 2025 The biosphere reserve is significant from a conservation perspective since it supports well-developed salt marshes and dune systems displaying all stages of development from the earliest phase of colonization to stable and full maturity. It also qualifies for international importance as the numbers of three species exceed the international threshold – Light-bellied Brent Goose (<i>Branta bernicla hrota</i>), Black-tailed Godwit (<i>Limosa limosa</i>) and Bar-tailed Godwit (<i>Limosa lapponica</i>). Species such as Grey Heron (<i>Ardea cinerea</i>), Goldeneye (<i>Bucephala</i>), Red-breasted Merganser (<i>Mergus serrator</i>) and Greenshank (<i>Tringa nebularia</i>) are regular in winter in numbers of regional or local importance. The North Bull Island and parts of the buffer zone in north Dublin include populations of Irish Mountain Hare (<i>Lepus timidus hibernicus</i>), a uniquely Irish sub-species of a species of national and international importance, but under severe pressure from recreational disturbance and illegal poaching.	No potential pathways identified
North Bull Island Ramsar site (406)	7.1km	Ramsar Sites Information Service (2023). This Ramsar site is noted for a significant population of • Black-tailed godwit (<i>Limosa limosa</i>) • Bar-tailed godwit (<i>Limosa lapponica</i>)	No potential pathways identified

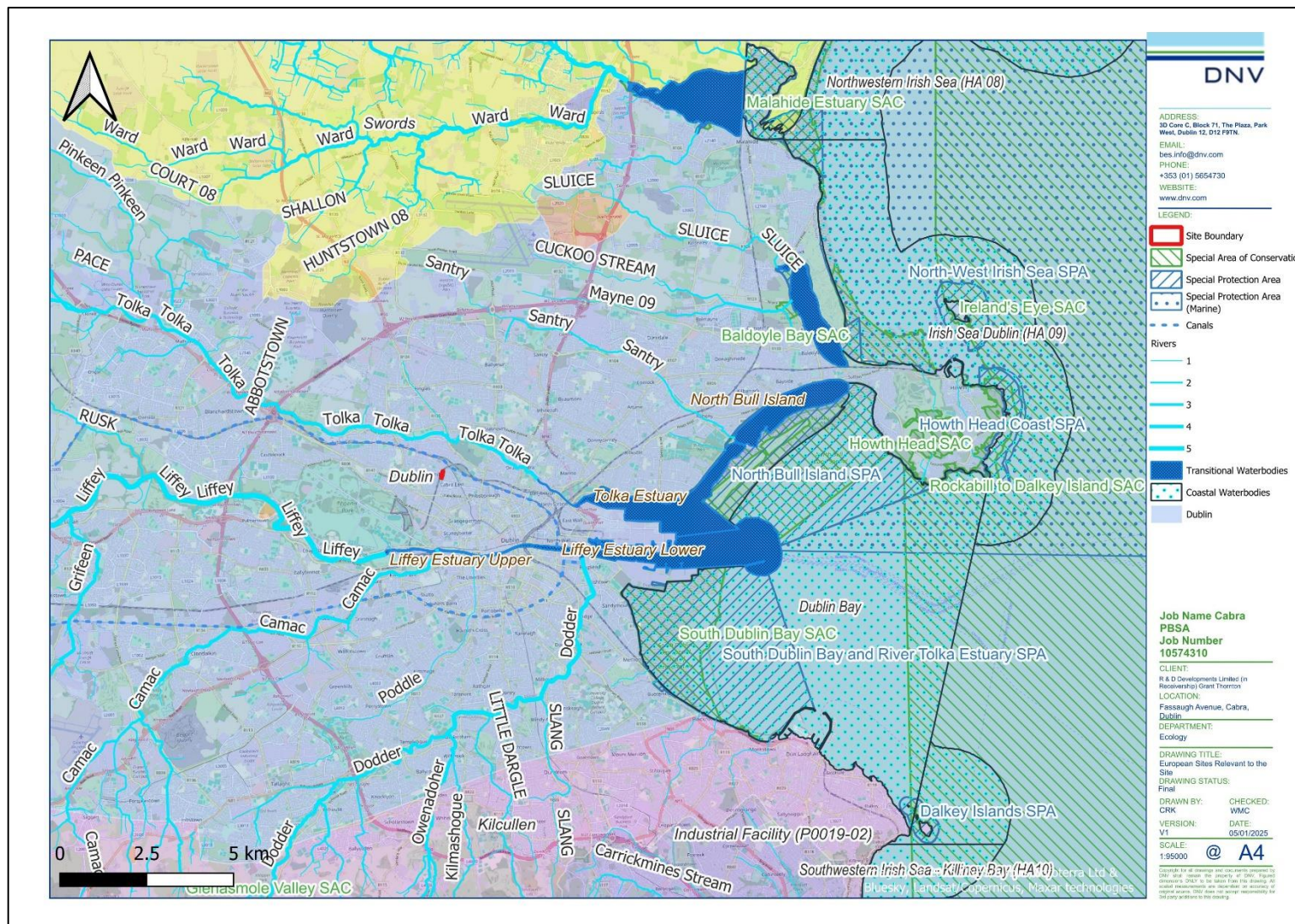


FIGURE 4. LOCATION OF EUROPEAN SITES CONSIDERED WITH THE SOURCE-PATHWAY-RECEPTOR (S-P-R) METHOD IN RELATION TO THE PROPOSED DEVELOPMENT.

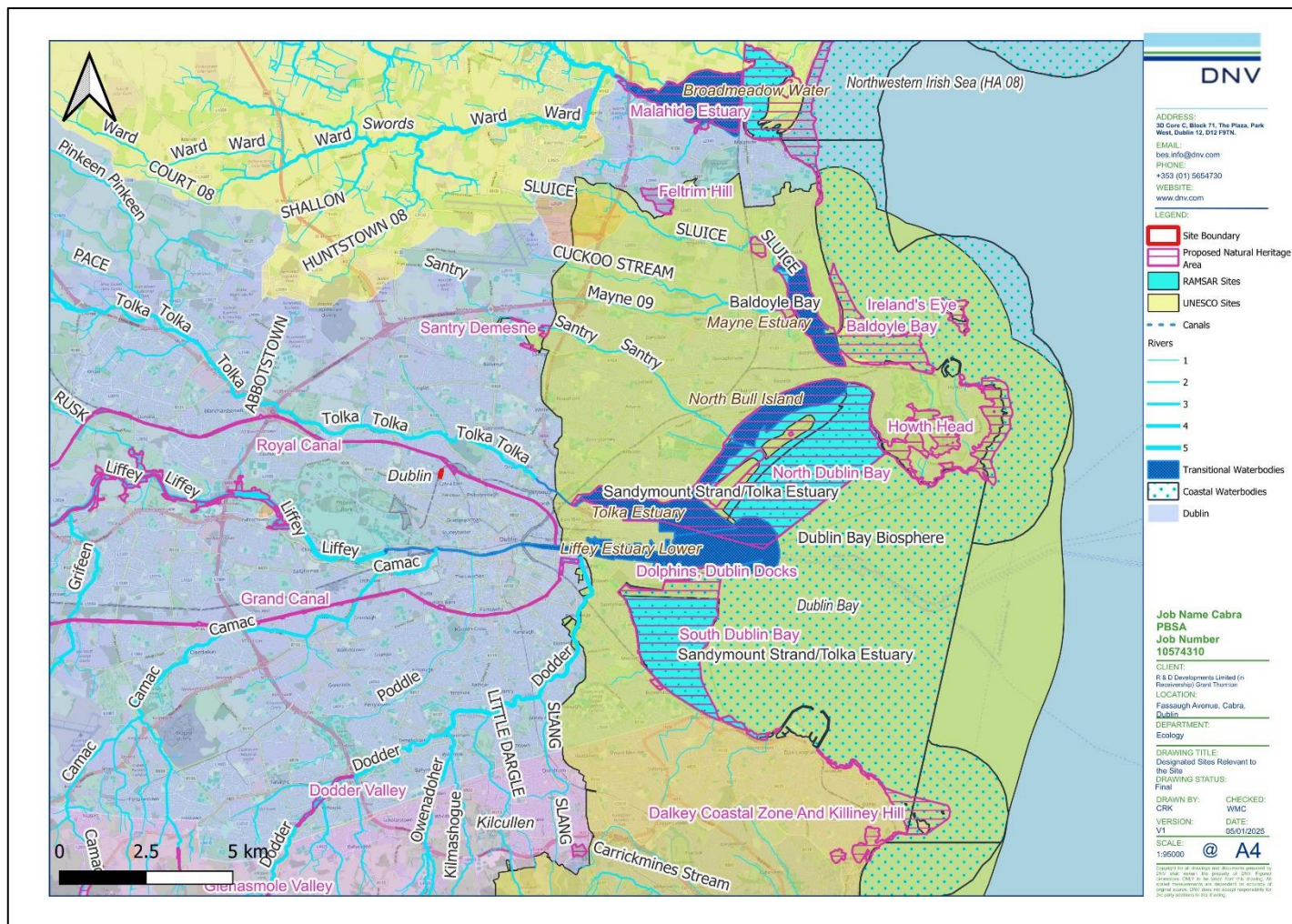


FIGURE 5. LOCATION OF DESIGNATED SITES CONSIDERED WITH THE SOURCE-PATHWAY-RECEPTOR (S-P-R) METHOD IN RELATION TO THE PROPOSED DEVELOPMENT.

4.3 Habitats

The habitats present within the Site, as recorded during the field survey, are described in this section, and summarised below. Site photographs of these habitats are included in section 9.3 and a map of the habitats is presented in Figure 6. The majority of the Site consists of recolonising bare ground (ED3) habitat, followed by the scrub (WS1) habitat. Amongst the aforementioned habitats, two sections of the dry meadows and grassy verges (GS2) habitat have been identified, which consist of herb dominated plant species. There is a mound within the eastern extent of this habitat. The buildings and artificial surfaces (BL3) habitat is found in the southern section of the Site. Additionally, there is a directly structure within the BL3 habitat, formerly a local pub 'Matts of Cabra', which is in a state of ruin. Along the eastern boundary of the Site, the stone wall and other stonework (BL1) habitat is located.

4.3.1 Recolonising Bare Ground (ED3)

ED3 was the dominant habitat present on Site. This habitat is found along the central section of the Site, with the southern extent of the habitat stretching as far as the eastern and western boundary. The floral composition of this habitat is characterised by pioneer species that are usually found in areas of disturbed ground such as moss cover, curly dock (*Rumex crispus*), perennial ryegrass (*Lolium perenne*), Yorkshire fog (*Holcus lanatus*), creeping buttercup (*Ranunculus repens*), dandelion (*Taraxacum officinale*), daisy (*Bellis perennis*), common yarrow (*Achillea millefolium*), red clover (*Trifolium pratense*), white clover (*Trifolium repens*), pink sorrel (*Oxalis articulata*), birds foot trefoil (*Lotus corniculatus*), fleabane (*Erigeron* sp.), common groundsel (*Senecio vulgaris*), common ragwort (*Jacobaea vulgaris*), bramble (*Rubus fruticosus*), common burdock (*Arctium minus*), weld (*Reseda luteola*), field thistle (*Cirsium discolor*), nettle (*Urtica dioica*), and white mustard (*Sinapis alba*). Much of the floral species found in this habitat was consistent with the floral composition of the GS2 habitat, but distinct due to the presence of more exposed dry soil surfaces with rocks.

4.3.2 Scrub (WS1)

The WS1 habitat on Site is the second most common habitat on Site. The floral composition of this habitat included species such as curly dock (*Rumex crispus*), nettle (*Urtica dioica*), bramble (*Rubus fruticosus*), ivy (*Hedera Hibernica*), creeping buttercup (*Ranunculus repens*), white mustard (*Sinapis alba*), bindweed (*Convolvulus arvensis*), purple dead nettle (*Lamium purpureum*), and juvenile elder (*Sambucus nigra*).

4.3.3 Dry Meadows and Grassy Verges (GS2)

This habitat is found in land parcels amongst the WS1 and ED3 habitats on the Site of the Proposed Development. Along the eastern extent of this habitat, a mound is located which was formed as a result of infill. The floral composition of this habitat is the same as the ED3 habitat; however, the plant species are more successfully established in the GS2 habitat than in the ED3 habitat.

4.3.4 Buildings and Artificial Surfaces (BL3)

The BL3 habitat was found along the southern section of the Site, where artificial surfaces of paving stone and/or cement and an existing derelict building are found. The habitat was very low in quality and is distinct from the other habitats due to the limited floral presence. Floral species recorded in this habitat include nettle (*Urtica dioica*), tall fleabane (*Conyza sumatrensis*), bramble (*Rubus fruticosus*), and curly dock (*Rumex crispus*).

4.3.5 Stone Wall and Other Stonework (BL1)

These encompassed the boundaries of the Site to the east.

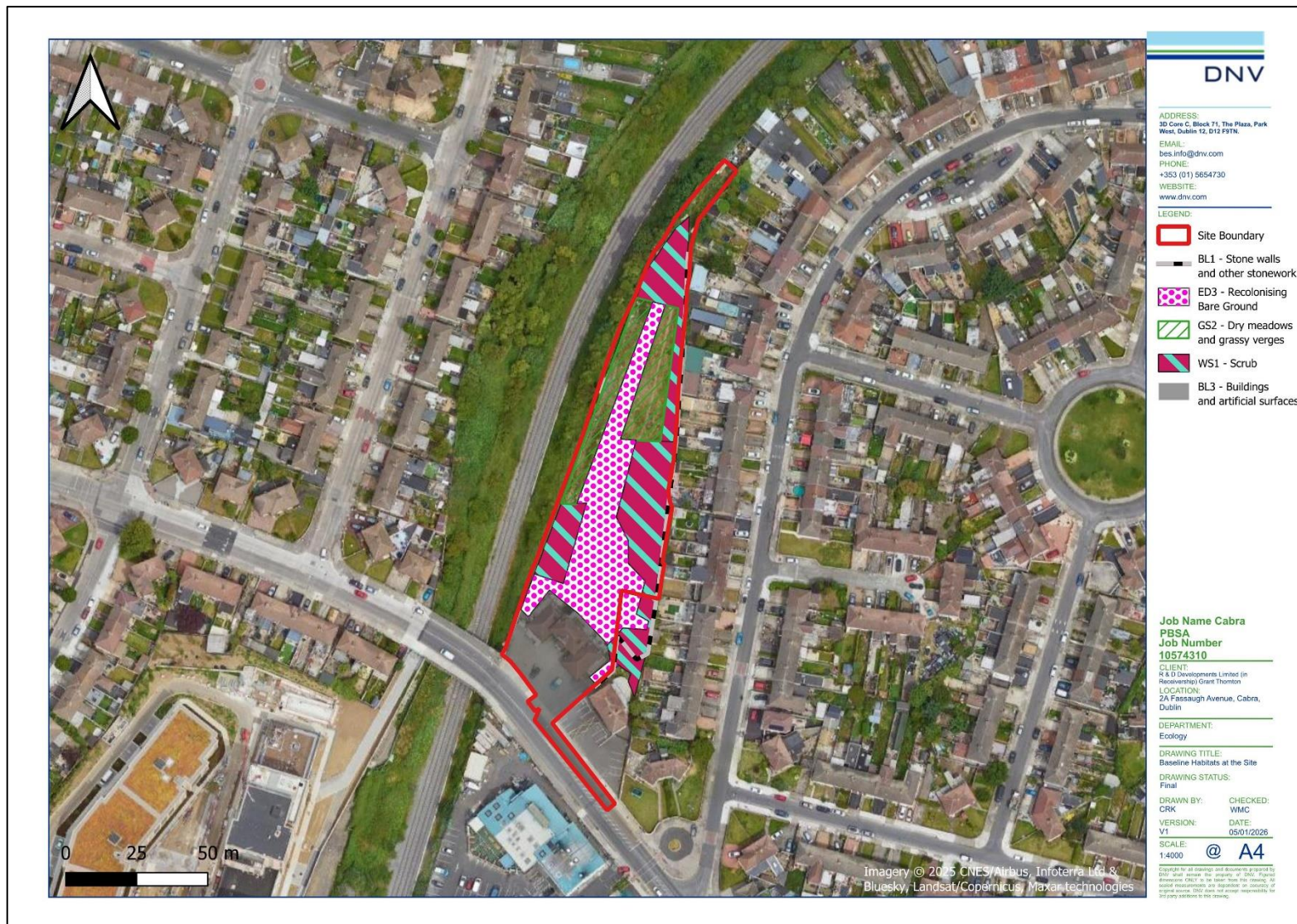


FIGURE 6. MAP OF HABITATS AT THE SITE OF THE PROPOSED DEVELOPMENT.

4.4 Species and Species Groups

4.4.1 Flora

4.4.1.1 Rare and Protected Flora

The Site of the Proposed Development is located within the Ordnance Survey 10km Grid Square (O13), 2km Grid Square (O13I), and 1km Grid Square (O1336). Species records from the NBDC online database show these grid squares were studied for the presence of rare and/or protected species within the last 20 years. This database contains 24 records of protected flora within the last 20 years (Table 7).

The FPO Bryophytes database was also checked for rare and protected flora records within the vicinity of the Proposed Development. No rare and/or protected bryophyte records exist within the immediate vicinity of the Proposed Development with the nearest listed record of a protected bryophyte was Many-seasoned Thread-moss (*Bryum intermedium*) occurring 6km west of the Proposed Development Site. The table below presents details of rare and protected flora records within the above databases.

TABLE 7. RECORDS OF RARE OR PROTECTED FLORA FOR THE SRROUNDING 10KM GRID SQUARE (O13) ASSOCIATED WITH THE SITE FROM THE NBDC.

Species	Grid Square	Date of last record	Source	Designation
Betony (<i>Stachys officinalis</i>)	O13	18/05/2012	Ireland's BioBlitz	Protected Species: Flora Protection Order Threatened Species: Near threatened
Black Horehound (<i>Ballota nigra</i>)	O13	14/07/2018	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Near threatened
Blue Fleabane (<i>Erigeron acris</i>)	O13	29/07/2016	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Least concern
Common Gromwell (<i>Lithospermum officinale</i>)	O13	14/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Near threatened
Corn Marigold (<i>Glebionis segetum</i>)	O13	12/08/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Near threatened
Cornflower (<i>Centaurea cyanus</i>)	O13	06/06/2018	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Waiting list
Dwarf Mallow (<i>Malva neglecta</i>)	O13	08/08/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Near threatened
Great Burnet (<i>Sanguisorba officinalis</i>)	O13	30/09/2016	Ireland's BioBlitz	Protected Species: Flora Protection Order

Species	Grid Square	Date of last record	Source	Designation
				Threatened Species: Endangered
Greater Knapweed (<i>Centaurea scabiosa</i>)	O13	09/07/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Near threatened
Green Field-speedwell (<i>Veronica agrestis</i>)	O13	03/06/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Near threatened
Hairy St John's-wort (<i>Hypericum hirsutum</i>)	O13	23/07/2020	Aras an Uachtaráin Biodiversity Audit 2019-2020	Protected Species: Flora Protection Order Threatened Species: Endangered
Hairy Violet (<i>Viola hirta</i>)	O13	18/05/2012	Ireland's BioBlitz	Protected Species: Flora Protection Order Threatened Species: Endangered
Meadow Barley (<i>Hordeum secalinum</i>)	O13	31/12/2007	Irish Crop Wild Relative Database	Protected Species: Flora Protection Order Threatened Species: Endangered
Meadow Crane's-bill (<i>Geranium pratense</i>)	O13	20/07/2020	Aras an Uachtaráin Biodiversity Audit 2019-2020	Threatened Species: Vulnerable
Milk Thistle (<i>Silybum marianum</i>)	O13	10/10/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Near threatened
Nettle-leaved Bellflower (<i>Campanula trachelium</i>)	O13	04/07/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Endangered
Pale Flax (<i>Linum bienne</i>)	O13	27/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Near threatened
Purple Spurge (<i>Euphorbia peplis</i>)	O13	30/09/2016	Ireland's BioBlitz	Threatened Species: Regionally Extinct
Round-leaved Crane's- bill (<i>Geranium rotundifolium</i>)	O13	14/04/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Endangered
Slender Thistle (<i>Carduus tenuiflorus</i>)	O13	16/08/2020	Aras an Uachtaráin Biodiversity Audit 2019-2020	Threatened Species: Near threatened

Species	Grid Square	Date of last record	Source	Designation
Small Cudweed (<i>Filago minima</i>)	O13	12/07/2012	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Protected Species: Flora Protection Order Threatened Species: Near threatened
Spring Vetch (<i>Vicia lathyroides</i>)	O13	18/05/2012	Ireland's BioBlitz	Threatened Species: Least concern
Strawberry-tree (<i>Arbutus unedo</i>)	O13	29/11/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Near threatened
Upright Brome (<i>Bromopsis erecta</i>)	O13	20/05/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Threatened Species: Near threatened

4.4.1.2 Invasive Species

There are records for 32 species of flora considered to be invasive within the grid squares which encompass the Site of the Proposed Development. Details of these records are listed in Table 8.

TABLE 8. RECORDS OF INVASIVE SPECIES OF INVASIVE PLANTS FOR THE SURROUNDING 10KM GRID SQUARE (O13) ASSOCIATED WITH THE SITE FROM THE NBDC

Species	Grid square	Date of last record	Source	Designations
American Skunk-cabbage (<i>Lysichiton americanus</i>)	O13	29/03/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	• Medium Impact Invasive Species • Regulation S.I. 477 (Ireland)
Brazilian Giant-rhubarb (<i>Gunnera manicata</i>)	O13	29/03/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	• Medium Impact Invasive Species • Regulation S.I. 477 (Ireland)
Butterfly-bush (<i>Buddleja davidii</i>)	O13	07/11/2024	National Invasive Species Database	Medium Impact Invasive Species
Canadian Fleabane (<i>Conyza canadensis</i>)	O13	26/10/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Canadian Waterweed (<i>Elodea canadensis</i>)	O13	25/05/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	• High Impact Invasive Species • Regulation S.I. 477 (Ireland)
Cherry Laurel (<i>Prunus laurocerasus</i>)	O13	26/01/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	High Impact Invasive Species

Species	Grid square	Date of last record	Source	Designations
Common Broomrape (<i>Orobancha minor</i>)	O13	26/06/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Evergreen Oak (<i>Quercus ilex</i>)	O13	01/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
<i>Reynoutria japonica</i> x <i>sachalinensis</i> = <i>F.</i> x <i>bohemica</i>	O13	17/06/2015	National Invasive Species Database	• High Impact Invasive Species • Regulation S.I. 477 (Ireland)
False-acacia (<i>Robinia pseudoacacia</i>)	O13	20/06/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Giant Hogweed (<i>Heracleum mantegazzianum</i>)	O13	07/05/2025	National Invasive Species Database	• High Impact Invasive Species • Regulation S.I. 477 (Ireland)
Giant Knotweed (<i>Fallopia sachalinensis</i>)	O13	03/08/2017	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	• High Impact Invasive Species • Regulation S.I. 477 (Ireland)
Giant-rhubarb (<i>Gunnera tinctoria</i>)	O13	26/06/2020	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	• High Impact Invasive Species • Regulation S.I. 477 (Ireland)
Himalayan Balsam (<i>Impatiens glandulifera</i>)	O13	09/05/2025	National Invasive Species Database	• High Impact Invasive Species • Regulation S.I. 477 (Ireland)
Himalayan Honeysuckle (<i>Leycesteria formosa</i>)	O13	14/08/2024	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Japanese Knotweed (<i>Reynoutria japonica</i>)	O13	09/05/2025	National Invasive Species Database	• High Impact Invasive Species • Regulation S.I. 477 (Ireland)
Japanese Rose (<i>Rosa rugosa</i>)	O13	29/07/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Narrow-leaved Ragwort (<i>Senecio inaequidens</i>)	O13	07/07/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
New Zealand Pigmyweed (<i>Crassula helmsii</i>)	O13	31/07/2009	National Invasive Species Database	• High Impact Invasive Species • Regulation S.I. 477 (Ireland)

Species	Grid square	Date of last record	Source	Designations
Nuttall's Waterweed (<i>Elodea nuttallii</i>)	O13	10/05/2023	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	• High Impact Invasive Species • Regulation S.I. 477 (Ireland)
Pampas-grass (<i>Cortaderia selloana</i>)	O13	15/01/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Parrot's-feather (<i>Myriophyllum aquaticum</i>)	O13	31/07/2009	National Invasive Species Database	• High Impact Invasive Species • EU Regulation No. 1143/2014 • Regulation S.I. 477 (Ireland)
Ragweed (<i>Ambrosia artemisiifolia</i>)	O13	16/09/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Sea-buckthorn (<i>Hippophae rhamnoides</i>)	O13	31/08/2022	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	• Medium Impact Invasive Species • Regulation S.I. 477 (Ireland)
Spanish Bluebell (<i>Hyacinthoides hispanica</i>)	O13	30/03/2021	National Invasive Species Database	Regulation S.I. 477 (Ireland)
Sycamore (<i>Acer pseudoplatanus</i>)	O13	28/11/2024	National Invasive Species Database	Medium Impact Invasive Species
Three-cornered Garlic (<i>Allium triquetrum</i>)	O13	03/03/2025	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	• Medium Impact Invasive Species • Regulation S.I. 477 (Ireland)
Traveller's-joy (<i>Clematis vitalba</i>)	O13	07/09/2024	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Tree-of-heaven (<i>Ailanthus altissima</i>)	O13	25/10/2009	Heritage Trees of Ireland	Medium Impact Invasive Species
Turkey Oak (<i>Quercus cerris</i>)	O13	09/05/2019	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Wall Cotoneaster (<i>Cotoneaster horizontalis</i>)	O13	30/11/2021	Vascular plants: Online Atlas of Vascular Plants 2012 Onwards	Medium Impact Invasive Species
Wild Parsnip (<i>Pastinaca sativa</i>)	O13	09/07/2022	Vascular plants: Online Atlas of	Medium Impact Invasive Species

Species	Grid square	Date of last record	Source	Designations
			Vascular Plants 2012 Onwards	

4.4.1.3 Field Study Results

No rare or protected flora were observed during the Site walkover on 17th June 2025. No 'High Impact' invasive species or Third Schedule species were recorded on Site during the field surveys. One 'Medium Impact' species was recorded at several locations of the Site. Strands of butterfly bush (*Buddleja davidii*) were observed on the Buildings and artificial surfaces (BL3) habitat of the Site, along the southern boundary. Additionally, scattered populations of butterfly bush were also recorded along the eastern and western boundaries of the Site, where large individuals of butterfly bush were observed. Butterfly bush is classified as a 'Medium' impact invasive species (Kelly et al. 2013). It is a very fast-growing shrub that can reach 2m in its first year of growth, producing flowers and setting seeds prolifically.

4.4.2 Bats

4.4.2.1 Desk Study Results

A total of eight bat species have been recorded within the 10km (O13) grid square which encompasses the Site (Table 9).

TABLE 9: RECORDS OF BATS FOR THE SURROUNDING 10KM GRID SQUARE (O13) ASSOCIATED WITH THE SITE FROM THE NBDC.

Species	Date of last record	Database	Designation
Brown Long-eared Bat (<i>Plecotus auritus</i>)	08/07/2021	National Database Ireland	• EU Habitats Directive - Annex IV • Wildlife Act 1976 (as amended)
Common Pipistrelle (<i>Pipistrellus pipistrellus sensu stricto</i>)	08/08/2023	National Database Ireland	• EU Habitats Directive - Annex IV • Wildlife Act 1976 (as amended)
Daubenton's Bat (<i>Myotis daubentonii</i>)	08/08/2023	National Database Ireland	• EU Habitats Directive - Annex IV • Wildlife Act 1976 (as amended)
Leisler's Bat (<i>Nyctalus leisleri</i>)	08/08/2023	National Database Ireland	• EU Habitats Directive - Annex IV • Wildlife Act 1976 (as amended)
Nathusius's Pipistrelle (<i>Pipistrellus nathusii</i>)	15/09/2020	National Database Ireland	• EU Habitats Directive - Annex IV • Wildlife Act 1976 (as amended)
Natterer's Bat (<i>Myotis nattereri</i>)	06/06/2021	National Database Ireland	• EU Habitats Directive - Annex IV • Wildlife Act 1976 (as amended)
Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>)	08/08/2023	National Database Ireland	• EU Habitats Directive - Annex IV • Wildlife Act 1976 (as amended)
Whiskered Bat (<i>Myotis mystacinus</i>)	13/08/2007	National Database Ireland	• EU Habitats Directive - Annex IV • Wildlife Act 1976 (as amended)

The Bat Conservation Ireland Landscape Suitability Model (Lundy *et al.*, 2011) provides a habitat suitability index for bat species across Ireland. The model divides the country into grid squares and ranks the habitat within the squares according to its suitability for various bat species. The scores are divided into five qualitative categories of suitability, namely:

- 0.000000 - 13.000000: Low
- 13.000001 - 21.333300: Low – Medium
- 21.333301 - 28.111099: Medium
- 28.111100 - 36.444401: Medium – High
- 36.444402 - 58.555599: High

The Proposed Development Site (indicated in the black box in Figure 7) is located in an area with an overall Low-Medium (18.89) suitability for bats in general. The suitability index for specific bat species is presented in Table 10. The landscape suitability index is high for one species of bat; common pipistrelle (*Pipistrellus pipistrellus*), and medium-high for two species of bats; soprano pipistrelle (*Pipistrellus pygmaeus*), and Leisler's bat (*Nyctalus leisleri*).

TABLE 10: LANDSCAPE SUITABILITY INDEX FOR INDIVIDUAL BAT SPECIES (SOURCE: NBDC). THOSE SPECIES THAT HAVE BEEN RECORDED IN THE NBDC DATABASE WITHIN THE O13 10KM GRID SQUARE ARE HIGHLIGHTED IN GREEN.

Bat Species	Suitability Index (10km Grid Square)
Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>)	29 (Medium-High)
Brown Longed-eared bat (<i>Plecotus auritus</i>)	17 (Low-Medium)
Common pipistrelle (<i>Pipistrellus pipistrellus</i>)	40 (High)
Lesser horseshoe bat (<i>Rhinolophus hipposideros</i>)	0 (Low)
Leisler's bat (<i>Nyctalus leisleri</i>)	33 (Medium-High)
Whiskered bat (<i>Myotis mystacinus</i>)	11 (Low)
Daubenton's bat (<i>Myotis daubentonii</i>)	9 (Low)
Nathusius' pipistrelle (<i>Pipistrellus nathusii</i>)	16 (Low-Medium)
Natterer's bat (<i>Myotis nattereri</i>)	15 (Low-Medium)



FIGURE 7. BAT LANDSCAPE SUITABILITY MODEL (ALL BATS) SURROUNDING THE PROPOSED DEVELOPMENT SITE (ADAPTED FROM NBDC).

4.4.2.2 Field Study Results

Preliminary Bat Roost Assessment

There are sparse and immature scrub and low-quality habitats present on the Site that offer 'low' potential for commuting and foraging bats, and gaps in the existing building that offer 'low' roosting potential for bats. Additionally,

given the wider context of the Site, which is bounded by well lit urban areas to the east, south and west, and all greenspace to the west and north are further bounded by the existing trainline running along the north and northeast of the Site boundary, it is unlikely that any notable bat populations would be using the Site.

Bat Activity Surveys, Emergence Surveys and Static Surveys

Bat Activity Surveys

Two dusk activity surveys were conducted at the Site on 23rd July 2025 and 12th August 2025. Weather conditions were suitable for these surveys according to the guidance outlined in Collins (2023).

During the bat activity surveys, three species of bat were recorded. These include the common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*) and Leisler's Bat (*Nyctalus leisleri*). All three species were primarily recorded along the western, eastern and northern sections of the Site, with a few individuals recorded along the central section of the Site, and far fewer recorded along the southern section of the Site. Meta data from the activity survey is included in the accompanying Ecological Impact Assessment (EcIA) Report (DNV, 2025b).

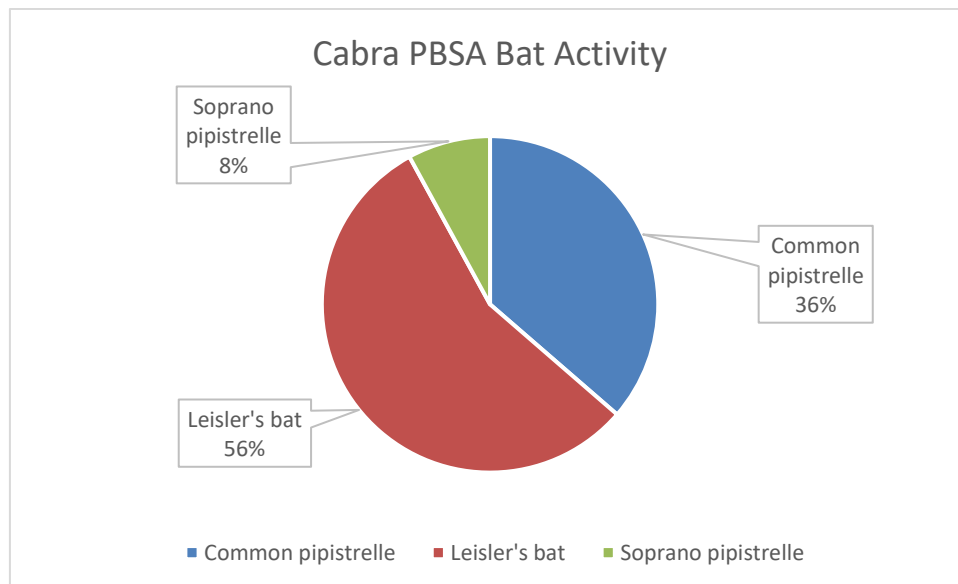


FIGURE 8. SPECIES COMPOSITION OF BAT RECORDS (ALL TRANSECTS)

Bat Emergence Surveys

Two bat emergence surveys conducted at the Site on 22nd July 2025 and 12th August 2025. Weather conditions were suitable for these surveys according to the guidance outlined in Collins (2023). Three vantage points were selected at the eastern, western, and southern extent of the existing building at the Site, where PRFs in the form of gaps and breaks in the existing structure were observed for bat emergence. During these emergence surveys, although weather conditions were suitable for bat emergence, no bats were recorded emerging from any of the identified PRFs of the existing building.

Bat Static Surveys

Two static surveys were conducted at the Site between 22nd to 28th July 2025 and 12th to 18th August 2025 respectively. For the first survey, common pipistrelle (n=367) was the most frequently recorded species, comprising 85.4% of bat passes. Leisler's bat (n=52) followed at 12.1%, with soprano pipistrelle (n=10; 2.3%) recorded less frequently (see Figure 9). It is to be noted that no bat calls were recorded on the Site for the night of 26th and 27th July 2025 in light of the bad weather conditions for those days.

Bat activity peaked on 22nd July with 250 passes, dominated by common pipistrelle which accounted for 96.4% of records that night. Activity declined sharply on 23rd July, with a reduced common pipistrelle count and a proportionally higher presence of Leisler's bat activity. A slight increase was recorded on 24th July, although not

reaching the levels of activity observed on the 22nd, driven mainly by common pipistrelle, while soprano pipistrelle reached its highest nightly count, albeit only four passes which is an insignificant increase. The lowest overall activity occurred on 25th July, when Leisler's bat accounted for over 60% of all bat passes despite low bat passes overall. Overall, common pipistrelle was the most frequently recorded species across the period (85.5%), followed by Leisler's bat (12.1%) and soprano pipistrelle (2.3%).

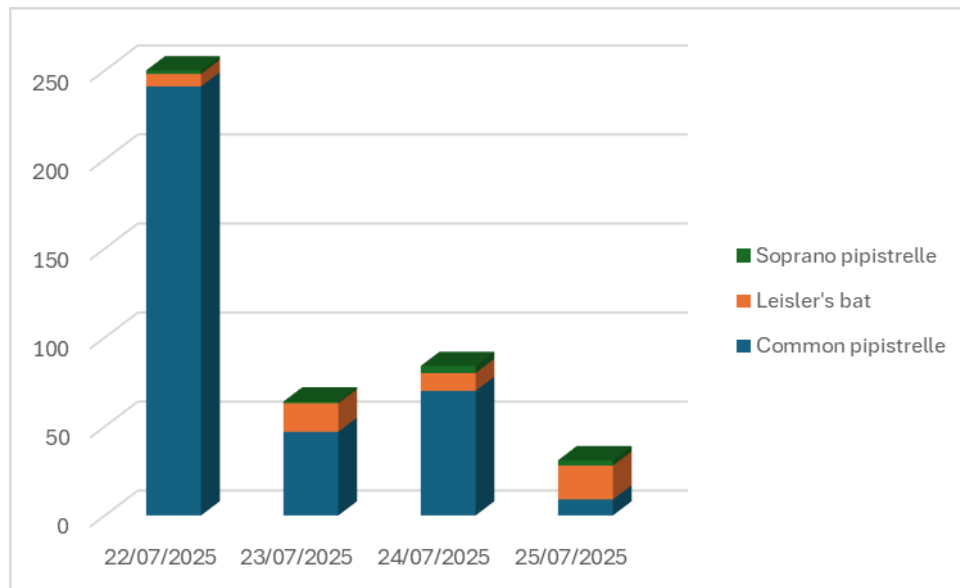


FIGURE 9. SPECIES COMPOSITION PER DAY FOR THE 1ST STATIC SURVEY

For the second survey, common pipistrelle (n=430) was the most frequently recorded species, comprising 64.6% of bat passes. Leisler's bat (n=175) followed at 26.3%, with soprano pipistrelle (n=53; 0.08%) and myotis species (n=8; 0.01%) recorded less frequently (see Figure 10).

Bat activity was lowest on the 12th of August with 58 passes, dominated by Leisler's bat which accounted for 71.0% of records that night. Activity increased sharply on the 13th of August, which saw the greatest bat activity with 146 passes. Increased common pipistrelle and soprano pipistrelle (*Pipistrellus pygmaeus*) activity was primarily responsible for the greater number of passes, with the common pipistrelle making up 44.5% of records, and the soprano pipistrelle making up 18.5%. A slight decrease in bat activity was recorded on the 14th. From the 15th to the 17th of August, bat activity remained consistently lower than what was recorded on the 13th and 14th. The common pipistrelle continued to dominate over this three day period, and never accounted for less than 76.2% of the observed bat activity per day. In conclusion, the common pipistrelle was the most frequently recorded species across the period (64.6%), followed by Leisler's bat (26.3%), soprano pipistrelle (0.08%), and myotis species (0.01%).

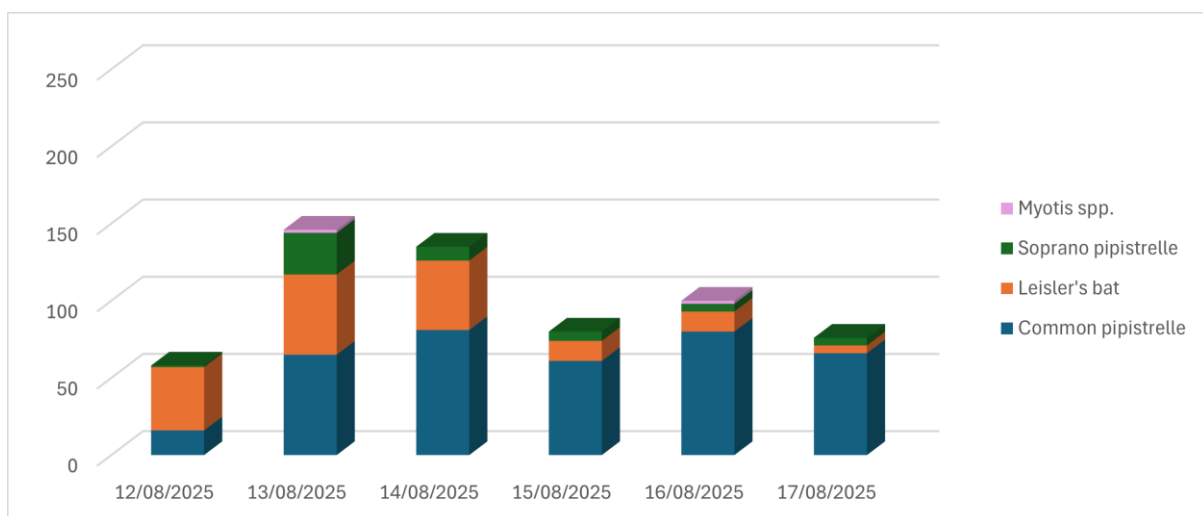


FIGURE 10. SPECIES COMPOSITION PER DAY FOR THE 2ND STATIC SURVEY

4.4.3 Birds

4.4.3.1 Desk Study Results

A total of 71 bird species have been recorded within the (O13) 10 km grid square. Of these, 39 are amber listed birds and 23 are red listed birds as identified on the Birds of Conservation Concern in Ireland (BoCCI) (Gilbert et al. 2021). Details of amber and red listed species are detailed in Table 11. The remaining species are all green listed.

TABLE 11. DETAILS OF AMBER AND RED LISTED BIRD SPECIES WITHIN THE 10KM GRID SQUARE (O13)

Species	Date record	of	BoCCI Status	Annex Species (if Applicable)
Arctic Tern (<i>Sterna paradisaea</i>)	31/12/2011		Amber	Annex I
Barn Owl (<i>Tyto alba</i>)	06/03/2021		Red	
Barnacle Goose (<i>Branta leucopsis</i>)	15/02/2015		Amber	
Bar-tailed Godwit (<i>Limosa lapponica</i>)	23/03/2023		Red	Annex I
Black Guillemot (<i>Cephus grylle</i>)	27/08/2024		Amber	
Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	27/12/2024		Amber	
Black-tailed Godwit (<i>Limosa limosa</i>)	15/03/2023		Red	
Brent Goose (<i>Branta bernicla</i>)	r19/12/2024		Amber	
Common Guillemot (<i>Uria aalge</i>)	09/03/2009		Amber	
Common Gull (<i>Larus canus</i>)	07/06/2024		Amber	
Common Tern (<i>Sterna hirundo</i>)	14/07/2023		Amber	Annex I
Coot (<i>Fulica atra</i>)	17/10/2024		Amber	Annex II & III
Cormorant (<i>Phalacrocorax carbo</i>)	18/03/2024		Amber	
Curlew (<i>Numenius arquata</i>)	06/02/2023		Red	Annex II
Dunlin (<i>Calidris alpina</i>)	31/12/2011		Red	Annex I
Gadwall (<i>Mareca strepera</i>)	31/12/2011		Amber	Annex II
Golden Plover (<i>Pluvialis apricaria</i>)	31/12/2011		Red	Annex I, II & III
Goldeneye (<i>Bucephala clangula</i>)	31/12/2011		Red	Annex II
Great Black-backed Gull (<i>Larus marinus</i>)	28/04/2023		Green	
Great Crested Grebe (<i>Podiceps cristatus</i>)	30/07/2020		Amber	
Great Northern Diver (<i>Gavia immer</i>)	3/12/2011		Amber	Annex I
Greenshank (<i>Tringa nebularia</i>)	23/01/2021		Green	

Species	Date record of	BoCCI Status	Annex Species (if Applicable)
Grey Plover (<i>Pluvialis squatarola</i>)	31/12/2011	Red	
Hen Harrier (<i>Circus cyaneus</i>)	31/12/2011	Amber	Annex I
Herring Gull (<i>Larus argentatus</i>)	30/12/2024	Amber	
House Martin (<i>Delichon urbicum</i>)	17/06/2024	Amber	
House Sparrow (<i>Passer domesticus</i>)	31/12/2024	Amber	
Kestrel (<i>Falco tinnunculus</i>)	27/11/2022	Red	
Kingfisher (<i>Alcedo atthis</i>)	27/07/2024	Amber	Annex I
Kittiwake (<i>Rissa tridactyla</i>)	01/03/2018	Red	
Knot (<i>Calidris canutus</i>)	23/03/2023	Red	
Lapwing (<i>Vanellus vanellus</i>)	31/12/2011	Red	Annex II
Lesser Black-backed Gull (<i>Larus fuscus</i>)	21/08/2024	Amber	
Linnet (<i>Linaria cannabina</i>)	20/06/2024	Amber	
Little Egret (<i>Egretta garzetta</i>)	18/10/2024	Green	Annex I
Little Grebe (<i>Tachybaptus ruficollis</i>)	26/03/2024	Green	
Mallard (<i>Anas platyrhynchos</i>)	08/12/2024	Amber	Annex II & III
Mediterranean Gull (<i>Ichthyaeetus melanocephalus</i>)	15/03/2023	Amber	Annex I
Mute Swan (<i>Cygnus olor</i>)	13/12/2024	Amber	
Oystercatcher (<i>Haematopus ostralegus</i>)	23/03/2023	Red	
Peregrine Falcon (<i>Falco peregrinus</i>)	30/05/2024	Green	Annex I
Pheasant (<i>Phasianus colchicus</i>)	21/05/2020	N/A	Annex II & III
Pochard (<i>Aythya ferina</i>)	27/04/2024	Red	Annex II & III
Red-breasted Merganser (<i>Mergus serrator</i>)	02/03/2021	Amber	Annex II
Redshank (<i>Tringa totanus</i>)	16/04/2023	Red	
Red-throated Diver (<i>Gavia stellata</i>)	31/12/2011	Amber	Annex I
Ringed Plover (<i>Charadrius hiaticula</i>)	11/02/2024	Amber	
Rock Dove (<i>Columba livia</i>)	31/12/2024	Green	Annex II
Sand Martin (<i>Riparia riparia</i>)	20/06/2024	Amber	

Species	Date record of	BoCCI Status	Annex Species (if Applicable)
Sandwich Tern (<i>Thalasseus sandvicensis</i>)	30/07/2020	Amber	Annex I
Scaup (<i>Aythya marila</i>)	27/10/2017	Red	Annex II & III
Shelduck (<i>Tadorna tadorna</i>)	15/03/2023	Amber	
Shoveler (<i>Spatula clypeata</i>)	25/02/2019	Red	Annex II & III
Skylark (<i>Alauda arvensis</i>)	29/03/2023	Amber	
Snipe (<i>Gallinago gallinago</i>)	15/03/2023	Red	Annex II & III
Spotted Flycatcher (<i>Muscicapa striata</i>)	25/05/2023	Amber	
Starling (<i>Sturnus vulgaris</i>)	19/12/2024	Amber	
Stock Dove (<i>Columba oenas</i>)	17/08/2021	Red	
Swallow (<i>Hirundo rustica</i>)	24/04/2024	Amber	
Swift (<i>Apus apus</i>)	15/08/2024	Red	
Teal (<i>Anas crecca</i>)	11/01/2023	Amber	Annex II & III
Tree Sparrow (<i>Passer montanus</i>)	03/03/2018	Amber	
Tufted Duck (<i>Aythya fuligula</i>)	08/12/2024	Amber	Annex II & III
Twite (<i>Linaria flavirostris</i>)	16/01/2019	Red	
Water Rail (<i>Rallus aquaticus</i>)	31/12/2011	Green	
Wheatear (<i>Oenanthe oenanthe</i>)	06/05/2019	Amber	
Whooper Swan (<i>Cygnus cygnus</i>)	04/03/2020	Amber	Annex I
Wigeon (<i>Mareca penelope</i>)	31/12/2011	Amber	Annex II & III
Woodcock (<i>Scolopax rusticola</i>)	22/03/2023	Red	Annex II & III
Woodpigeon (<i>Columba palumbus</i>)	31/12/2024	Green	Annex II & III
Yellowhammer (<i>Emberiza citrinella</i>)	15/03/2023	Red	

4.4.3.2 Field Study Results

Results from the bird scoping survey carried out on 17th June 2025 are shown in Table 12. A total of 14 species were identified within the entire area surveyed. Of these, three are amber listed and none are red listed on the most recent 'Birds of Conservation Concern Ireland' (BoCCI) (Gilbert et al. 2021). The remaining bird species are green listed bird species

TABLE 12. LIST OF BIRD SPECIES RECORDED AT THE SITE DURING THE BIRD SCOPING SURVEY

Species	BoCCI Status
Rock Dove (<i>Columba livia</i>)	Green
Robin (<i>Erithacus rubecula</i>)	Green
House Sparrow (<i>Passer domesticus</i>)	Amber
Blue Tit (<i>Cyanistes caeruleus</i>)	Green
Wren (<i>Troglodytes troglodytes</i>)	Green
Blackcap (<i>Sylvia atricapilla</i>)	Green
Blackbird (<i>Turdus merula</i>)	Green
Jackdaw (<i>Corvus monedula</i>)	Green
Linnet (<i>Linaria cannabina</i>)	Amber
Greater Black-backed Gull (<i>Larus marinus</i>)	Green
Goldfinch (<i>Carduelis carduelis</i>)	Green
Magpie (<i>Pica pica</i>)	Green
House Martin (<i>Delichon urbicum</i>)	Amber
Dunnock (<i>Prunella modularis</i>)	Green

While majority of the recorded species are likely to utilise the habitats within or in the vicinity of the Site for breeding, the rock dove (*Columba livia*) was recorded using the existing buildings on Site for nesting.

4.4.4 Mammals (excl. bats)

4.4.4.1 Desk Study

Records for terrestrial mammals were obtained from the NBDC online database. Table 13 lists these species, their date of last record and summarises their protected status/designation. In total, 15 mammal species (eight native and seven non-native or invasive) were recorded within the grid squares which encompass the Proposed Development Site.

TABLE 13. RECORDS OF TERRESTRIAL MAMMALS (NATIVE AND NON-NATIVE) FOR THE SURROUNDING 10KM (O13) GRID SQUARE ASSOCIATED WITH THE SITE FROM THE NBDC.

Species	Date of last record	Source	Designation
NATIVE SPECIES			
Badger (<i>Meles meles</i>)	01/09/2020	Aras an Uachtaráin Biodiversity Audit 2019-2020	Wildlife Act 1976 (as amended)
Hedgehog (<i>Erinaceus europaeus</i>)	17/08/2023	Hedgehogs of Ireland	Wildlife Act 1976 (as amended)
Irish Hare (<i>Lepus timidus subsp. hibernicus</i>)	06/12/2022	Mammals of Ireland 2016-2025	- Wildlife Act 1976 (as amended) - EU Habitats Directive – Annex V

Species	Date of last record	Source	Designation
European Otter (<i>Lutra lutra</i>)	16/07/2018	Mammals of Ireland 2016-2025	- Wildlife Act 1976 (as amended) - EU Habitats Directive – Annex II & IV
Pine Marten (<i>Martes martes</i>)	13/12/2021	Mammals of Ireland 2016-2025	- Wildlife Act 1976 (as amended) - EU Habitats Directive – Annex V
Pygmy Shrew (<i>Sorex minutus</i>)	06/01/2023	Mammals of Ireland 2016-2025	Wildlife Act 1976 (as amended)
Red Squirrel (<i>Sciurus vulgaris</i>)	28/06/2022	Mammals of Ireland 2016-2025	Wildlife Act 1976 (as amended)
Fallow Deer (<i>Dama dama</i>)	04/12/2022	Mammals of Ireland 2016-2025	Wildlife Act 1976 (as amended)
Non-Native & Invasive Species			
American Mink (<i>Neovision vison</i>)	15/10/2024	National Invasive Species Database	- High Impact Invasive Species - Regulations S.I. 477 (Ireland)
Brown Rat (<i>Rattus norvegicus</i>)	14/04/2023	Mammals of Ireland 2016-2025	- High Impact Invasive Species - Regulations S.I. 477 (Ireland)
Ferret (<i>Mustela putorius subsp. furo</i>)	12/08/2018	Mammals of Ireland 2016-2025	High Impact Invasive Species
Greater White-toothed Shrew (<i>Crocidura russula</i>)	19/06/2017	National Invasive Species Database	Medium Impact Invasive Species
Grey Squirrel (<i>Sciurus carolinensis</i>)	29/03/2025	National Invasive Species Database	- High Impact Invasive Species - EU Regulation No. 1143/2014 - Regulations S.I. 477 (Ireland)

Species	Date of last record	Source	Designation
House Mouse (<i>Mus musculus</i>)	25/07/2018	Mammals of Ireland 2016-2025	High Impact Invasive Species
Rabbit (<i>Oryctolagus cuniculus</i>)	15/06/2020	Aras an Uachtaráin Biodiveristy Audit 2019-2020	Medium Impact Invasive Species

4.4.4.2 Field Study

There was no evidence of mammal activity observed on Site during the walkover on 17th June 2025. The absence of badger setts on Site of the Proposed Development indicated that badgers (*Meles meles*) are not present on the Site. Additionally, no riparian habitats or watercourses are present in the Site, therefore, otters (*Lutra lutra*) were not observed during the survey. No signs of otter were recorded during the field survey and the Site does not contain suitable habitat for otter.

Smaller terrestrial mammals such as west European hedgehog (*Erinaceus europaeus*), and pygmy shrew (*Sorex minutus*) could potentially utilise the Site, specifically the scrub and meadow sections of the Site which offer some cover to these mammals. However, no footprints or droppings of these mammals were recorded on Site during the surveys conducted in 2025.

4.4.5 Amphibians

4.4.5.1 Desk Study

Both Common Frog (*Rana temporaria*) and Smooth Newt (*Lissotriton vulgaris*) have been recorded in the 10km (O13) grid squares encompassing the Site of the Proposed Development.

No amphibians were observed on Site during the field surveys, and it is unlikely they would utilise the Site due to the lack of suitable breeding habitats such as watercourses, drainage ditches or pooling. The habitats observed on Site were not suitable for breeding smooth newt as it typically prefers more established watercourses, particularly small, vegetated, non-linear ponds of less than 200m² between 0.5m – 1.0m deep.

4.4.5.2 Field Study

No signs of amphibians, nor habitats suitable for their breeding, were observed on Site during the walkover. The overgrown vegetation within the Site alone offers some potential foraging habitat for the terrestrial stage of amphibians such as common frog. However, given the wider Site context, surrounded by predominantly urban dwellings and railway lines to the north and northeast of the Site, this is considered to be of negligible value for amphibians.

4.4.6 Reptiles

4.4.6.1 Desk Study

There are records of common lizard (*Zootoca vivipara*) for the relevant 10km grid square. While this species was not observed during the Site walkover, there is suitable habitat for this species within the Site of the Proposed Development, particularly within the scrub habitat and stonewall along the eastern boundary of the Site, which could provide some suitable sheltering habitat for this species. As no targeted surveys for lizard were carried out, it is assumed under the precautionary principle that a locally important population of this species may be present at the Site.

4.4.6.2 Field Study

As no targeted surveys for common lizard were carried out, it is assumed under the precautionary principle that a locally important population of this species may be present at the Site as this species is ubiquitous throughout Irish landscapes and is likely to be present where suitable habitats are present, such as the stone wall along the eastern boundary of the Site.

4.4.7 Fish

4.4.7.1 Desk Study

No fish species were recorded within the 10km and 2km grid squares encompassing the Site of the Proposed Development.

4.4.7.2 Field Study

There are no waterbodies within the Site of the Proposed Development. As such there is no potential for fish on the Site of the Proposed Development.

4.4.8 Invertebrates

4.4.8.1 Desk Study

The marsh fritillary (*Euphydryas aurinia*) was the only recorded protected invertebrate within the 10km (O13) grid square encompassing the Site of the Proposed Development.

4.4.8.2 Field Study

There are no freshwater habitats located at the Site of the Proposed Development, and so no suitable habitat for aquatic invertebrates occurs on it. The habitats present on Site are suitable for terrestrial invertebrates, however given that these habitats are common and widespread in the Dublin area it is unlikely that notable terrestrial invertebrate populations are utilising the Site.

The marsh fritillary butterfly is the only insect in Ireland that is listed on Annex II of the Habitats Directive, which makes it the only insect protected by law in Ireland. There are records from 2019 of marsh fritillary within the 10km grid square which encompass the Proposed Development, however none have been recorded within the Site or its immediate vicinity. No individuals of this species or its associated food plant; devil's bit scabious (*Succisa pratensis*), were recorded during the field survey in June 2025. It should be noted that devil's bit scabious is an autumn flowering plant and as such was not recorded during the summer survey. The recommended survey period for Marsh Fritillary is in September and October when the caterpillars can be found within silken webs on the leaves of the foodplant. Despite the lack of an autumn survey, it can be confirmed with relative confidence that the Marsh Fritillary is unlikely to be present at the Site due to the limited habitats currently present, and the lack of suitable environmental conditions to support the growth of devil's bit scabious, thereby ruling out the presence of marsh fritillary.

4.4.9 Other Protected and/or Notable Species

Other notable and/or rare species and species listed on Annex IV of the Habitats Directive that were considered but that are unlikely to occur at the Site include:

- **Flora**
 - Marsh Saxifrage (*Saxifraga hirculus*) – Known populations only in Co. Mayo.
 - Killarney Fern (*Vandenboschia speciosa*) – Nearest known populations in Co. Wicklow, not recorded at the Site, no suitably sheltered and moist habitats available.
 - Slender Naiad (*Najas flexilis*) – A clear water, lowland lake species. No suitable habitat available at the Site.
- **Fauna**
 - White-clawed Crayfish (*Austropotamobius pallipes*) – Not present in the Liffey, adjacent ditches and streams not considered suitable for this species due to low quality. This species has not been recorded upstream or downstream of the Royal Canal relative to the Site.
 - Freshwater Pearl Mussel (*Margaritifera margaritifera*) – Nearest known records from River Aughrim, Wicklow to the South of the Site, no hydrological connection to this catchment. Liffey is not listed as a M. margaritifera sensitive area .
 - Natterjack Toad (*Epidalea calamita*) – Distribution restricted to few coastal sites.
 - Kerry Slug (*Geomalacus maculosus*) – Distribution restricted to south and west of Ireland.

5 PRELIMINARY ECOLOGICAL APPRAISAL

5.1 Ecological Constraints

The ecological features recorded at the Site and likely ecological constraints identified are summarised below in Table 14.

TABLE 14. ECOLOGICAL CONSTRAINTS IDENTIFIED FOR THE PROPOSED DEVELOPMENT.

Ecological Feature	Likely Ecological Constraint	Rationale
DESIGNATED SITES		
European sites	No	Designated sites within the ZOI of the Proposed Development are sufficiently well separated from the Proposed Development so that no impacts on their designated features are anticipated as a result of the Proposed Development.
Nationally designated sites (pNHAs, NHAs)		
International sites (Ramsar, UNESCO)		
HABITATS		
Buildings and artificial surfaces (BL3)	No	No habitats present on Site are of high value and therefore do not represent constraints.
Recolonising bare ground (ED3)		
Scrub (WS1)		
Dry meadows and grassy verges (GS2)		
Stone wall and other stonework (BL1)		
SPECIES AND SPECIES GROUPS		
Breeding birds	Yes	Few bird species with potential to breed on Site were observed.
Bats	Yes	Low potential for commuting and/or foraging local bat species along the western, eastern and northern sections of the Site. No emergencies were recorded for the existing building at the Site.
Mammals, bats, amphibians, reptiles, flora	Yes	No signs/findings of rare/protected species observed on Site but suitable habitat was present for terrestrial mammals. As a precautionary approach, however, a pre-construction walkover survey is recommended

5.2 Recommendations

For those ecological features that were identified as constraints, recommendations of further surveys, avoidance of potential impacts, and likely appropriate mitigation measures are identified in Table 15 below.

Details of the identified measures are given in the sections below.

TABLE 15. RECOMMENDATIONS FOR IDENTIFIED ECOLOGICAL CONSTRAINTS.

Ecological Constraint	Further Survey Recommendations	Mitigation Recommendations	Risks
SPECIES AND SPECIES GROUPS			
Birds	None	Vegetation/Tree clearance outside of breeding bird survey. Installation of bird boxes in suitable trees around the Site. Additional enhancements as explained in section 6.1.	Minimal. The Site does not have high potential for nesting birds. As birds were observed using the Site during the survey, there will be no clearance work during the breeding bird season (March 1st to August 31st inclusive) to nullify any potential impact.
Bats	None	Installation of bat boxes in suitable trees around the Site. Lighting designed to prevent increase in light levels on boundary features.	Low. The Site has low potential for commuting/foraging bats, however the proposed mitigation measures would prevent a significant adverse effect of commuting/foraging bats. There is negligible roosting potential on the Site, therefore there are no specific risks pertaining to roosting.
Mammals, amphibians, reptiles, flora	Pre-construction survey	Ensure that any trench works allow for the egress of any local mammals via slope or ramp as per best practice.	Minimal. The Site does not have significant potential for any fauna and/or protected flora. To ensure no use of the Site between the time of writing and construction, however, a pre-construction walkover survey by an ecologist is recommended.
Invasive Species	Pre-commencement Invasive Alien Species survey of the Site buildings during the optimal season by a suitably qualified ecologist.	Removal of invasive species noted on Site by a licensed contractor.	Spread of butterfly bush.

5.2.1 Recommendation 1: Vegetation Clearance Outside of Breeding Bird Season

Given the presence of bird species that may utilise the Site as potential breeding habitat as identified during the Site walkover in 2025, any vegetation clearance on Site will occur outside of the bird nesting season (1 st. March – 31st August inclusive). Furthermore, bird boxes suitable for nesting bird species will be installed within the Site on suitable trees/locations, as determined by an ecologist.

TABLE 16. SEASONAL RESTRICTION ON VEGETATION REMOVAL. RED BOXES INDICATE WHEN CLEARANCE/WORKS ARE NOT ADVISED

Ecological Feature	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Breeding Birds	Vegetation clearance permissible		<u>Nesting bird season</u> No clearance of vegetation or works to relevant structures permitted unless confirmed to be devoid of nesting birds by an ecologist.							Vegetation clearance permissible		

5.2.2 Recommendation 2: Bat Mitigation

The Site has low potential for commuting and/or foraging bats, implying that local bat populations could use the Site. During the Construction Phase of the Proposed Development, no night working should occur. Furthermore, the lighting plan accompanying this report (OCSC 2025) has embedded mitigation in the design for the Operational Phase, such as

- All luminaires shall be designed to minimize the spill of upward light and should not emit any up-light.
- All luminaires shall lack UV elements when manufactured and shall be LED.
- A warm white spectrum (ideally ≤ 2700 Kelvin) shall be adopted to reduce blue light component.
- Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.

Additional Recommendations to mitigate against the potential impacts on such bats during the Operational Phase, where the use of lighting cannot be avoided, are as follows:

- Column height of all lights will be under 8m.
- LUX values of approximately 1 or less along the southern and eastern boundary, which is most suitable for bat foraging/commuting.

5.2.3 Recommendation 3: Mammal Mitigation

Although mammals are not envisaged to be a significant constraint, it should be noted that the Site could be used by small mammals. For this reason, a pre-construction walkover survey or ECOW is recommended to ensure no change between the time of writing of this report and any works on the Site. A pre-construction walkover survey or presence of an ECOW will also ensure no new use of the Site by any protected species.

Secondly, it is recommended that all trench working be carried out in such a way that egress for mammals who may accidentally become trapped within the working area is possible. This can be achieved using principles such as slopes or ramps, as per construction best practice measures.

6 ENHANCEMENTS

6.1 Enhancement 1: Swift boxes

Given that the red-listed common swift has been recorded within the 10km and 2km grid squares containing the Proposed Development (NBDC 2024), it is recommended that specific swift boxes be installed within the Proposed Development. These will be done upon consultation with a qualified ecologist.

7 CONCLUSION

No protected / notable habitats were identified on Site, and the potential for use of the Site by notable fauna (mammals, amphibians, reptiles, fish) is negligible, with the exception of bird species that may utilise the Site as potential breeding habitat and bat species that may utilise the Site for foraging/commuting.

Based on the findings of this PEA and the fact that potentially breeding bird species were present on Site during the walkover, vegetation clearance, where required, will occur outside of the bird nesting season. Additionally, a pre-construction walkover survey is recommended to ensure that no new rare/protected species are using the Site. This will ensure no adverse impacts on the protected species as a result of the Proposed Development.

8 References

- Ait. (2025). Landscape Report for Cabra PBSA. ait urbanism + landscape.
- Bat Conservation Trust and Institute of Lighting Professionals (2018) Guidance Note 08/18: Bats and artificial lighting in the UK. ILP, Rugby
- Bibby, C. J., Burgess, N. D. & Hill, D. A. (1992). Bird Census Techniques. Academic Press, New York.
- Bird Survey & Assessment Steering Group. (2022). Bird Survey Guidelines for assessing ecological impacts, v.1.0.0. <https://birdsurveyguidelines.org> [Accessed August 2025]
- CIEEM (2015). Guidelines for Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester, UK.
- CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester, UK.
- Clements, D.K. & Toft, R.J. (1993). Hedgerow Evaluation and Grading Systems (HEGS) A Methodology for the Ecological Survey, Evaluation and Grading of Hedgerows. Countryside Planning and Management.
- Collins, J. (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). The Bat Conservation Trust, London.
- DNV. (2025a). Appropriate Assessment Screening Report for Student Residence, Fassuagh Avenue, Cabra, Dublin. DNV.
- DNV. (2025b). Preliminary Ecological Appraisal for Student Residence, Fassuagh Avenue, Cabra, Dublin. DNV.
- EEA (2025). European Environmental Agency. Natura 2000 [Online Map] Viewer. Available at: <https://natura2000.eea.europa.eu/> [Accessed August 2025]
- EPA. (2022). Guidelines on the information to be contained in Environmental Impact Assessment Reports. Published by the Environmental Protection Agency, Ireland.
- EPA. (2025). Environmental Protection Agency Online Mapping [ONLINE] Available at: <http://www.epa.ie/> [Accessed August 2025].
- Fossitt, J. A. (2000). A Guide to Habitats in Ireland. Kilkenny: The Heritage Council.
- Foulkes, N., Fuller, J., Little, D., McCourt, S. and Murphy, P. (2013). Hedgerow Appraisal System - Best Practise Guidance on Hedgerow Survey, Data Collation and Appraisal. Woodlands of Ireland, Dublin. Unpublished Report
- Gilbert, G., Gibbons, D.W., and Evans, J. (1998): Bird Monitoring Methods: a manual of techniques for key UK species. Sandy: RSPB.
- Gillings, S., Wilson, A.M., Conway, G.J., Vickery, J.A., Fuller, R.J., Beavan, P., Newson, S.E., Noble, D.G. & Toms, M.P. (2007) Winter Farmland Bird Survey. BTO Research Report No.494.
- GSI. (2025). Geological Survey of Ireland website [ONLINE] Available at: <http://www.gsi.ie/> accessed [Accessed August 2025].
- Herpetofauna Groups of Britain and Ireland. (1998). Evaluating Local Mitigation/Translocation Programmes: Maintaining Best Practice and Lawful Standards. HGBI Advisory Notes for Amphibians and Reptile Groups (ARGs). HGBI, c/o Froglife, Halesworth. Unpublished.
- Irish Water. (2018). Ringsend Wastewater Treatment Plant Upgrade Project. Available at: https://epawebapp.epa.ie/licences/lic_eDMS/090151b280877422.pdf
- Lighting Reality (2025). Outdoor Lighting Report for Fassuagh Avenue, Cabra, Dublin. Lighting Reality.
- Lohan & Donnelly. (2025). Engineering Service Report for Cabra PBSA. Lohan & Donnelly Consulting Engineers.
- Marnell, F., Kelleher, C. & Mullen, E. (2022). Bat mitigation guidelines for Ireland v2. Irish Wildlife Manuals, No. 134. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland
- NBDC, (2020). National Biodiversity Data Centre online mapping [ONLINE] Available at: <http://maps.biodiversityireland.ie/Map.aspx>. [Accessed August 2025].

NPWS (2013a) Conservation Objectives: North Dublin Bay SAC 000206. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2013b) Conservation Objectives: South Dublin Bay SAC 000210. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 1: Summary Overview. Unpublished NPWS report. National Parks & Wildlife Services. Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessments. Unpublished NPWS report, National Parks & Wildlife Services. Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

NPWS, (2025). National Parks and Wildlife Service website [ONLINE] Available at: <http://www.npws.ie/en/> [Accessed August 2025].

NRA (2009). Guidelines for Assessment of Ecological Impacts of National Road Schemes. National Roads Authority (now Transport Infrastructure Ireland), Dublin.

NRA (2009a). Environmental Assessment and Construction Guidelines. National Roads Authority (now Transport Infrastructure Ireland), Dublin.

NRA. (2005). Guidelines for the Treatment of Badgers Prior to the Construction of National Road Schemes. National Roads Authority (now Transport Infrastructure Ireland), Dublin.

NRA. (2008). Guidelines for the Treatment of Otters Prior to the Construction of National Road Schemes. National Roads Authority (now Transport Infrastructure Ireland), Dublin.

NRA. (2009a). Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes. National Roads Authority (now Transport Infrastructure Ireland), Dublin.

OCSC. (2025). Site Lighting Report for Cabra PBSA, Grant Thornton Ireland, August 5th 2025. O'Connor Sutton Cronin multidisciplinary consulting engineers.

OPR (2021). Office of the Planning Regulator. Appropriate Assessment Screening for Development Management, OPR Practice Note PN01

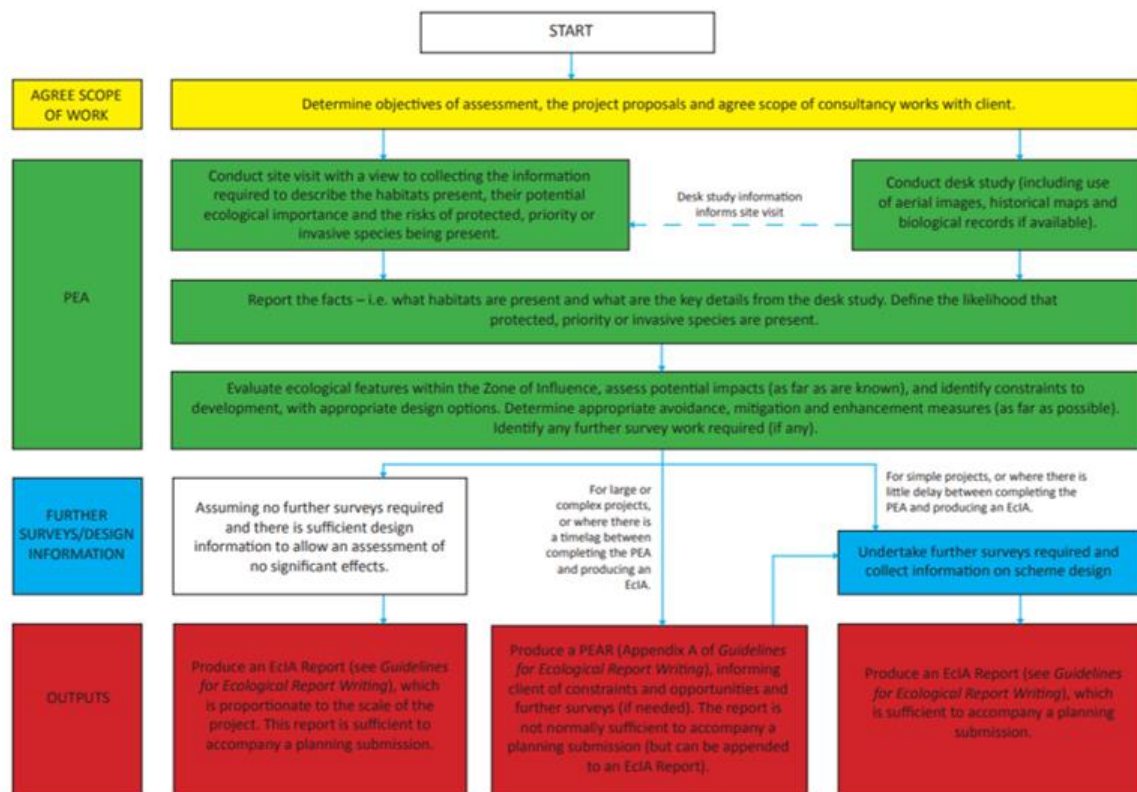
Ramsar Sites Information Service (2023). North Bull Island Ramsar Site. [ONLINE]. Available at: <https://rsis Ramsar.org/ris/406?language=en> [Accessed August 2025]

Smith, G.F., O'Donoghue, P, O'Hora K., and Delaney, E. (2010). Best Practice Guidance for Habitat Survey and Mapping. Published by the Heritage Council.

UNESCO (2025). Dublin Bay Biosphere. [ONLINE] Available at: <https://www.dublinbaybiosphere.ie/> [Accessed August 2025].

9 Appendices

9.1 Appendix I – Preliminary Ecological Appraisal Flow Chart (CIEEM, 2017)



9.2 Appendix II – Legislation and Policy

International Legislation

EU Birds Directive

The Birds Directive constitutes a level of general protection for all wild birds throughout the European Union. Annex I of the Birds Directive includes a total of 194 bird species that are considered rare, vulnerable to habitat changes or in danger of extinction within the European Union. Article 4 establishes that there should be a sustainable management of hunting of listed species, and that any large scale non-selective killing of birds must be outlawed. The Directive requires the designation of Special Protection Areas (SPAs) for: listed and rare species, regularly occurring migratory species and for wetlands which attract large numbers of birds. There are 25 Annex I species that regularly occur in Ireland.

EU Habitats Directive

The Habitats Directive aims to protect some 220 habitats and approx. 1000 species through-out Europe. The habitats and species are listed in the Directives annexes where Annex I covers habitats and Annex II, IV and V cover species. There are 59 Annex I habitats in Ireland and 33 Annex IV species which require strict protection wherever they occur. The Directive requires the designation of Special Areas of Conservation (SACs) for areas of habitat deemed to be of European interest. The SACs together with the SPAs from the Birds Directive form a network of protected sites called Natura 2000.

Bern and Bonn Convention

The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1982) was enacted to conserve all species and their habitats. The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention 1979, enacted 1983) was introduced in order to give protection to migratory species across borders in Europe.

Ramsar Convention

The Ramsar Convention on Wetlands is an intergovernmental treaty signed in Ramsar, Iran, in 1971. The treaty is a commitment for national action and international cooperation for the conservation of wetlands and their resources. In Ireland there are currently 45 Ramsar sites which cover a total area of 66,994ha.

Water Framework Directive

The EU Water Framework Directive (WFD) 2000/60/EC is an important piece of environmental legislation which aims to protect and improve water quality. It applies to rivers, lakes, groundwater, estuaries, and coastal waters. The Water Framework Directive was agreed by all individual EU member states in 2000, and its first cycle ran from 2009 – 2015. The Directive runs in 6-year cycles; the second cycle ran from 2016 – 2021, and the current (third) cycle runs from 2022-2027. The aim of the WFD is to prevent any deterioration in the existing status of water quality, including the protection of good and high-water quality status where it exists. The WFD requires member states to manage their water resources on an integrated basis to achieve at least 'good' ecological status, through River Basin Management Plans (RBMP), by 2027.

National Legislation

Wildlife Act 1976 and amendments

The Wildlife Act 1976 was enacted to provide protection to birds, animals, and plants in Ireland and to control activities which may have an adverse impact on the conservation of wildlife. With regard to the listed species, it is an offence to disturb, injure or damage their breeding or resting place wherever these occur without an appropriate licence from the National Parks and Wildlife Service (NPWS). This list includes all wild birds along with their nests and eggs. Intentional destruction of an active nest from the building stage up until the chicks have fledged is an offence. This includes the cutting of hedgerows from the 1st of March to the 31st of August. The act also provides a mechanism to give statutory protection to Natural Heritage Areas (NHAs). The Wildlife Amendment Act 2000 widened the scope of the Act to include most species, including the majority of fish and aquatic invertebrate species which were excluded from the 1976 Act.

The current list of plant species protected by Section 21 of the Wildlife Act, 1976 (and amendments) is set out in the Flora (Protection) Order, 2015 (S.I. No. 356/2015). The Flora (Protection) Order affords protection to several species of plant in Ireland, including 68 vascular plants, 40 mosses, 25 liverworts, 1 stonewort and 1 lichen. This Act makes it illegal for anyone to uproot, cut or damage any of the listed plant species and it also forbids anyone from altering, interfering, or damaging their habitats. This protection is not confined to within designated conservation sites and applies wherever the plants are found.

EU Habitats Directive 1992 and EC (Birds and Natural Habitats) Regulations 2011

The EU Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive 1992) provides protection to particular species and habitats throughout Europe. The Habitats Directive has been transposed into Irish law through the EC (Birds and Natural Habitats) Regulations 2011.

Annex IV of the EU Habitats Directive provides protection to a number of listed species, wherever they occur. Under Regulation 23 of the Habitats Directive, any person who, in regard to the listed species, "Deliberately captures or kills any specimen of these species in the wild, deliberately disturbs these species particularly during the period of breeding, rearing, hibernation and migration, deliberately takes or destroys eggs from the wild or damages or destroys a breeding site or resting place of such an animal shall be guilty of an offence."

Invasive Species Legislation

Certain plant species and their hybrids are listed as Invasive Alien Plant Species in Part 1 of the Third Schedule of the *European Communities (Birds and Natural Habitats) Regulations 2011* (SI 477 of 2011, as amended). In addition, soils and other material containing such invasive plant material, are classified in Part 3 of the Third Schedule as vector materials and are subject to the same strict legal controls.

Failure to comply with the legal requirements set down in this legislation can result in either civil or criminal prosecution, or both, with very severe penalties accruing. Convicted parties under the Act can be fined up to €500,000.00, jailed for up to 3 years, or both.

Extracts from the relevant sections of the regulations are reproduced below.

"49(2) Save in accordance with a licence granted [by the Department of Arts, Heritage and the Gaeltacht], any person who plants, disperses, allows or causes to disperse, spreads or otherwise causes to grow in anyplace [a restricted non-native plant], shall be guilty of an offence.

49(3) ... it shall be a defence to a charge of committing an offence under paragraph (1) or (2) to prove that the accused took all reasonable steps and exercised all due diligence to avoid committing the offence.

50(1) Save in accordance with a licence, a person shall be guilty of an offence if he or she [...] offers or exposes for sale, transportation, distribution, introduction, or release—

(a) an animal or plant listed in Part 1 or Part 2 of the Third Schedule,

(b) anything from which an animal or plant referred to in subparagraph (a) can be reproduced or propagated, or
(c) a vector material listed in the Third Schedule, in any place in the State specified in the third column of the Third Schedule in relation to such an animal, plant or vector material.”

National Biodiversity Action Plan 2023-2030

The National Biodiversity Plan (NBAP) 2023-2030, the fourth such plan for Ireland, captures the objectives, targets and actions for biodiversity that will be undertaken by a wide range of government, civil society and private sectors. Actions required to achieve the strategic objectives as well as the lead and key partners responsible for their implementation are set out for each of the objectives and their outcomes (Table A1).

TABLE A1: OBJECTIVES AND OUTCOMES OF THE NATIONAL BIODIVERSITY ACTION PLAN 2023-2030.

Objective	Outcome
1: Adopt a Whole-of-Government, Whole-of-Society Approach to Biodiversity	1A: Governance structures and reporting outputs have improved.
	1B: Organisational capacity and resources for biodiversity have increased at all levels of Government.
	1C: Responsibility for biodiversity is shared across the whole of government.
	1D: Biodiversity initiatives are supported across the whole of society.
	1E: The legislative framework for biodiversity conservation is robust, clear and enforceable.
2: Meet Urgent Conservation and Restoration Needs	2A: The protection of existing designated areas and protected species is strengthened and conservation and restoration within the existing protected area network are enhanced.
	2B: Biodiversity and ecosystem services in the wider countryside are conserved and restored – agriculture & forestry.
	2C: Biodiversity and ecosystem services in the wider countryside are conserved and restored – peatlands & climate action.
	2D: Biodiversity and ecosystem services in the marine and freshwater environment are conserved and restored.
	2E: Genetic diversity of wild and domesticated species is safeguarded.
	2F: A National Restoration Plan is in place to contribute to the ambition of the EU Biodiversity Strategy 2030 and global restoration targets.
3: Secure Nature's Contribution to People	2H: Invasive alien species (IAS) are controlled and managed on an all-island basis to reduce the harmful impact they have on biodiversity and measures are undertaken to tackle the introduction and spread of new IAS to the environment.
	3A: Ireland's natural heritage and biocultural diversity is recognised, valued, enhanced and promoted in policy and practice.
	3B: The role of biodiversity in supporting wellbeing, livelihoods, enterprise and employment is recognised and enhanced.
4: Enhance the Evidence Base for Action on Biodiversity	3C: Planning and development will facilitate and secure biodiversity's contributions to people.
	4A: Research funding bodies will have an improved understanding of the research and skills required to address biodiversity research gaps.
	4B: Data relevant to biodiversity and ecosystems, including conservation needs, is widely accessible and standardised.
	4C: Long-term monitoring programmes are in place to guide conservation and restoration goals.
5: Strengthen Ireland's Contribution to International Biodiversity Initiatives	4D: Ireland has prepared national assessments of ecosystem services.
	5A: Science, policy and action on biodiversity conservation and restoration is effectively coordinated in an all-island approach.
	5B: Ireland takes action internationally to cooperate with other countries, sectors, disciplines and communities to address the biodiversity crisis.

	5C: Ireland enhances its contributions to the international biodiversity data drive.
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Dublin City Development Plan 2022-2028

While the Development Plan in its entirety is relevant to the Proposed Development and can be referred to separately, policies, principles and objectives of the Dublin City Development Plan 2022 – 2028 that are of relevance to this Screening Report are outlined below:

- GI9: “To conserve, manage, protect and restore the favourable conservation condition of all qualifying interest/special conservation interests of all European sites designated, or proposed to be designated, under the EU Birds and Habitats Directives, as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) (European / Natura 2000 sites).”
- GI10: “To adequately protect flora and fauna (under the EU Habitats and Birds Directives, the Wildlife Acts 1976–2021, the Fisheries Acts 1959-2006 and the Flora (Protection) Order 2015 S.I No. 356 of 2015), wherever they occur within Dublin City, or have been identified as supporting the favourable conservation condition of any European sites.”
- GI11: “To protect and enhance the ecological functions and connectivity of habitats and species of proposed Natural Heritage Areas (pNHAs) to be designated by the National Parks and Wildlife Service (NPWS).”
- GI12: “To protect sites for nature conservation as designated under the Ramsar Treaty for wetland sites, National Special Amenity Areas, National Nature Reserves, Important Bird Areas and Flora Protection Order Sites.”
- GI13: “To ensure the protection, conservation and enhancement of all areas of ecological importance for protected species, and especially those listed in the EU Birds and Habitats Directives, including those identified as supporting the favourable conservation condition of any European sites, in accordance with development standards set out in this plan.”
- GI14: “To maintain and strengthen the integrity of the city’s ecological corridors and stepping stones which enable species to move through the city, by increasing their connectivity [to be shown in the proposed Green Infrastructure Strategy] under Article 10 of the EU Habitats Directive. Development proposals should not compromise their ecological functions and should realise opportunities to contribute to enhancing the nature conservation value of them by landscaping that provides complementary habitats. An Ecological Impact Assessment will be required for any proposed development likely to have a significant impact on habitats and species of interest on or adjacent an ecological corridor.”
- GI15: “To protect inland and sea fisheries and take full account of Inland Fisheries Ireland Guidelines ‘Planning for Watercourses in the Urban Environment’ 2020, when undertaking, approving or authorising development or works which may impact on rivers streams, watercourses, estuaries, shorelines and their associated habitats. To protect sea angling sites designated by Inland Fisheries Ireland at the North and South Bull Walls and at Dollymount and Sandymount Strands.”
- GI16: “That new development should provide opportunities to incorporate biodiversity improvements through urban greening and the use of nature based infrastructural solutions that are of particular relevance and benefit in an urban context. Opportunities should be taken as part of new development to provide a net gain in biodiversity.”
- GI17: “To increase the percentage of restored and naturalised areas on public land in the city. That new development on private and public lands should provide opportunities for restoration of degraded habitats and soils where feasible and provide for their long-term maintenance to limit degradation.”
- GI18: “To minimise the environmental impact of external lighting and noise at sensitive locations to achieve a sustainable balance between the needs of an area, the safety of walking and cycling routes and the protection of sensitive species such as bats.”
- GI29: “To protect, maintain, and enhance the watercourses and their river corridors in the city and to ensure that development does not cover or encroach upon rivers and their banks. To maintain natural riverbanks and restore them as part of any new development. The creation and/or enhancement of river corridors will be required and river restoration opportunities where possible will be supported to help improve water quality, and ecology, provide natural flood relief as well as providing amenity and leisure benefits.”
- GI30: “To conserve, maintain and restore freshwater and estuarine habitats which are of importance for species listed in the annexes of the EU Birds and Habitats Directives and to ensure connectivity of these in accordance with Article 10 of the EU Habitats Directive.”
- GI34: “To ensure that new development, in terms of siting and design, responds to the character, importance and setting of the city’s rivers where the context allows, and to require public open space which is to be provided

as part of new development, to supplement riparian buffer zones so as to support the attainment of 'good ecological status' or higher for water bodies, flood management, the conservation of biodiversity and ecosystem functions."

- GI40: "To require appropriate and long-term tree and native hedgerow planting in the planning of new development, urban spaces, streets, roads and infrastructure projects. New development should seek to provide for additional tree planting using a diversity of species including native species as appropriate to the location of the development in the interests of natural heritage, amenity, environmental quality and climate resilience."
- GI41: "To protect existing trees as part of new development, particularly those that are of visual, biodiversity or amenity quality and significance. There will be a presumption in favour of retaining and safeguarding trees that make a valuable contribution to the environment."
- GI43: "To protect and enhance the City's hedgerow network, in particular, hedgerows that form townland, parish and barony boundaries. It is Council policy to increase hedgerow coverage and promote the planting of hedgerows in new developments using native species."

In addition, the DCDP 2022-2028 provides a suite of objectives to support plans aimed at enhancing and protecting biodiversity at a local and national level, such as the National Biodiversity Action Plan 2017-2021 and the Dublin City Biodiversity Action Plan 2021 – 2025. The biodiversity objectives also outline a number of measures to protect the City's biodiversity, through helping the management of the North Bull Island Nature Reserve, supporting measures to prevent invasive species introduction and spread, recognising and protecting important County Geological Sites and encouraging the use of the Dublin City Habitat Map Database (2020, and updates) to inform planning decisions.

Dublin City Biodiversity Action Plan 2021-2025

The main function of the Dublin City Biodiversity Action Plan 2021-2025 is to provide a framework and series of actions to conserve, enhance and raise awareness of Dublin City's rich biodiversity and to maximise the contribution that it makes to social, economic and environmental well-being of the city, taking into account local, national, and international, including European priorities. The Dublin City Biodiversity Action Plan sets forth the principal functions of a biodiversity action plan as being:

- To translate national and international policies and legislation into action on the ground.
- To conserve biodiversity of national and local importance.
- To provide a framework for the conservation of biodiversity and to coordinate existing and new initiatives.
- To assist sustainable planning and development.
- To raise public awareness of and involvement in the conservation of biodiversity.
- To collect and collate information on the biodiversity of an area.
- To provide a basis for monitoring the success of conservation of biodiversity at a local, regional, and national level.

The Dublin City Biodiversity Action Plan is set out to protect and improve biodiversity through the above objectives aimed at protecting biodiversity, and the AA Screening of the plan concluded that *"there is no potential for significant effects by the implementation of the Dublin City Biodiversity Action Plan 2021-2025, either alone or in combination with other plans or projects, on any Natura 2000 site."*

9.3 Appendix III – Site Photographs



Photograph 1. *WS1 habitat along the eastern boundary of the Site (17th June 2025)*



Photograph 2. *Raised mound in the eastern extent of the GS2 Habitat of the Site (17th June 2025)*



Photograph 3. *ED3 habitat transitioning into the GS2 habitat on Site (17th June 2025)*



Photograph 4. *Existing derelict building and BL3 habitat in the southern section of the Site (17th June 2025)*



Photograph 5. *Invasive butterfly bush recorded on Site (17th June 2025)*



Photograph 6. *WS1 habitat transitioning into the GS2 habitat on Site (17th June 2025).*



About DNV

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